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

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

DATE: February 21, 2025

TO: Commissioner Kate H. Stacy, President
Commissioner Joshua Arce, Vice President
Commissioner Avni Jamdar
Commissioner Steve Leveroni

FROM: Dennis J. Herrera, General Manager

RE: Hetch Hetchy Capital Improvement Program Quarterly Report
Quarterly Report (2nd Quarter / FY 2024-2025)

Enclosed please find the Hetch Hetchy Capital Improvement Program (HCIP) Quarterly Report for the 2nd Quarter (Q2) of Fiscal Year (FY) 2024-2025. The primary intent of the report is to provide the Commission, stakeholders, and the public with a status summary of the HCIP based on data for the period of October 1, 2024 to December 31, 2024.

Attachment

OUR MISSION: To provide our customers with high-quality, efficient and reliable water, power and sewer services in a manner that values environmental and community interests and sustains the resources entrusted to our care.

This page is intentionally left blank.

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

QUARTERLY REPORT

Hetch Hetchy Capital Improvement Program

October 2024 – December 2024

Published: February 21, 2025

This page is intentionally left blank.

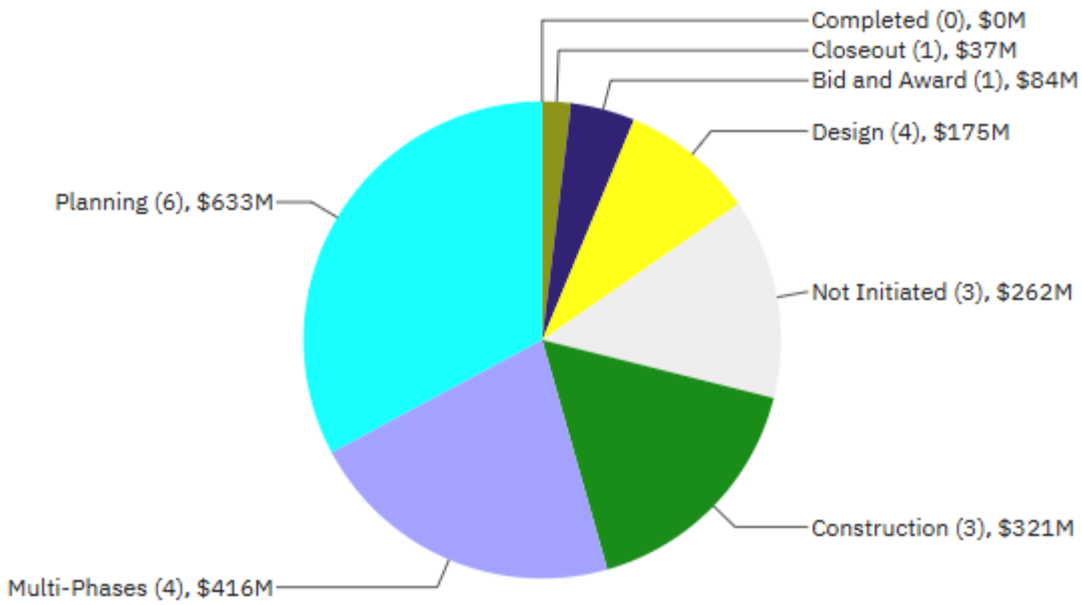
EXECUTIVE SUMMARY

This quarterly report provides a summary update on the Hetch Hetchy Capital Improvement Program (HCIP) that is part of the larger Hetch Hetchy Water Capital Improvement Program. The primary intent of the report is to provide the Commission, stakeholders, and the public with a status summary of the HCIP based on data for the period of October 1, 2024 to December 31, 2024.

This quarterly report includes all approved HCIP projects in the Hetch Hetchy Water Capital Improvement Program according to the 10-Year Capital Plan for FY2024-25 to FY2033-34, presented to and adopted by the Commission on February 13, 2024 (2024 HCIP). There are twenty-two (22) projects in the 2024 HCIP together with three (3) project development (PD) accounts for program-level expenditures for each of the Water, Power, and Joint Programs.

Program Current Status:

As of the end of the reporting period, the status of the 22 HCIP projects (excluding for these purposes the 3 PD accounts) is as follows: three (3) projects are not yet initiated; eleven (11) projects in planning, design, or bid & award; three (3) projects in construction; four (4) projects that have subprojects in multiple phases including construction; and one (1) project in closeout.



Approved Budget for Projects in Each Phase

The following Tables provide a high-level summary of the cost and schedule status for this program (including the 3 PD accounts).

Table A shows the Current Approved Budget and Current Forecast Cost of $2,016.81 million and $2,054.00 million, respectively. Reasons for the cost variances are included in Section 7 of this report.

Table A. Program Cost Summary

Program	Expenditures To Date ($ Million) (A)	Current Approved Budget ($ Million) (B)	Q2/FY24-25 Forecast Costs ($ Million) (C)	Cost Variance ($ Million) (D = B - C)	Cost Variance Over Reporting Period * ($ Million) (E)
Program Total	**$403.80**	**$2,016.81**	**$2,054.00**	**($37.19)**	**($3.07)**

** Negative number is reflecting cost increases since last quarter, and positive number is reflecting cost reduction since last quarter.*

Table B shows the Approved and Forecast Completion Dates.

Table B. Current Approved vs. Current Forecast Schedule Dates

Program	Current Approved Project Start	Actual Start	Current Approved Completion	Current Forecast Completion	Schedule Variance (Months)
Overall HCIP Program	**10/03/11**	**10/03/11 A***	**12/31/41**	**12/31/41**	**-**

** "A" is used after a date to represents an actual date as opposed to a forecast or approved date.*

Program Key Updates:

Some projects decreased in overall percentage completion compared to the last quarter due to scope/ budget/ schedule increases that were approved according to the last 10-year CIP.

The key updates for the HCIP include:

- For the SJPL Valve and Safe Entry Improvements project, all valves for Phase 1A (HH-1005) passed factory acceptance tests, and the contractor mobilized to prepare for fieldwork. Phase 2A (HH-1012), the contractor began removing existing crossover valves. For Phases 2B & 2C (HH-1016), the construction contract was advertised in November 2024, with bids expected next quarter, and the team is evaluating quotes for pre-purchasing valves. In Phase 3 (HH-1009), the contractor completed the new spillway and installed 60-inch surge pipes, with the tie-in pending.
- For the Moccasin Powerhouse Bypass Upgrades project, the 65% design package review is complete and project team is progressing with the 95% design deliverable.
- For the Moccasin Powerhouse and Generator Step-Up (GSU) Rehabilitation project, during this quarter, the contractor for Subproject B (contract DB-121R2) is on schedule and installed the

new stator and rotor of Generator M1 in December. For Subproject C, the design team is incorporating 65% design package comments into the 95% design deliverable.

- For the Warnerville Substation Rehabilitation – Phase 2 project, the bid & award phase is delayed because the bid documents were revised to incorporate PG&E's design review comments. PG&E provided design review comments after 100% design documents were completed.
- For the Moccasin Switchyard project, a draft Needs Assessment Report was completed.
- For the Moccasin Penstock Rehabilitation project, the revised draft Alternative Analysis Report was updated with the results from the second round of evaluation exercise.
- For the Moccasin Engineering & Records Building project, the schematic design was completed.
- The Moccasin Warehouse Building project was initiated and the planning phase began.
- For the O'Shaughnessy Dam Outlet Works Phase 1 Subproject A (contract DB-135 for bulkheads rehabilitation), the new bulkheads were delivered, installed and tested in Slots 1 and 2. For Subproject B (contract HH-1015 Drainage & Miscellaneous Dam Improvements), Notice-To-Proceed for HH-1015 was issued and construction has begun. For Subproject C (contract HH-1011 Instream Flow Release Valve Replacement), the Instream Flow Releases system is operational, and punchlist items are being addressed. For Subproject D (Slide Gates) and Subproject E (Drum Gates), the draft Needs Assessment and Alternative Analysis Report are under review.
- For the Moccasin Dam & Reservoir Long-Term Improvements project, the Conceptual Engineering Report was finalized, awaiting signatures.
- For the Cherry Dam Spillway - Short Term Improvements project, the consultant delivered the 35% design package for review.
- For the Eleanor Dam Rehabilitation and the Interim Bridge Repair subproject, the project team is coordinating a 'mock-up' test for proposed bridge overlay materials, which is scheduled for Spring 2025. The testing of the proposed bridge overlay materials is required to ensure that the selected product will meet the project objectives. For Eleanor Dam and Bridge Long-Term Rehabilitation subproject, the project team received the draft Needs Assessment Review Memo and Erodibility Analysis Report.
- For the Early Intake Dam – Long Term project, review of the biological and topographic surveys was completed. The draft Alternatives Analysis Report was issued this quarter, which is currently under internal review.
- For the Mountain Tunnel Improvements Project Subproject A (HH-1000R) contract, the contractor was issued a Non-Conformance Notice (NCN) for the Flow Control Building foundations which will require demolition of the faulty walls and foundation. The large cut walls were completed on the Adit 5/6 and 8/9 roadways. Contractor set up for the upcoming shutdown which included commissioning the construction water treatment plant, installing the grout plants for in-tunnel contact grouting, staging shotcrete in Adit 8/9, and preparing ventilation fans. Shutdown No. 4 and in-tunnel work began on December 16, 2024. Negotiations for removal of work scope concluded with Commission approval to modify the contract anticipated next quarter. Staff is working on obtaining approval for an alternative delivery method to complete the remaining work. Subproject B (HH-1013) Moccasin Water System Filtration Plant: Construction is progressing, and a design change is required for one of the building support walls due to the bedrock being lower than anticipated.

- For Transmission Line Clearance Mitigation – Moderate and Low Risk Project, the Alternative Analysis Report, Design Criteria Report, and Conceptual Engineering Report were all finalized and are being routed for HHWP signatures. Contract specification development is ongoing.
- For the Moccasin Wastewater Treatment Plant Replacement (contract HH-1010) project, the contractor is mobilized, and the team is reviewing submittals.

Quarterly Report

Hetch Hetchy Capital Improvement Program

TABLE OF CONTENTS

This page is intentionally left blank.

HETCH HETCHY WATER AND POWER (HHWP)–

WATER DIVISION CAPITAL IMPROVEMENT PROGRAMS

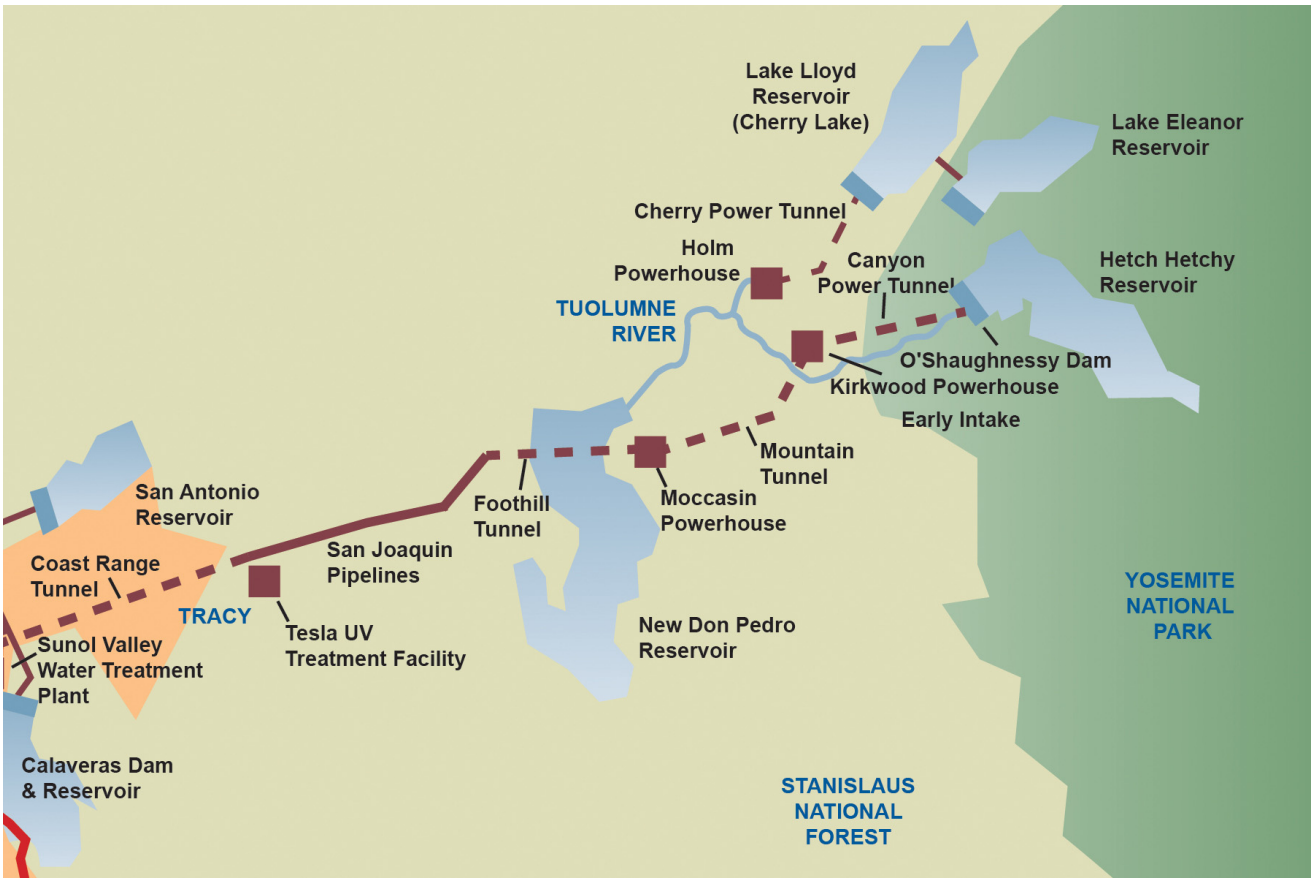
This page is intentionally left blank

INTRODUCTION

The Hetch Hetchy Water and Power (HHWP) Water Division is responsible for operating, managing, and maintaining the HHWP system and facilities. This includes water facilities that are part of the Regional Water System from Hetch Hetchy Reservoir, located in Yosemite National Park, to Alameda East Portal, located in Sunol Valley and power facilities located from Early Intake to Newark. The HHWP Water Division operates, manages, and maintains three impoundment reservoirs, three regulating reservoirs, four powerhouses, one switchyard, three substations, 170 miles of pipeline and tunnels, almost 50 miles of paved road, over 160 miles of transmission lines, watershed land, and right-of-way property. HHWP Water Division provides 85 percent of the San Francisco Public Utilities Commission (SFPUC) water supply for 2.7 million residential, commercial, and industrial customers in Alameda, Santa Clara, San Mateo, and San Francisco counties. On average, HHWP Water Division generates about 1,650 gigawatt hours (GWH) of clean hydro-generated power annually. A majority of HHWP staff is based in Moccasin, CA, which is 140 miles east of San Francisco.

The HHWP Water Division's capital improvement programs are divided into two programs: Hetch Hetchy Capital Improvement Program (HCIP) and Renewal and Replacement (R&R). This report provides a quarterly status update on the HCIP, a group of capital improvement projects that are greater than $5M in value and have been approved by the Commission as part of the SFPUC's 10-Year Capital Improvement Program. The status of the Hetch Hetchy R&R projects is reported annually in the Annual Report on Water Enterprise-Managed Capital Improvement Projects.

The map below shows the location of the assets and facilities associated with HHWP.



This page is intentionally left blank

HETCH HETCHY CAPITAL IMPROVEMENT PROGRAM (HCIP)

This page is intentionally left blank

1. PROGRAM DESCRIPTION

The Hetch Hetchy Capital Improvement Program (HCIP) is a group of multi-year capital projects to upgrade existing, aging infrastructure so that it will meet the challenges of today and the future. These projects will deliver improvements that enhance the SFPUC's ability to provide reliable, affordable, high-quality water to its 2.7 million customers in an environmentally sustainable manner. The goals are

1) to provide capital improvements needed to cost-effectively ensure that water quality, seismic reliability, delivery reliability, and water supply objectives established for the Regional Water System facilities managed by HHWP are met, and 2) to optimize the benefits of HHWP power facilities operations. Ongoing development of the HCIP will sustain the Regional Water System's status as an unfiltered water source and a gravity-driven system.

The scope of HCIP is divided into three major project types: Water, Power, and Joint. The Water sub-program includes only asset improvements benefiting the SFPUC's water customers. The Power sub-program includes only asset improvements used to generate environmentally friendly hydroelectric energy. The Joint sub-program includes projects for assets that are used for both water delivery and power generation. In addition, projects in each sub-program of the HCIP have been further organized by asset type consisting of the following:

Water Infrastructure

- Water Conveyance – projects to enhance the reliability of water delivery through pipelines and penstocks, allowing for both delivery of water to SFPUC customers and delivery of water to powerhouses for power generation.

Power Infrastructure

- Powerhouse – projects to improve facilities at the Holm, Kirkwood, and Moccasin powerhouses.
- Switchyard & Substations – projects to meet operational objectives for power, including reliability, regulatory compliance, and sustainability.
- Transmission Lines – projects to expand or improve power assets for electricity transmission.

Joint (Water and Power) Infrastructure

- Dams & Reservoirs – projects to improve assets used for storage and delivery of water to SFPUC customers, as well as for water storage for power generation.
- Mountain Tunnel – projects to address deficiencies with the Mountain Tunnel, a critical, non-redundant link in the Hetch Hetchy and Regional Water System that conveys water from Kirkwood Powerhouse to Priest Reservoir.
- Roads & Bridges – projects to replace or improve bridges that are utilized to access HHWP assets.
- Tunnels – projects to repair tunnels along the HHWP system (other than Mountain Tunnel).
- Utilities – projects to expand or improve utilities for asset and work locations such as water and wastewater treatment facilities.
- Buildings – projects to provide safe and code compliant workspaces.

2. PROGRAM STATUS

This Quarterly Report presents the progress made on HCIP between October 1, 2024 and December 31, 2024. This document serves as the second (2nd) Quarterly Report in Fiscal Year 2024-2025 (FY25) published for the HCIP.

This quarterly report includes all HCIP projects in the Hetch Hetchy Water Capital Improvement Program according to the 10-Year Capital Plan for FY2024-25 to FY2033-34 (FY25-34 CIP), presented to and adopted by the Commission on February 13, 2024, under Resolution No. 24-0032 (2024 HCIP). The 2024 HCIP is a subset of the Hetch Hetchy Water 10-Year CIP for FY2025-2034 and includes individual projects over $5 million that were then currently active or intended to be active by July 1, 2024 at the time proposed to the Commission on February 13, 2024. This baseline for comparison will remain the same until adoption of a new 10-Year CIP; the baseline will be updated with the changes in the adopted CIP at the start of the new fiscal year following adoption.

There are twenty-two (22) projects in the 2024 HCIP together with three (3) project development (PD) accounts for program-level expenditures for each of the Water, Power, and Joint Programs. A description of each project and of each project development account is provided in the Appendix A of this report.

The accrued PD expenditures are included in the Cost Summary in Table 3 in order to give an accurate report of the overall HCIP cost performance.

Figure 2.1 shows the total Approved Budget for all twenty-two (22) projects in each phase of the program as of December 31, 2024 (PD accounts do not have phases and are not included in Figure 2.1). The number of projects currently in each phase is shown in parentheses.

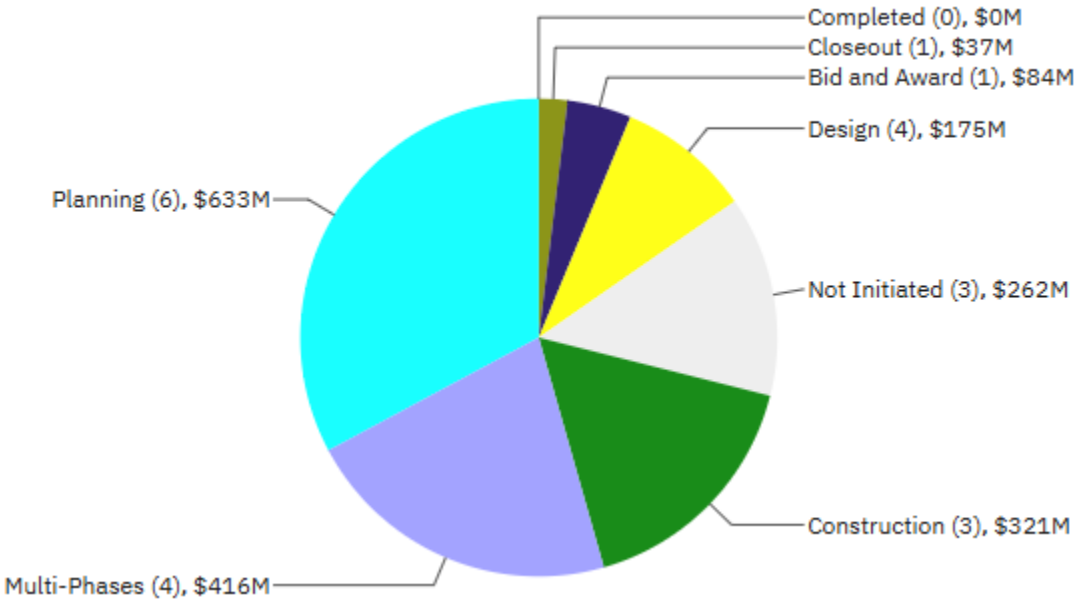


Figure 2.1 Approved Budget for Projects in Each Phase

Figure 2.2 shows the total number of projects in the following stages as of December 31, 2024: Pre-construction, Construction, and Post-construction.

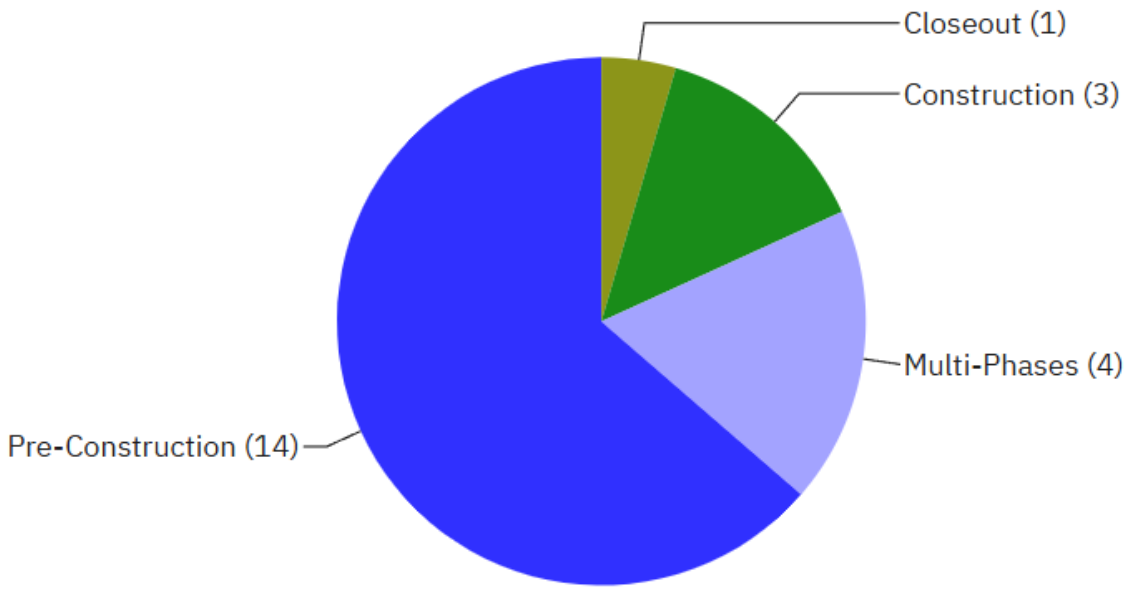


Figure 2.2 Number of Projects in Pre-construction, Construction, and Post-Construction

Figure 2.3 summarizes the environmental review status of the HCIP projects as of December 31, 2024. Environmental review is performed for projects under California Environmental Quality Act (CEQA).

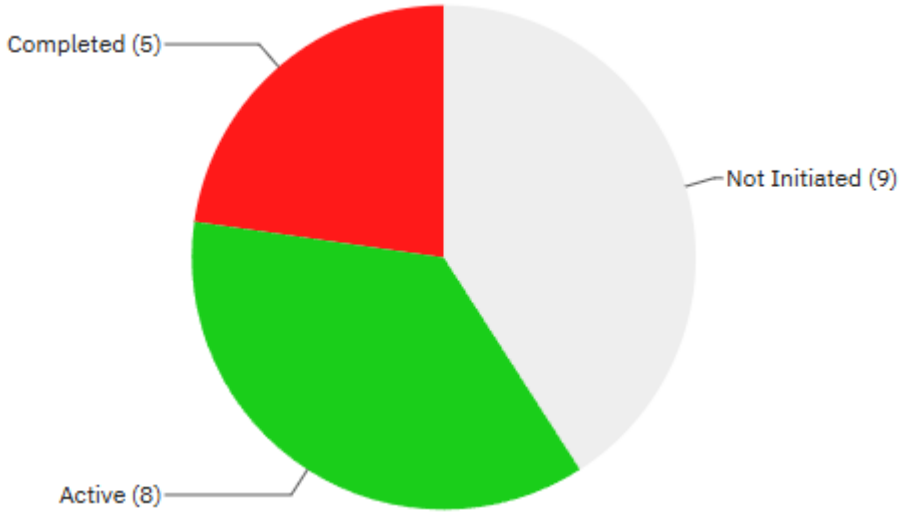


Figure 2.3 Program Environmental Review

3. PROGRAM COST SUMMARY

Table 3 provides an overall cost summary of the 22 HCIP projects and 3 HCIP PD accounts at the end of the quarter. It shows the Expenditures to Date, Current Approved Budget, Current Forecast Cost, the Cost Variance between the Approved and Forecast Costs, and the Cost Variance Over the Reporting Period (difference between cost forecasts reported in Q1/FY2024-25 and in Q2/FY2024-25). The Current Approved Budget and Forecast Cost for the HCIP are $2,016.81 million and $2,054.00 million, respectively.

The overall 2024 HCIP negative Cost Variance of $37.19 million in Table 3 can be attributed to the following projects and their variances are provided below: the reasons for the project variances are reported in section 7:

- The 10014086 Moccasin Powerhouse and GSU Rehabilitation had a continuation of $13.48M negative variance from Q4 of FY23/24, and a forecast cost increase of $2.15M during the quarter for a total of $15.63M negative variance.
- The 10014087 Warnerville Substation Rehabilitation Project forecast cost increased by $0.92M during the quarter.
- The 10035721 Transmission Lines 7/8 Upgrades $1.90M positive variance is a continuation from Q4 of FY23/24.
- The 10037351 Moccasin Dam & Reservoir Long-Term Improvements $22.54M negative variance is a continuation from Q1 of FY24/25.

Table 3. Cost Summary

Subprograms	Expenditures To Date ($ Million) (A)	Current Approved Budget ($ Million) (B)	Q2/FY2024-25 Forecast Costs ($ Million) (C)	Cost Variance ($ Million) (D = B - C)	Cost Variance Over Reporting Period * ($ Million) (E)
Water Infrastructure	**$54.35**	**$209.41**	**$209.41**	**-**	**-**
Water Conveyance (Water)	$48.65	$196.49	$196.49	-	-
Water Infrastructure Project Development	$5.70	$12.91	$12.91	-	-
Power Infrastructure	**$132.33**	**$376.41**	**$391.06**	**($14.65)**	**($3.07)**
Dams & Reservoir (Power)	$0.39	$38.80	$38.80	-	-
Powerhouse	$52.09	$141.61	$157.24	($15.63)	($2.15)
Switchyard & Substations (Power)	$27.14	$57.12	$58.04	($0.92)	($0.92)
Transmission Lines	$47.88	$121.01	$119.11	$1.90	-
Power Infrastructure Project Development	$4.83	$17.87	$17.87	-	-
Joint Infrastructure	**$217.12**	**$1,431.00**	**$1,453.54**	**($22.54)**	**-**
Water Conveyance (Joint)	$8.57	$331.17	$331.17	-	-
Buildings (Joint)	$1.84	$115.02	$115.02	-	-

Subprograms	Expenditures To Date ($ Million) (A)	Current Approved Budget ($ Million) (B)	Q2/FY2024-25 Forecast Costs ($ Million) (C)	Cost Variance ($ Million) (D = B - C)	Cost Variance Over Reporting Period * ($ Million) (E)
Dams & Reservoirs (Joint)	$35.05	$598.86	$621.40	($22.54)	-
Mountain Tunnel	$154.80	$268.67	$268.67	-	-
Powerhouse (Joint)	$0.89	$13.47	$13.47	-	-
Tunnels (Joint)	$2.33	$30.14	$30.14	-	-
Utilities (Joint)	$3.06	$15.38	$15.38	-	-
Joint Infrastructure Project Development	$10.58	$58.29	$58.29	-	-
Overall Program Total	**$403.80**	**$2,016.81**	**$2,054.00**	**($37.19)**	**($3.07)**

** Negative number is reflecting cost increases since last quarter, and positive number is reflecting cost reduction since last quarter.*

4. PROGRAM SCHEDULE SUMMARY

Figure 4 and Table 4 compare the FY2025–2034 CIP Approved Schedule and the Current Forecast Schedule for the HCIP. As shown in Table 4, the HCIP approved and forecast schedule is December 2041.

Figure 4. Program Schedule Summary

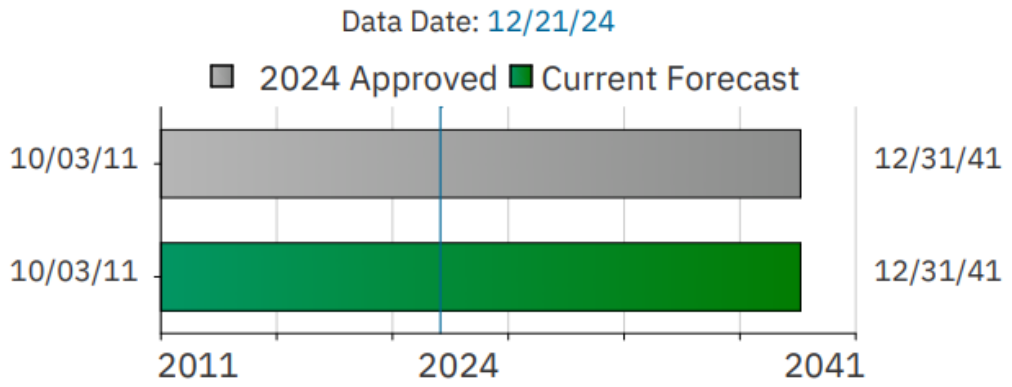


Table 4. FY2025-2034 CIP Approved vs. Current Forecast Schedule Dates

Sub-Program	CIP Approved Project Start	Actual Start	CIP Approved Completion	Current Forecast Completion	Schedule Variance (Months)
Water Infrastructure	03/26/12	03/26/12 A*	06/30/34	06/30/34	-
Power Infrastructure	05/29/12	05/29/12 A*	06/30/34	06/30/34	-
Joint Infrastructure	10/03/11	10/03/11 A*	12/31/41	12/31/41	-
Overall HCIP Projects	**10/03/11**	**10/03/11 A***	**12/31/41**	**12/31/41**	**-**

* *"A" is used after a date to reference an actual date as opposed to a forecast or approved date.*

5. BUDGET AND SCHEDULE TREND SUMMARY

This Table 5 contains all approved HCIP projects that are active and in any of the planning, design, bid and award, or construction phases. The table excludes all Project Development accounts, as well as any projects that are either not-initiated, on-hold, in closeout, or completed.

During this Quarter (Q2 FY2024-25), the following major project milestones were achieved:

- Construction contract was advertised for SJPL Valve and Safe Entry Improvement Phase 2B/2C (HH-1016).
- Construction final completion was achieved for Warnerville Substation Rehabilitation Project Phase 1 (DB-127R).
- Construction contract Notice-to-Proceed was issued for O'Shaughnessy Dam Outlet Works Phase 1 Subproject B (HH-1015).
- The Moccasin Warehouse Building project was initiated and the planning phase began.

Table 5. Budget and Schedule Trend Summary

All Costs are shown in million

Project Name	Most Recent CIP Approved Budget		Project Initiation		CER		35% Design		95% Design		Awarded Construction[1]		Current Status	
	Approved Budget	Approved Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion
	a	b	c	d	e	f	g	h	i	j	k	l	m	n
Water Infrastructure														
10035575 - SJPL Valve and Safe Entry Improvement	FY2025-34		07/01/19		04/16/21		03/03/21 (Phase 1A), 05/28/21 (Phase 1B), 08/19/22 (Phase 2) & 12/30/21 (Phase 3)		07/14/21 (Phase 1A), 10/29/21 (Phase 1B), 06/08/23 (Phase 2A), 05/21/24 (Phase 2B/2C) & 03/31/23 (Phase 3)		03/08/22 (Phase 1A), 08/23/22 (Phase 1B), 02/27/24 (Phase 2A), 04/04/25 (Phase 2B/2C) & 01/09/24 (Phase 3)		Q2 - FY2024-25	
Phase 1A Phase 1B Phase 2A Phase 2B/2C Phase 3	$157.8	02/28/29	$95.3	07/01/25	$95.3	07/01/25	$98.9	03/13/28	$157.8	02/28/29	$157.8	02/28/29	$157.8	02/28/29
Power Infrastructure														
10036809 - Moccasin Powerhouse Bypass Upgrades	FY2025-34		09/18/20		03/31/23		03/13/24		02/28/25		11/26/25		Q2 - FY2024-25	
	$41.1	12/01/27	$15.0	12/01/27	$40.7	12/01/27	$41.1	12/01/27	TBD	TBD	TBD	TBD	$41.1	12/01/27
10014086 - Moccasin Powerhouse and GSU Rehabilitation	FY2025-34		09/18/20		05/14/21		07/29/19 (Phase 1), 10/01/19 (Phase 2) & 12/29/23 (Phase 3)		09/09/20 (Phase 1), 05/11/22 (Phase 2) & 05/06/25 (Phase 3)		04/13/21 (Phase 1), 05/11/21 (Phase 2) & 01/16/26 (Phase 3)		Q2 - FY2024-25	
Phase 1 Phase 2 Phase 3	$100.6	12/31/28	$18.0	10/03/18	$66.7	04/13/27	$100.6	12/31/28	$66.7	12/03/27	$66.7	12/03/27	$116.2	12/31/28
10014089 - Transmission Line Clearance Mitigation	FY2025-34		07/01/17		12/16/24		12/31/25		06/30/26		08/31/25		Q2 - FY2024-25	
	$83.7	06/30/29	$83.7	06/30/29	$83.7	06/30/29	TBD	TBD	TBD	TBD	TBD	TBD	$83.7	06/30/29
10014087 - Warnerville Substation Rehabilitation	FY2025-34		09/01/15 (Phase A), 01/01/21 (Phase B)		02/29/16 (Phase A), 04/28/23 (Phase B)		04/01/16 (Phase A), 06/30/23 (Phase B)		12/24/16 (Phase A), 03/20/24 (Phase B)		05/23/17 (Phase A), 09/09/25 (Phase B)		Q2 - FY2024-25	
Phase A - DB-127R Phase B - Contingency Plan Phase C - HH-1008	$37.4	11/25/26	$27.2	11/25/26	$34.2	11/25/26	$34.2	11/25/26	$37.4	11/25/26	$38.3	01/03/29	$38.3	01/03/29
10039568 - Moccasin Switchyard Rehabilitation	FY2025-34		11/01/22		03/13/26		08/17/26		07/19/27		04/20/28		Q2 - FY2024-25	
	$19.7	01/31/30	$9.7	11/30/28	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	$19.7	01/31/30
Joint Infrastructure														
10014088 - Moccasin Penstock Rehabilitation	FY2025-34		02/03/14		09/03/26		03/05/27		03/02/29		03/06/31		Q2 - FY2024-25	
	$331.2	12/08/34	$13.2	12/31/24	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	$331.2	12/08/34
10039680 - Moccasin Engineering and Records Building[4]	FY2025-34		12/14/22		05/31/24		11/01/24		06/30/26		09/21/26		Q2 - FY2024-25	
	$88.7	05/31/29	$60.7	06/30/31	$88.7	05/31/29	$88.7	05/31/29	TBD	TBD	TBD	TBD	$88.7	05/31/29
10041727 - Moccasin Warehouse Building	FY2025-34		10/15/24		TBD		TBD		TBD		TBD		Q2 - FY2024-25	
	$26.3	04/01/31	$26.3	04/01/31	$26.3	04/01/31	$26.3	04/01/31	$26.3	04/01/31	$26.3	04/01/31	$26.3	04/01/31

Table 5. Budget and Schedule Trend Summary (continued)

All Costs are shown in million

Project Name	Most Recent CIP Approved Budget		Project Initiation		CER		35% Design		95% Design		Awarded Construction[1]		Current Status	
	Approved Budget	Approved Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion	Forecast Cost	Forecast Completion
	a	b	c	d	e	f	g	h	i	j	k	l	m	n
Water Infrastructure														
10032903 - O'Shaughnessy Dam Outlet Works Phase I[2]	FY2025-34		02/01/18		09/30/21 (Subproject A), Complete (Subproject B), 09/30/22 (Subproject C), N/A (Subproject D) & N/A (Subproject E)		01/12/24 (Subproject A)[5], N/A (Subproject B) & 11/16/22 (Subproject C)		03/18/24 (Subproject A)[5], N/A (Subproject B) & 12/23/22 (Subproject C)		06/13/23 (Subproject A), 08/13/24 (Subproject B) & 06/13/23 (Subproject C)		Q2 - FY2024-25	
Subproject A Subproject B Subproject C Subproject D (Planning Only) Subproject E (Planning Only)	$43.7	12/31/25	$17.2	12/31/24	$47.9	09/16/25	$48.0	09/16/25	$48.0	09/16/25	$43.7	06/30/26	$43.7	06/30/26
10037351 - Moccasin Dam & Reservoir Long-Term Improvements	FY2025-34		05/03/21		09/30/24		03/06/26		03/06/28		12/04/29		Q2 - FY2024-25	
	$142.2	12/31/34	$83.2	07/01/27	$164.7	12/31/34	TBD	TBD	TBD	TBD	TBD	TBD	$164.7	12/31/34
10014115 - Cherry Dam Spillway - Short Term Improvements	FY2025-34		03/01/21		06/28/24		11/22/24		05/16/25		12/31/25		Q2 - FY2024-25	
	$14.9	06/30/27	$11.9	07/01/27	$14.9	06/30/27	$14.9	06/30/27	TBD	TBD	TBD	TBD	$14.9	06/30/27
10039119 - Early Intake Dam – Long Term	FY2025-34		07/01/23		07/31/25		01/31/27		01/31/29		01/31/31		Q2 - FY2024-25	
	$100.1	12/31/35	$88.7	06/30/31	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	$100.1	12/31/35
10030759 - Eleanor Dam Rehabilitation	FY2025-34		06/01/20		09/04/24 06/30/27		01/31/25 06/30/28		05/30/25 06/28/30		02/28/26 09/30/33		Q2 - FY2024-25	
Subproject A Subproject B	$113.9	12/31/38	$113.9	12/31/38	$113.9	12/31/38	TBD	TBD	TBD	TBD	TBD	TBD	$113.9	12/31/38
10014114 - Mountain Tunnel Improvement Project	FY2025-34		10/03/11		12/29/17		05/15/18		07/31/19		10/13/20		Q2 - FY2024-25	
	$268.7	06/03/27	$114.0	12/30/21	$246.1	12/31/26	$238.2	12/31/26	$238.2	12/31/26	$238.2	06/03/27	$268.7	06/03/27
10037077 - Moccasin Old Powerhouse Hazard Mitigation	FY2025-34		01/01/21		01/31/25		03/04/29		11/06/29		06/17/30		Q2 - FY2024-25	
	$13.5	07/01/32	$12.2	01/31/25	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	$13.5	07/01/32
10014108 - Canyon Tunnel - Hetchy Adit Rehab & OSH Bridge	FY2025-34		02/03/14		03/17/23		03/30/16		12/13/24		02/16/27		Q2 - FY2024-25	
	$30.1	12/31/30	$0.5	06/30/16	$15.0	12/30/26	$8.0	06/30/18	$30.1	12/31/30	TBD	TBD	$30.1	12/31/30
10014110 - Moccasin Wastewater Treatment Plant[3]	FY2025-34		01/03/22		-		04/29/22		03/23/23		02/27/24		Q2 - FY2024-25	
	$15.4	02/20/28	$8.8	04/07/26	-	-	$8.8	04/07/26	$12.0	04/07/26	$15.4	02/20/28	$15.4	02/20/28

Footnotes:

1. This represents forecast project cost and project completion date at the time of award of construction contract (or award of CM/GC or Design-Build contracts/packages).
2. This represents that Subproject A will be doing Progressive Design Build during Construction. Subproject B is in the process of finalizing the design. Subprojects D & E will not be doing CER.
3. This represents that the project started during the Design Phase.
4. This is a building project which follows a different set of milestones. Dates shown for CER, 35% Design, and 95% Design above are for Conceptual Design, Schematic Design, and Contract Document.
5. Dates shown are for 50% Design and 100% Design.

6. PROJECT PERFORMANCE SUMMARY*

All costs are shown in $1,000s

Project Name	Active Phase (a) (**)	CIP Approved Budget (b) (+)	Current Approved Budget (c) (++)	Current Forecast Cost (d)	Expenditures to Date (e)	Cost Variance (f=c-d) (+++)	% Cost Changes (g=f/c) (+++)	CIP Completion Date (h) (+)	Approved Completion Date (i) (++)	Forecast Completion Date (j)	Schedule Variance (Days) (k=i-j) (+++)
Water Infrastructure											
Water Conveyance (Water)											
10035575 SJPL Valve and Safe Entry Improvement	MP	$157,752	$157,752	$157,752	$48,653	$0	0%	02/28/29	02/28/29	02/28/29	0
Power Infrastructure											
Powerhouse											
10036809 HHW - Moccasin Powerhouse Bypass Upgrade	DS	$41,056	$41,056	$41,056	$2,441	$0	0%	12/01/27	12/01/27	12/01/27	0
10014086 Moccasin Powerhouse and GSU Rehabilitation	MP	$100,556	$100,556	$116,185	$49,650	($15,629)	(16%)	12/31/28	12/31/28	12/31/28	0
Transmission Lines											
10014089 Transmission Lines Clearance Mitigation	BA	$83,681	$83,681	$83,681	$15,396	$0	0%	06/30/29	06/30/29	06/30/29	0

* Does not include projects in closeout, completed, not initiated, on hold, deleted projects, and projects combined with other projects.

**** Phase Status Legend**

PL Planning DS Design

BA Bid & Award CN Construction MP Multi-Phase

Footnotes:

(+) **CIP Approved Budget and Project Completion Date:** The budget and schedule approved as part of 10-year CIP for FY25-34.

(++) **Current Approved Budget and Schedule:** The budget and schedule approved as part of 10-year CIP for FY25-34, plus any additional budget and schedule changes approved by the Commission as part of construction contract award.

(+++) Negative number reflects cost overrun (or schedule delay) and positive number reflects cost underrun (or ahead of schedule). Projects with a forecasted cost overrun greater than 10%, or forecasted delay of greater than 6 months or 10%, will be highlighted in grey.

Project Name	Active Phase (a) (**)	CIP Approved Budget (b) (+)	Current Approved Budget (c) (++)	Current Forecast Cost (d)	Expenditures to Date (e)	Cost Variance (f=c-d) (+++)	% Cost Changes (g=f/c) (+++)	CIP Completion Date (h) (+)	Approved Completion Date (i) (++)	Forecast Completion Date (j)	Schedule Variance (Days) (k=i-j) (+++)
Switchyard & Substations (Power)											
10014087 Warnerville Substation Rehabilitation Project	CN	$37,407	$37,407	$38,328	$26,768	($921)	(2%)	11/25/26	11/25/26	01/03/29	(770)
10039568 Moccasin Switchyard Rehabilitation	PL	$19,708	$19,708	$19,708	$374	$0	0%	01/31/30	01/31/30	01/31/30	0
Joint Infrastructure											
Water Conveyance (Joint)											
10014088 Moccasin Penstock Rehabilitation	PL	$331,172	$331,172	$331,172	$8,568	$0	0%	12/08/34	12/08/34	12/08/34	0
Buildings (Joint)											
10039680 Moccasin Engineering and Records Building	DS	$88,734	$88,734	$88,734	$1,833	$0	0%	05/31/29	05/31/29	05/31/29	0

* Does not include projects in closeout, completed, not initiated, on hold, deleted projects, and projects combined with other projects.

**** Phase Status Legend**

PL Planning DS Design

BA Bid & Award CN Construction MP Multi-Phase

Footnotes:

(+) **CIP Approved Budget and Project Completion Date:** The budget and schedule approved as part of 10-year CIP for FY25-34.

(++) **Current Approved Budget and Schedule:** The budget and schedule approved as part of 10-year CIP for FY25-34, plus any additional budget and schedule changes approved by the Commission as part of construction contract award.

(+++) Negative number reflects cost overrun (or schedule delay) and positive number reflects cost underrun (or ahead of schedule). Projects with a forecasted cost overrun greater than 10%, or forecasted delay of greater than 6 months or 10%, will be highlighted in grey.

Project Name	Active Phase (a) (**)	CIP Approved Budget (b) (+)	Current Approved Budget (c) (++)	Current Forecast Cost (d)	Expenditures to Date (e)	Cost Variance (f=c-d) (+++)	% Cost Changes (g=f/c) (+++)	CIP Completion Date (h) (+)	Approved Completion Date (i) (++)	Forecast Completion Date (j)	Schedule Variance (Days) (k=i-j) (+++)
10041727 Moccasin Warehouse Building	PL	$26,290	$26,290	$26,290	$3	$0	0%	04/01/31	04/01/31	04/01/31	0
Dams & Reservoirs (Joint)											
10032903 O'Shaughnessy Dam Outlet Works Phase 1	MP	$43,731	$43,731	$43,731	$25,823	$0	0%	12/31/25	12/31/25	06/30/26	(181)
10037351 Moccasin Dam & Reservoir Long Term Improvement	PL	$142,188	$142,188	$164,728	$5,116	($22,540)	(16%)	12/31/34	12/31/34	12/31/34	0
10014115 Cherry Dam Spillway - Short Term Improvements	DS	$14,886	$14,886	$14,886	$2,633	$0	0%	06/30/27	06/30/27	06/30/27	0
10030759 Eleanor Dam Rehabilitation	MP	$113,874	$113,874	$113,874	$770	$0	0%	12/31/38	12/31/38	12/31/38	0
10039119 Early Intake Dam - Long Term	PL	$100,072	$100,072	$100,072	$709	$0	0%	12/31/35	12/31/35	12/31/35	0
Mountain Tunnel											

* Does not include projects in closeout, completed, not initiated, on hold, deleted projects, and projects combined with other projects.

**** Phase Status Legend**

PL Planning DS Design

BA Bid & Award CN Construction MP Multi-Phase

Footnotes:

(+) **CIP Approved Budget and Project Completion Date:** The budget and schedule approved as part of 10-year CIP for FY25-34.

(++) **Current Approved Budget and Schedule:** The budget and schedule approved as part of 10-year CIP for FY25-34, plus any additional budget and schedule changes approved by the Commission as part of construction contract award.

(+++) Negative number reflects cost overrun (or schedule delay) and positive number reflects cost underrun (or ahead of schedule). Projects with a forecasted cost overrun greater than 10%, or forecasted delay of greater than 6 months or 10%, will be highlighted in grey.

Project Name	Active Phase (a) (**)	CIP Approved Budget (b) (+)	Current Approved Budget (c) (++)	Current Forecast Cost (d)	Expenditures to Date (e)	Cost Variance (f=c-d) (+++)	% Cost Changes (g=f/c) (+++)	CIP Completion Date (h) (+)	Approved Completion Date (i) (++)	Forecast Completion Date (j)	Schedule Variance (Days) (k=i-j) (+++)
10014114 Mountain Tunnel Improvement Project	CN	$268,669	$268,669	$268,669	$154,804	$0	0%	06/03/27	06/03/27	06/03/27	0
Powerhouse (Joint)											
10037077 Moccasin Old Powerhouse Hazard Mitigation	PL	$13,475	$13,475	$13,475	$894	$0	0%	07/01/32	07/01/32	07/01/32	0
Tunnels (Joint)											
10014108 Canyon Tunnel - Hetchy Adit Rehab & OSH Bridge	DS	$30,138	$30,138	$30,138	$2,330	$0	0%	12/31/30	12/31/30	12/31/30	0
Utilities (Joint)											
10014110 Moccasin Wastewater Treatment Plant	CN	$15,377	$15,377	$15,377	$3,061	$0	0%	02/20/28	02/20/28	02/20/28	0

* Does not include projects in closeout, completed, not initiated, on hold, deleted projects, and projects combined with other projects.

**** Phase Status Legend**

PL Planning DS Design

BA Bid & Award CN Construction MP Multi-Phase

Footnotes:

(+) **CIP Approved Budget and Project Completion Date:** The budget and schedule approved as part of 10-year CIP for FY25-34.

(++) **Current Approved Budget and Schedule:** The budget and schedule approved as part of 10-year CIP for FY25-34, plus any additional budget and schedule changes approved by the Commission as part of construction contract award.

(+++) Negative number reflects cost overrun (or schedule delay) and positive number reflects cost underrun (or ahead of schedule). Projects with a forecasted cost overrun greater than 10%, or forecasted delay of greater than 6 months or 10%, will be highlighted in grey.

7. PROJECT STATUS REPORT

10035575 - SJPL Valve and Safe Entry Improvement

Project Description: San Joaquin Pipeline (SJPL) Nos. 1, 2, and 3 consist of three parallel transmission pipelines (completed in 1932, 1953, and 1968, respectively) that cross the San Joaquin Valley from the east of Foothill Tunnel at Oakdale Portal to the west of Coast Range Tunnel at Tesla Portal, a distance of approximately 48 miles. A fourth partial pipeline (SJPL 4 completed in 2012) consists of a 6.4-mile segment of pipe downstream of Oakdale and another 11-mile segment upstream of Tesla Portal. SJPLs deliver Tuolumne River water to the San Francisco Bay Area. They have been in service ranging from 11 to 91 years. SFPUC staff members and contractors need to enter the pipelines regularly to perform condition assessment, maintenance, and repair work. A recent hydraulic study shows that several of the existing valves in the SJPLs may be under-rated for the potential surge pressures that could be triggered from an unplanned closure of the valves at the downstream Tesla Ultraviolet Treatment Facility. For safety reasons, the SFPUC initiated this capital project to increase the pressure rating of the valves, provide safe pipeline isolations for personnel entry into the pipelines, and allow shutdown of any section of the SJPLs without a complete system shutdown.

Program: Water Infrastructure	**Project Status:** Multi-Phases	**Environmental Status:** Completed (Cat Ex)

Project Cost:

Approved	$ 157.75 M
Forecast	$ 157.75 M
Actual	$ 48.65 M

Project Schedule:

Approved 07/01/19	02/28/29
Forecast 07/01/19	02/28/29

Project Percent Complete: 34.4%

Key Milestones		Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	A	01/27/22 A	12/25/21 A	05/16/22 A	03/14/25
	B	01/27/22 A	04/21/22 A	11/07/22 A	09/11/24 A
	C	01/27/22 A	11/28/23 A	05/13/24 A	07/07/25
	D	01/27/22 A	11/21/24 A	06/03/25	08/30/28
	E	08/10/22 A	09/21/23 A	02/26/24 A	05/22/25

Progress and Status:

This project is divided into five (5) sub-projects, (A) Phase 1A – Pipeline 2 Tesla & Oakdale Entry Improvements – HH-1005; (B) Phase 1B – Pipelines 3&4 Tesla & Oakdale Entry Improvements - HH-1006; (C) Phase 2A – Crossover Valve Improvement pipelines 2&3 – HH-1012; (D) Phase 2B/2C –Removable Spool Piece and Valve Improvements at Crossovers and P4J - HH-1016; and (E) Phase 3 - Tesla Surge Tower – HH-1009. For Phase 1A, all valves passed the factory acceptance tests. The contractor mobilized to the site and was preparing to start field work by end of this quarter. For Phase 1B, the project team started closing out the contract. For Phase 2A, the contractor began removing the existing crossover valves. For Phases 2B & 2C, HH-1016 construction contract was advertised in November 2024, with bids expected next quarter. The project team is evaluating quotes from two contractors for pre-purchasing Phase 2B valves. For Phase 3, the contractor completed the new spillway and continues to install the new 60-inch diameter surge pipes with the exception of the tie-in location.

Issues and Challenges:

The long lead time of the valve procurement will not allow the contractor of the new HH-1016 to purchase the valves for Phase 2B in time to install them during the system shutdown

Reinforced Concrete Spillway Rebuilt at Tesla Surge Tower Site

by end of 2025. The project team will seek Commission approval to pre-purchase the valves for Phase 2B under an existing contract to help meet the schedule. Also, the California Department of Fish and Wildlife (CDFW) has recently begun prohibiting the placement of permanent geotextile fabric (plastic) within jurisdictional waterbodies. The project team will need to seek Commission approval to extend duration of contract HH-1009 to allow time to revise the design and complete the drainage work during the 2025 dry season to meet the new requirements.

10036809 - HHW - Moccasin Powerhouse Bypass Upgrade

Project Description: Provide a reliable hydraulic bypass and energy dissipation system, conveying water around the turbines to the Moccasin Powerhouse Tailrace. Upgrade/replace high-pressure energy-dissipating valves, control systems, and associated structures to absorb 1,147 feet of pressure head and 430 cubic feet per second flow without damage.

Program: Power Infrastructure	**Project Status:** Design	**Environmental Status:** Active (Cat Ex)

Project Cost:

Approved	$ 41.06 M
Forecast	$ 41.06 M
Actual	$ 2.44 M

Project Schedule:

Approved 09/18/20	12/01/27
Forecast 09/18/20	12/01/27

Project Percent Complete: 7.1%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	05/30/25	05/30/25	01/30/26	08/31/27

Progress and Status:

The review of the 65% design package has been completed, and the project team is progressing with the 95% design deliverable. A phased approach has been initiated, with an advance work package being developed under a Job Order Contract to complete the powerhouse tailrace penetration ahead of the main contract. Utility investigations are planned for next quarter.

Issues and Challenges:

None at this time.

Tie in Location of Bypass to Powerhouse Tailrace

10014086 - Moccasin Powerhouse and GSU Rehabilitation

Project Description: The project is broken down into three components: 1) Generator Rehabilitation replace the entire generator and associated equipment, including new stator cores and coils, rotor poles, relays, and rotor rim; 2) GSU Replacement replace two of the three existing generator step-up transformers (GSUs), new foundations and oil containment, and relay upgrades; and 3) Power Plant Systems Upgrades replace the 480 V switchgear, 13.8 kV switchgear, motor control centers, main control boards, protective relays, cooling water piping, and improving oil containment systems.

Program: Power Infrastructure	**Project Status:** Multi-Phases	**Environmental Status:** Active (Cat Ex)

Project Cost:

Approved	$ 100.56 M
Forecast	$ 116.18 M
Actual	$ 49.65 M

Project Schedule:

Approved 09/18/20	12/31/28
Forecast 09/18/20	12/31/28

Project Percent Complete: 55.3%

Key Milestones		Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	A	09/28/20 A	11/20/20 A	06/07/21 A	06/26/23 A
	B	09/28/20 A	10/30/20 A	08/15/22 A	06/17/25
	C	07/11/25	07/14/25	03/14/26	06/30/28

Progress and Status:

For Subproject A - Moccasin Powerhouse Generator Step-Up (GSU's) Transformers, the project team continued to close out contract HH-1003R. For Subproject B - Moccasin Powerhouse Generators Rewind, contract DB-121R2, is on schedule. The contractor installed the new stator and rotor in Unit M1; and is progressing with the installation of the new fire suppression system. For Subproject C - Moccasin Powerhouse Systems Upgrade, the 65% submittal has been reviewed in depth with stakeholders and comments are being incorporated into the 95% design.

Issues and Challenges:

The variance between the approved budget and forecasted cost is due to increased cost contingency of the DB-121R2 contract as well as forecasted cost increases in Subproject C – Systems Upgrade, where higher costs are anticipated from scope refinement, higher construction and procurement costs, and additional construction management and support resource requirements. The cost estimate for Subproject C will be refined at 95% design to reflect any new or updated information. Due to in depth review of 65% documents, the review period and 95% development has been extended. Advertisement date has been postponed by 5 months from the approved date to account for the additional effort. The schedule is still aligned with outage requirements and there is no impact to the project final completion.

Generator M1 Rotor Lift for Installation

10014089 - Transmission Lines Clearance Mitigation

Project Description: This project will provide funding to implement mitigation measures to resolve clearance discrepancies. Mitigation options include but are not limited to new towers/tubular poles, new intervening poles, tower raises, ground lowering, and other structural improvements to the lattice towers.

Program: Power Infrastructure	**Project Status:** Bid and Award	**Environmental Status:** Active (MND)

Project Cost:

Approved	$ 83.68 M
Forecast	$ 83.68 M
Actual	$ 15.40 M

Project Schedule:

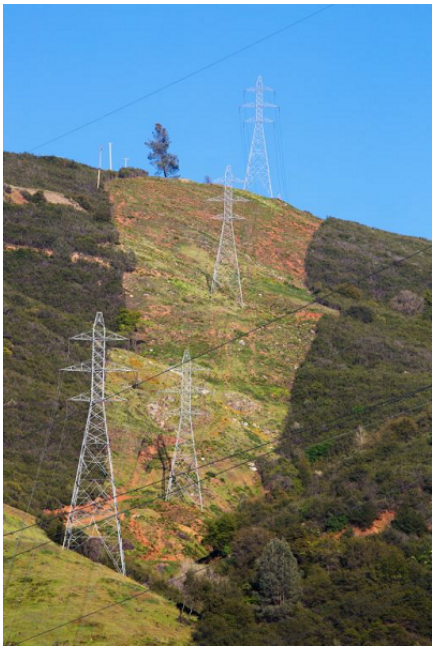
Approved 07/01/17	06/30/29
Forecast 07/01/17	06/30/29

Project Percent Complete: 23.6%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	06/02/26	03/14/25	10/08/26	12/29/28

Progress and Status:
The project team finalized the Alternative Analysis Report. Hetch Hetchy Water and Power approved the Design Criteria Report and Conceptual Engineering Report, now awaiting signatures. The draft Project Description remains under review with the Environmental Management Group. Work continues on preparing contract documents for the progressive design-build contract.

Issues and Challenges:
None at this time.



Transmission Lines 5 & 6 in Moccasin

10014087 - Warnerville Substation Rehabilitation Project

Project Description: The additional funding request is to cover the remaining work for Warnerville Substation Rehabilitation Project. Under Design Build Contract #DB-127R, installation of some 230 kV equipment was deleted from the contract but procured, including circuit breakers, switches, insulators, and current voltage transformers. Remaining work includes the replacement of four oil circuit breakers, bushings, surge arrestors, disconnect switches, current voltage transformer, insulators, relay protection, and other ancillary equipment.

Program: Power Infrastructure	**Project Status:** Construction	**Environmental Status:** Active (Cat Ex)

Project Cost:

Approved	$ 37.41 M
Forecast	$ 38.33 M
Actual	$ 26.77 M

Project Schedule:

Approved 09/01/15	11/25/26
Forecast 09/01/15	01/03/29

Project Percent Complete: 78.9%

Key Milestones		Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	A	03/31/16 A	01/10/17 A	11/26/18 A	12/20/24 A
	B	01/31/25	02/10/25	09/10/25	07/01/28

Progress and Status:

This project is divided into 2 subprojects. For Subproject A Warnerville Substation Rehabilitation Phase 1 – DB-127R, the project team continued to close out the contract. For Subproject B Warnerville Substation Rehabilitation Phase 2, the project team received Pacific Gas and Electric Company's (PG&E) design review comments, including for the additional work at the South Yard and is preparing contract documents for advertisement to bid in the next quarter. The proposed South Yard work is essential for better integration with PG&E's grid system, improving grid reliability, and increasing transfer capacity for higher demand in the future.

Issues and Challenges:

During this period, the construction schedule and cost estimate were revised to reflect the additional work requested by PG&E for the South Yard. The additional work resulted in a forecasted cost increase of $0.9M and a schedule duration increase of an additional 2.1 years. The higher cost and longer schedule are primarily driven by longer-than-expected high voltage equipment lead times and rising labor costs. During 65% design review, the team learned that key equipment (e.g., switches, capacitor voltage transformers) now has 12-14 month lead times, up from 4-6 months. Additionally, broader market conditions, including post-pandemic supply chain delays and labor shortages, have increased costs across all work scopes.

Existing Warnerville Substation Rehabilitation, 230kV Switch to be Replaced

10039568 - Moccasin Switchyard Rehabilitation

Project Description: Replace 115 kV disconnect switches, replace 115 kV bus configuration, replace 230 kV disconnect switches, change 230 kV bus configuration, replace 115 kV circuit breakers, add surge arresters, perform a fault study, perform a grounding study, improve switchyard grading, and replace fencing.

Program: Power Infrastructure	**Project Status:** Planning	**Environmental Status:** Not Initiated (TBD)

Project Cost:

Approved	$ 19.71 M
Forecast	$ 19.71 M
Actual	$ 0.37 M

Project Schedule:

Approved 11/01/22	01/31/30
Forecast 11/01/22	01/31/30

Project Percent Complete: 7.2%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	09/21/27	01/20/28	05/21/28	07/31/29

Progress and Status:

The consultant team submitted a draft Needs Assessment Report in November, which is currently under review.

Issues and Challenges:

None at this time.

Existing Moccasin Switchyard

10014088 - Moccasin Penstock Rehabilitation

Project Description: In order to meet the established level of service, mitigate potential risks, and avoid potential consequences of failure, SFPUC is considering replacing the penstocks so that the life of the asset will be extended for a minimum 75 years. Based on a preliminary study, a combination of a drop shaft, a tunnel and above grade pipes appears to be a favorable alternative. SFPUC will continue the study before determining the most appropriate alternative solution. For capital planning purposes, SFPUC assumes the alternative will include: 1) a drop shaft; 2) a new tunnel penstock; and 3) two above-grade penstocks.

Program: Joint Infrastructure	**Project Status:** Planning	**Environmental Status:** Not Initiated (EIR)

Project Cost:

Approved	$ 331.17 M
Forecast	$ 331.17 M
Actual	$ 8.57 M

Project Schedule:

Approved 02/03/14	12/08/34
Forecast 02/03/14	12/08/34

Project Percent Complete: 3.2%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	09/04/29	09/06/30	05/07/31	05/07/34

Progress and Status:

The project team completed the second round of evaluation exercises. The draft Alternative Analysis Report has been updated with the results; the alternatives in the City-owned property alignment are top ranked. The information is under review by SFPUC management.

Issues and Challenges:

None at this time.

Moccasin Penstock System along the Steep Section

10039680 - Moccasin Engineering and Records Building

Project Description: HHWP Project operations and administration is located in Moccasin, California, with facilities including buildings, office trailers, warehouses, shops, laboratories, and sheds. Many existing facilities are deteriorating, do not meet current building codes, and are incurring increased maintenance costs. HHWP needs to invest in new facilities to meet all applicable codes and standards; reduce maintenance costs; increase employee interconnectivity and productivity; properly store all staff, materials, records, and equipment; and meet energy-efficiency standards. HHWP prepared a report titled "Moccasin Facilities Upgrade Project Alternatives Analysis and Evaluation Report Update". The report identified long-term needs for creating adequate office space for current staff in Moccasin. In addition, the report evaluated the needs for new, dedicated materials storage space, new records and archives space with offices, new space for servers, and parking space for staff. The Moccasin Engineering and Records Building project will address the need for permanent office space by constructing a new two-story building. Hetch Hetchy and Infrastructure staff are currently located in temporary trailers that have exceeded their useful life. The new building will provide office space for Hetch Hetchy Engineering, Records, Energy Services, Infrastructure, and ITS staff. The scope also includes a secure server room, parking lot, and archive/records storage. The budget and schedule for the project will be modified to provide permanent office space for both Hetch Hetchy and Infrastructure staff and to address escalation since the completion of the 2020 Alternatives Analysis Report estimate.

Program: Joint Infrastructure	**Project Status:** Design	**Environmental Status:** Not Initiated (Cat Ex)

Project Cost:

Approved	$ 88.73 M
Forecast	$ 88.73 M
Actual	$ 1.83 M

Project Schedule:

Approved 12/14/22	05/31/29
Forecast 12/14/22	05/31/29

Project Percent Complete: 3.1%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	12/31/25	07/01/26	02/01/27	11/30/28

Progress and Status:
The schematic design was completed. The design team has initiated work on the Design Development Package with the target completion in Q4FY25.

Issues and Challenges:
None at this time.

Looking South from Admin Pathway

Concept Design for Moccasin Engineering and Archive Building

10041727 - Moccasin Warehouse Building

Project Description: The Moccasin Old Powerhouse was constructed in 1926 and abandoned in the 1960s. The building has multiple structural and nonstructural issues, including cracks, spalling of structural concrete, water intrusion, broken windows, settlement, hazardous materials, and seismic deficiencies. The building is currently used for storage of large equipment and critical spares for the Hetch Hetchy Water and Power system. As a result of the multiple issues, it was determined to demolish the building. A new warehouse is therefore necessary for the storage of the large equipment and critical spares for the Hetch Hetchy Water and Power system that was previously stored in the Moccasin Old Powerhouse. This project includes a construction of a new 9,000-square-foot warehouse within the Moccasin campus to store large equipment and critical spare components for the Hetch Hetchy Water and Power System. The building will include office space for warehouse staff including records retention for warehouse and materials documentation.

Program: Joint Infrastructure	**Project Status:** Planning	**Environmental Status:** Active (TBD)

Project Cost:

Approved	$ 26.29 M
Forecast	$ 26.29 M
Actual	$ 0.00 M

Project Schedule:

Approved 01/01/25	04/01/31
Forecast 10/15/24	04/01/31

Project Percent Complete: 0.0%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	03/01/27	08/01/28	04/02/29	10/01/30

Progress and Status:
The FY24-25 budgeted appropriation funding was released and put into the project account. The planning phase of the project has begun.

Issues and Challenges:
None at this time.

Moccasin Warehouse □ Existing Building

10032903 - O'Shaughnessy Dam Outlet Works Phase 1

Project Description: O'Shaughnessy Dam was completed in 1923 and raised in 1938. A condition assessment of the dam outlet works revealed the need for improvements to the existing outlet works, including gates and valves (1923 construction), to ensure safe and reliable operation. Based on engineering studies and prioritization of asset condition, needs, and risks, improvements to the existing outlet works will be implemented in two phases. Funding for this project will include work under Phase 1. Phase 2 of the O'Shaughnessy Dam Outlet Improvement Project begins in 2025. Work under Phase 1 will include: (1) replacement of two existing instream flow release valves; (2) improvements to access and drainage in the dam gallery and stairs; (3) installation of new bulkheads for the outlet intake; and (4) a planning phase and scoping for the slide gates and drum gates improvements.

Program: Joint Infrastructure	**Project Status:** Multi-Phases	**Environmental Status:** Completed (Cat Ex)

Project Cost:

Approved	$ 43.73 M
Forecast	$ 43.73 M
Actual	$ 25.82 M

Project Schedule:

Approved 02/01/18	12/31/25
Forecast 02/01/18	06/30/26

Project Percent Complete: 61.1%

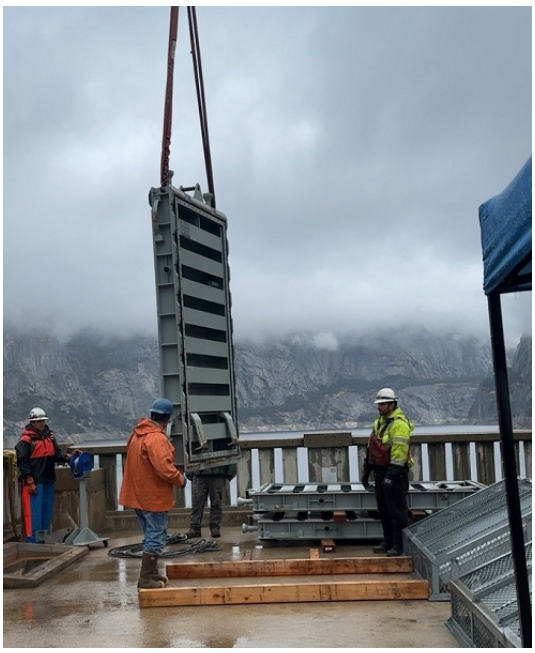
Key Milestones		Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	A	12/02/22 A	01/13/23 A	05/24/24 A	07/01/25
	B	12/02/22 A	05/03/24 A	11/12/24 A	11/06/25
	C	12/02/22 A	03/13/23 A	08/28/23 A	05/24/25
		11/25/22 A			

Progress and Status:

Subproject A (Bulkheads): The new dam inlet isolation bulkheads were delivered, installed, and successfully tested in Slots 1 and 2. Subproject B (Drainage & Miscellaneous Dam Improvements): Contract No. HH-1015 has commenced following the issuance of the Notice-to-Proceed. The contractor started working on submittals and construction schedule. For Subproject C (Instream Flow Release (IFR) Valve Replacement, HH-1011), the axial control valves, piping, and appurtenances were installed and commissioned, and the IFR system is now operational. The contractor is addressing remaining punchlist items. Subproject D (Slide Gates): Comments on the Needs Assessment Report are being addressed. Subproject E (Drum Gates): Comments on the combined Needs Assessment and Alternative Analysis Report are being incorporated.

Issues and Challenges:

The variance between the approved and forecast project finish date is due to longer than expected duration to coordinate the proposed construction water treatment and discharge requirements for the Drainage & Miscellaneous Improvement (Subproject B) contract. The substantial completion date for Subproject C (Instream Flow Release Valve Replacement) is forecasted to be delayed due to the longer than expected procurement and delivery time of the gantry crane. The team is evaluating the impact of the delay.



Subproject A New Bulkheads for Face of O'Shaughnessy Dam - Slot 1/2 Bulkhead Being Installed & Tested

10037351 - Moccasin Dam & Reservoir Long Term Improvement

Project Description: A heavy storm event in 2018 caused significant damage to the auxiliary spillway, upstream trash rack and diversion, and downstream area. Subsequent engineering studies concluded that improvements are needed to increase the spillway capacity to safely pass the updated design flood without overtopping the existing embankment dam. This project is needed for dam safety. This project will construct a new concrete spillway with adequate flow capacity along the alignment of the existing auxiliary spillway and additional flood protection to the Moccasin project facilities.

Program: Joint Infrastructure	**Project Status:** Planning	**Environmental Status:** Active (TBD)

Project Cost:

Approved	$ 142.19 M
Forecast	$ 164.73 M
Actual	$ 5.12 M

Project Schedule:

Approved 05/03/21	12/31/34
Forecast 05/03/21	12/31/34

Project Percent Complete: 5.2%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	06/29/29	07/02/29	03/30/30	12/31/33

Progress and Status:

The Conceptual Engineering Report has been updated based on feedback from the SFPUC Technical Steering Committee (TSC) and is currently being routed for signatures. This quarter, the consultant also completed a draft Basis of Design Report and a Draft Final Design Hydraulic Analysis. Geotechnical data review and analysis are ongoing.

Issues and Challenges:

As reported last quarter, the variance between the forecast cost and the approved budget was primarily due to the recent escalation of concrete and steel costs which, in turn, increased the construction cost estimate at the Conceptual Engineering Report phase.

Physical Model of the Moccasin Dam Spillway Conceptual Design

10014115 - Cherry Dam Spillway - Short Term Improvements

Project Description: Cherry Dam Spillway is a 334 foot-wide ogee-type concrete weir that discharges into an unlined adjacent channel. The spillway capacity is designed for 52,000 cfs. A spill of 1,500 cfs in 2010 resulted in significant erosion damage to the unlined spill channel, large-scale erosion along the western segment of Cherry Dam, and flooding of Cherry Power Tunnel Adit and a campground downstream. Engineering studies showed that remedial measures and erosion protection for the spill channel are needed to ensure that spill flows from Cherry Valley Dam spillway can be contained without erosion damage to the existing embankment dam and downstream area. Studies also found that long-term improvement to the spillway is needed to increase the hydraulic capacity of the spillway to safely pass the design flood. This project is a short-term interim solution until the long-term spillway improvements are implemented. This project will reestablish containment for the breached spill channel section from the 2010 spill and install armoring to protect the upper spill channel section against erosion from spillway releases of up to 2,000 cubic feet per second.

Program: Joint Infrastructure	**Project Status:** Design	**Environmental Status:** Active (MND)

Project Cost:

Approved	$ 14.89 M
Forecast	$ 14.89 M
Actual	$ 2.63 M

Project Schedule:

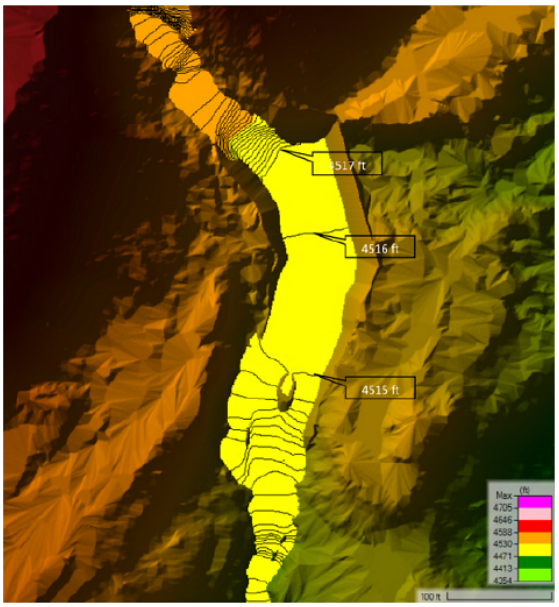
Approved 03/01/21	06/30/27
Forecast 03/01/21	06/30/27

Project Percent Complete: 19.5%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	12/31/25	07/14/25	02/28/26	12/31/26

Progress and Status:
The consultant delivered the 35% design package, which is under review by the project team. The draft 65% design package is scheduled for delivery next quarter.

Issues and Challenges:
None at this time.



Cherry Valley Dam Spillway 2,000 Cubic Feet per Second (CFS) Flow Model

10030759 - Eleanor Dam Rehabilitation

Project Description: Mitigation alternatives will include improvements to increase spill capacity to safely pass the design flood, installation of a liner on the upstream face of the dam, concrete repairs, valve replacement, and installation of concrete lining and riprap for foundation armoring, and replacement of the existing bridge.

Program: Joint Infrastructure	**Project Status:** Multi-Phases	**Environmental Status:** Not Initiated (TBD)

Project Cost:

Approved	$ 113.87 M
Forecast	$ 113.87 M
Actual	$ 0.77 M

Project Schedule:

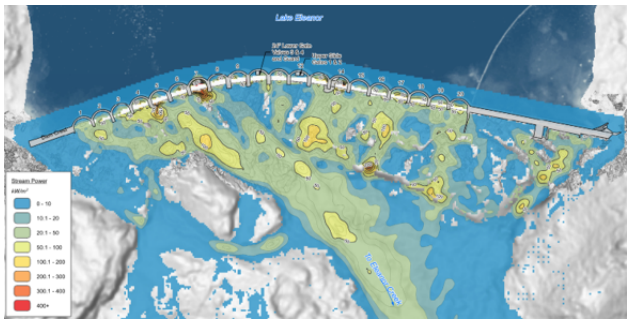
Approved 06/01/20	12/31/38
Forecast 06/01/20	12/31/38

Project Percent Complete: 1.8%

Key Milestones		Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	A	06/30/25	07/01/25	03/01/26	12/31/26
	B	12/31/32	01/01/33	10/01/33	12/31/37

Progress and Status:

This project is divided into 2 subprojects, (A) the Eleanor Dam - Interim Bridge Repairs; and (B) the Eleanor Dam and Bridge Long-Term Rehabilitation. For subproject A, the project team is coordinating a 'mock-up' test for proposed bridge overlay materials, which is scheduled for Spring 2025. The testing of the proposed bridge overlay materials is required to ensure that the selected product will meet the project objectives. For subproject B, the project team received the draft Needs Assessment Review Memo and Erodibility Analysis Report from the consultant.



Lake Eleanor Stream Power Visual

Issues and Challenges:

None at this time.

10039119 - Early Intake Dam - Long Term

Project Description: Remove the existing deteriorated dam and construct a new concrete diversion structure and conveyance system within the existing Raker Act boundary to divert flows from Cherry Creek and Tuolumne River upstream of Kirkwood Powerhouse into Mountain Tunnel for SFPUC customers during emergencies.

Program: Joint Infrastructure	**Project Status:** Planning	**Environmental Status:** Not Initiated (TBD)

Project Cost:

Approved	$ 100.07 M
Forecast	$ 100.07 M
Actual	$ 0.71 M

Project Schedule:

Approved 07/01/23	12/31/35
Forecast 07/01/23	12/31/35

Project Percent Complete: 2.2%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	06/28/30	07/01/30	04/01/31	12/31/34

Progress and Status:

Review of the biological and topographic surveys were completed. The consultant issued a draft Alternatives Analysis Report (without scoring) this quarter, which is currently under internal review.

Issues and Challenges:

None at this time.

Early Intake Dam Spillway at Right Abutment

10014114 - Mountain Tunnel Improvement Project

Project Description: Constructed between 1917 and 1925, Mountain Tunnel (MT) is a critical, nonredundant link in the Hetch Hetchy Regional Water System, conveying SFPUC water supply from Kirkwood Powerhouse to Priest Reservoir. Due to the tunnel's 90 years of operation, deferred maintenance, and construction deficiencies from the early 1900s, sections of the tunnel have deteriorated, some more extensively than others. The Mountain Tunnel Inspection and Repairs Project provided a tunnel inspection in 2017 to update the Condition Assessment conducted in 2008. Short-term repairs were also made in 2017 and 2018 to reduce the risk of failures in the concrete lining prior to implementation of the long-term project. The Mountain Tunnel Improvements (Rehabilitation)Project was selected for the design and construction of the preferred engineering alternative that will keep this vital component of the Hetch Hetchy Regional Water System in reliable service for years to come. The budget and schedule are based on the Mountain Tunnel Improvements Project construction phase, which is anticipated to take place between 2021 and 2027. This is the water funded portion of the Mountain Tunnel projects. For the Mountain Tunnel Improvements Project, the water portion will rehabilitate the inside of the tunnel and extend the siphon at South Fork, along with related safety improvements to the roadways that access the Mountain Tunnel.

Program: Joint Infrastructure	**Project Status:** Construction	**Environmental Status:** Completed

Project Cost:

Approved	$ 268.67 M
Forecast	$ 268.67 M
Actual	$ 154.80 M

Project Schedule:

Approved 10/03/11	06/03/27
Forecast 10/03/11	06/03/27

Project Percent Complete: 64.7%

Key Milestones		Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	A	01/14/20 A	11/13/19 A	01/29/21 A	12/03/26
	B	N/A	12/11/23 A	09/23/24 A	09/03/25

Progress and Status:

Subproject A (HH-1000R) Mountain Tunnel Improvement Contract: The contractor was issued a Non-Conformance Notice (NCN) for the Flow Control Building foundations which will require demolition of the faulty walls and foundation. The large cut walls were completed on the Adit 5/6 and 8/9 roadways. Contractor set up for the upcoming shutdown which included commissioning the construction water treatment plant, installing the grout plants for in tunnel contact grouting, staging shotcrete in Adit 8/9 and preparing ventilation fans. Shutdown No. 4 and in tunnel work began on December 16, 2024. Negotiations for removal of work scope concluded with Commission approval to modify the contract anticipated next quarter. Staff is working on obtaining approval for an alternative delivery method to complete the remaining work. Subproject B (HH-1013) Moccasin Water System Filtration Plant: Construction is progressing, and a design change is required for one of the building support walls due to the bedrock being lower than anticipated.

Grout Plant at Priest Adit for Contact Grouting during Outage No. 4

Issues and Challenges:

None at this time.

10037077 - Moccasin Old Powerhouse Hazard Mitigation

Project Description: Design and install mitigation measures to prevent the building from collapsing and to prevent hazardous materials (such as lead-based paint and asbestos) from contaminating Moccasin Reservoir.

Program: Joint Infrastructure	**Project Status:** Planning	**Environmental Status:** Not Initiated (EIR)

Project Cost:

Approved	$ 13.47 M
Forecast	$ 13.47 M
Actual	$ 0.89 M

Project Schedule:

Approved 01/01/21	07/01/32
Forecast 01/01/21	07/01/32

Project Percent Complete: 9.2%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	12/31/28	01/01/30	08/01/30	08/01/31

Progress and Status:

The project team continues to work on the Conceptual Engineering Report.

Issues and Challenges:

None at this time.

Existing Moccasin Old Powerhouse

10014108 - Canyon Tunnel - Hetchy Adit Rehab & OSH Bridge

Project Description: The project is to install a new reinforced concrete plug downstream of the existing plug in Hetchy Adit and rehabilitate O'Shaughnessy Adit Access Bridge including sub-structure retrofit and super structure replacement.

Program: Joint Infrastructure	**Project Status:** Design	**Environmental Status:** Active (MND)

Project Cost:

Approved	$ 30.14 M
Forecast	$ 30.14 M
Actual	$ 2.33 M

Project Schedule:

Approved 02/03/14	12/31/30
Forecast 02/03/14	12/31/30

Project Percent Complete: 17.3%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	08/31/26	09/01/26	05/01/27	05/01/30

Progress and Status:

The combined 95% design package for the O'Shaughnessy Adit access bridge and the Canyon Tunnel Hetchy Adit rehabilitation was developed this quarter. Environmental field surveys have been completed, and consultation with regulatory agencies resulted in a California Environmental Quality Act (CEQA) determination of a Mitigated Negative Declaration (MND).

Issues and Challenges:

None at this time.

Canyon Tunnel - Hetchy Adit Bulkhead

10014110 - Moccasin Wastewater Treatment Plant

Project Description: This project will replace the existing plant with a package two-train sequencing batch reactor (SBR) plant with grit removal and screening facilities, upgraded electrical and flow monitoring systems, flow equalization, SCADA instrumentation and automation features, and related site improvements.

Program: Joint Infrastructure	**Project Status:** Construction	**Environmental Status:** Completed (Cat Ex)

Project Cost:

Approved	$ 15.38 M
Forecast	$ 15.38 M
Actual	$ 3.06 M

Project Schedule:

Approved 01/03/22	02/20/28
Forecast 01/03/22	02/20/28

Project Percent Complete: 22.7%

Key Milestones	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	02/22/23 A	10/12/23 A	06/03/24 A	12/29/26

Progress and Status:

The contractor continued potholing to verify existing underground utilities. The project team is addressing Requests for Information (RFIs) and submittals. A change order was approved to construct a temporary path from the laboratory to the plant to maintain access during construction.

Issues and Challenges:

None at this time.

Drilling for Temporary Shoring Adjacent to the Existing Wastewater Treatment Plant

8. ON-GOING CONSTRUCTION*

Construction Contract	Schedule			Budget		Variance (Approved - Forecast)		Percent Complete
	NTP Date	Approved Construction Final Completion	Current Forecasted Construction Final Completion**	Approved Contract Cost	Current Forecasted Cost**	Schedule (Cal Days)	Cost	
Water Infrastructure								
10035575 - SJPL Valve & Safe Entry Improvement - (Contract A, HH-1005)	05/16/22	02/01/25	03/14/25	$15,462,515	$15,462,515	(41)	$0	76.9%
10035575 - SJPL Valve & Safe Entry Improvement - (Contract B, HH-1006)	11/07/22	09/11/24	09/11/24	$11,465,716	$11,465,716	0	$0	99.7%
10035575 - SJPL Valve & Safe Entry Improvement - (Contract C, HH-1012)	05/13/24	07/07/25	07/07/25	$5,627,764	$5,651,496	0	($23,732)	3.7%
10035575 - SJPL Valve & Safe Entry Improvement - (Contract E, HH-1009)	02/26/24	05/22/25	05/22/25	$11,160,222	$11,160,222	0	$0	49.8%
Power Infrastructure								
10014086 - Moccasin Powerhouse Generator Rehab - (Contract B, DB-121R2)	08/15/22	06/17/25	06/17/25	$29,479,709	$29,479,709	0	$0	82.0%
10014087 - Warnerville Substation - (DB-127R)	11/26/18	03/31/24	12/20/24	$14,591,450	$14,591,450	(264)	$0	100.0%
Joint Infrastructure								
10032903 - O'Shaughnessy Dam Outlet Works Phase 1 - Instream Flow Release (Contract C, HH-1011)	08/28/23	05/24/25	05/24/25	$6,084,722	$6,190,286	0	($105,564)	84.7%
10032903 - O'Shaughnessy Dam Outlet Works Phase 1 - Bulkheads (Contract A, DB-135)	05/24/24	07/01/25	07/01/25	$6,805,604	$7,125,604	0	($320,000)	65.5%
10032903 - O'Shaughnessy Dam Outlet Works Phase 1 - Drainage & Misc. Dam Improvements (Contract B, HH-1015)	11/12/24	11/06/25	11/06/25	$5,285,955	$5,285,955	0	$0	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 Forecast Final Completion includes all approved, pending, and potential change orders, and trends.

Construction Contract	Schedule			Budget		Variance (Approved - Forecast)		Percent Complete
	NTP Date	Approved Construction Final Completion	Current Forecasted Construction Final Completion**	Approved Contract Cost	Current Forecasted Cost**	Schedule (Cal Days)	Cost	
10014114 - Mountain Tunnel Improvement - (HH-1000R)	01/29/21	12/03/26	12/03/26	$147,103,296	$148,668,296	0	($1,565,000)	60.4%
10014110 - Moccasin Wastewater Treatment Plant - (HH-1010)	06/03/24	12/29/26	12/29/26	$7,507,640	$7,512,377	0	($4,737)	6.1%

	Approved Contract Cost	Current Forecast Cost	Variance	
			Cost	Percent
Program Total for On-Going Construction	**$260,574,593**	**$262,593,627**	**($2,019,034)**	**(0.8%)**

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 Forecast Final Completion includes all approved, pending, and potential change orders, and trends.

9. PROJECTS IN CLOSEOUT

Project Title	Current Approved Construction Phase Completion	Actual Construction Phase Completion	Current Approved Construction Phase Budget	Construction Phase Expenditures To Date
Power Infrastructure				
Transmission Lines				
10035721 - Transmission Lines 7/8 Upgrades	06/05/24	06/05/24	$27,146,308	$24,197,640
TOTAL			**$27,146,308**	**$24,197,640**

10. COMPLETED PROJECTS

There are no completed projects.

APPENDICES

This page is intentionally left blank.

APPENDIX A. PROJECT DESCRIPTIONS

WATER INFRASTRUCTURE

Water Conveyance (Water)

10035575 SJPL Valve and Safe Entry Improvement

San Joaquin Pipeline (SJPL) Nos. 1, 2, and 3 consist of three parallel transmission pipelines (completed in 1932, 1953, and 1968, respectively) that cross the San Joaquin Valley from the east of Foothill Tunnel at Oakdale Portal to the west of Coast Range Tunnel at Tesla Portal, a distance of approximately 48 miles. A fourth partial pipeline (SJPL 4 completed in 2012) consists of a 6.4-mile segment of pipe downstream of Oakdale and another 11-mile segment upstream of Tesla Portal. SJPLs deliver Tuolumne River water to the San Francisco Bay Area. They have been in service ranging from 11 to 91 years. SFPUC staff members and contractors need to enter the pipelines regularly to perform condition assessment, maintenance, and repair work. A recent hydraulic study shows that several of the existing valves in the SJPLs may be under-rated for the potential surge pressures that could be triggered from an unplanned closure of the valves at the downstream Tesla Ultraviolet Treatment Facility. For safety reasons, the SFPUC initiated this capital project to increase the pressure rating of the valves, provide safe pipeline isolations for personnel entry into the pipelines, and allow shutdown of any section of the SJPLs without a complete system shutdown.

SJPL Valve Remote Control and Monitoring

Design, procure, and construct new SJPL remote supervisory controls that would enable remote operation from Moccasin to remotely operate valve actuators. The project includes data telemetry improvements, Remote Terminal Unit (RTU) installation/replacement, trans-valley communication system upgrades, power system upgrades, security improvements, and access improvements.

Water Infrastructure Project Development

10014072 WATER ONLY/PROJ DEV

The Project Development (PD) Account captures Program-level expenditures. The project provides programmatic support for Water funded capital projects. The following charges are allocated to the PD Account: 1) task orders for overall program management and project prioritization tasks, where the costs should be distributed over all CIP Projects; 2) infrastructure and Hetch Hetchy staff performing program-level tasks, including capital plan development, budget management (including fund management and cost reallocations), and unifier and quarterly report generation tasks, where the costs should be distributed over all CIP Projects; 3) portal support for the existing SharePoint Portal (including document management and project dashboard reporting); 4) work outreach program; and 5) City Attorney charges for contract development.

APPENDIX A. PROJECT DESCRIPTIONS

POWER INFRASTRUCTURE

Powerhouse

10036809 Moccasin Powerhouse Bypass Upgrades

Provide a reliable hydraulic bypass and energy dissipation system, conveying water around the turbines to the Moccasin Powerhouse Tailrace. Upgrade/replace high-pressure energy-dissipating valves, control systems, and associated structures to absorb 1,147 feet of pressure head and 430 cubic feet per second flow without damage.

10014086 Moccasin Powerhouse and GSU Rehabilitation

The project is broken down into three components: 1) Generator Rehabilitation – replace the entire generator and associated equipment, including new stator cores and coils, rotor poles, relays, and rotor rim; 2) GSU Replacement – replace two of the three existing generator step-up transformers (GSUs), new foundations and oil containment, and relay upgrades; and 3) Power Plant Systems Upgrades – replace the 480 V switchgear, 13.8 kV switchgear, motor control centers, main control boards, protective relays, cooling water piping, and improving oil containment systems.

Transmission Lines

10014089 Transmission Lines Clearance Mitigation

This project will provide funding to implement mitigation measures to resolve clearance discrepancies. Mitigation options include but are not limited to new towers/tubular poles, new intervening poles, tower raises, ground lowering, and other structural improvements to the lattice towers.

10035721 Transmission Lines 7/8 Upgrades

This project develops the scope of work, design, and contract documents necessary to bid, award, and manage the reconductoring contract. Reconductoring will include replacement of the existing 115 kV conductors on Lines 7/8 from Warnerville to Standiford substations, resulting in increased capacity and resolving clearance detections.

Switchyard & Substations (Power)

10014087 Warnerville Substation Rehabilitation

The additional funding request is to cover the remaining work for Warnerville Substation Rehabilitation Project. Under Design Build Contract #DB-127R, installation of some 230 kV equipment was deleted from the contract but procured, including circuit breakers, switches, insulators, and current voltage transformers. Remaining work includes the replacement of four oil circuit breakers, bushings, surge arrestors, disconnect switches, current voltage transformer, insulators, relay protection, and other ancillary equipment.

10039568 Moccasin Switchyard Rehabilitation

Replace 115 kV disconnect switches, replace 115 kV bus configuration, replace 230 kV disconnect switches, change 230 kV bus configuration, replace 115 kV circuit breakers, add surge arresters, perform a fault study, perform a grounding study, improve switchyard grading, and replace fencing.

Dams & Reservoirs (Power)

10014079 Cherry-Eleanor Pumps

Replace and upgrade pumps in Cherry Pump Station with units that work with current operating strategies. The scope of work includes: 1) replacement of pumps, transformer, and pump motor starters; 2) installation of Programmable Logic controller (PLC), SCADA system, and fiber optics; and 3) improvement of the existing motor control center (MCC) building.

Power Infrastructure Project Development

10014092 POWER ONLY/PROJ DEVELP

The Project Development (PD) Account captures program-level expenditures. The project provides programmatic support for Power funded capital projects. The following charges are allocated to the PD Account: 1) task orders for overall program management and project prioritization tasks, where the costs should be distributed over all CIP Projects; 2) infrastructure and Hetch Hetchy staff performing program-level tasks, including capital plan development, budget management (including fund management and cost reallocations), and unifier and quarterly report generation tasks, where the costs should be distributed over all CIP Projects; 3) portal support for the existing SharePoint Portal (including document management and project dashboard reporting); 4) work outreach program; and 5) City Attorney charges for contract development.

APPENDIX A. PROJECT DESCRIPTIONS

JOINT INFRASTRUCTURE

Water Conveyance (Joint)

10014088 Moccasin Penstock Rehabilitation

In order to meet the established level of service, mitigate potential risks, and avoid potential consequences of failure, SFPUC is considering replacing the penstocks so that the life of the asset will be extended for another 75 to 100 years. Based on a preliminary study, a combination of a drop shaft, a tunnel and above grade pipes appears to be a favorable alternative. SFPUC will continue the study before determining the most appropriate alternative solution. For capital planning purposes, SFPUC assumes the alternative will include the following major elements: • A drop shaft of about 850 feet deep, • A new tunnel penstock of about 3,100 feet, and • A two 72 in. above-grade penstocks with a total length of 3,000 feet

Buildings (Joint)

10039680 Moccasin Engineering and Records Building

HHWP Project operations and administration is located in Moccasin, California, with facilities including buildings, office trailers, warehouses, shops, laboratories, and sheds. Many existing facilities are deteriorating, do not meet current building codes, and are incurring increased maintenance costs. HHWP needs to invest in new facilities to meet all applicable codes and standards; reduce maintenance costs; increase employee interconnectivity and productivity; properly store all staff, materials, records, and equipment; and meet energy-efficiency standards. HHWP prepared a report titled "Moccasin Facilities Upgrade Project – Alternatives Analysis and Evaluation Report Update". The report identified long-term needs for creating adequate office space for current staff in Moccasin. In addition, the report evaluated the needs for new, dedicated materials storage space, new records and archives space with offices, new space for servers, and parking space for staff. The Moccasin Engineering and Records Building project will address the need for permanent office space by constructing a new two-story building. Hetch Hetchy and Infrastructure staff are currently located in temporary trailers that have exceeded their useful life. The new building will provide office space for Hetch Hetchy Engineering, Records, Energy Services, Infrastructure, and ITS staff. The scope also includes a secure server room, parking lot, and archive/records storage. The budget and schedule for the project will be modified to provide permanent office space for both Hetch Hetchy and Infrastructure staff and to address escalation since the completion of the 2020 Alternatives Analysis Report estimate.

10041727 Moccasin Warehouse Building

The Moccasin Old Powerhouse was constructed in 1926 and abandoned in the 1960s. The building has multiple structural and nonstructural issues, including cracks, spalling of structural concrete, water intrusion, broken windows, settlement, hazardous materials, and seismic deficiencies. The building is currently used for storage of large equipment and critical spares for the Hetch Hetchy Water and Power system. As a result of the multiple issues, it was determined to demolish the building. A new warehouse is therefore necessary for the storage of the large equipment and critical spares for the Hetch Hetchy Water and Power system that was previously stored in the Moccasin Old Powerhouse. This project includes a construction of a new 9,000-square-foot warehouse within the Moccasin campus to store large equipment and critical spare components for the Hetch Hetchy Water and Power System. The building will include office space for warehouse staff including records retention for warehouse and materials documentation.

Dams & Reservoirs (Joint)

10032903

O'Shaughnessy Dam Outlet Works Phase 1

O'Shaughnessy Dam was completed in 1923 and raised in 1938. A condition assessment of the dam outlet works revealed the need for improvements to the existing outlet works, including gates and valves (1923 construction), to ensure safe and reliable operation. Based on engineering studies and prioritization of asset condition, needs, and risks, improvements to the existing outlet works will be implemented in two phases. Funding for this project will include work under Phase 1. Phase 2 of the O'Shaughnessy Dam Outlet Improvement Project begins in 2025. Work under Phase 1 will include: (1) replacement of two existing instream flow release valves; (2) improvements to access and drainage in the dam gallery and stairs; (3) installation of new bulkheads for the outlet intake; and (4) a planning phase and scoping for the slide gates and drum gates improvements.

10037351 Moccasin Dam & Reservoir Long-Term Improvements

A heavy storm event in 2018 caused significant damage to the auxiliary spillway, upstream trash rack and diversion, and downstream area. Subsequent engineering studies concluded that improvements are needed to increase the spillway capacity to safely pass the updated design flood without overtopping the existing embankment dam. This project is needed for dam safety. This project will construct a new concrete spillway with adequate flow capacity along the alignment of the existing auxiliary spillway and additional flood protection to the Moccasin project facilities.

10014115 Cherry Dam Spillway - Short Term Improvements

Cherry Dam Spillway is a 334 foot-wide ogee-type concrete weir that discharges into an unlined adjacent channel. The spillway capacity is designed for 52,000 cfs. A spill of 1,500 cfs in 2010 resulted in significant erosion damage to the unlined spill channel, large-scale erosion along the western segment of Cherry Dam, and flooding of Cherry Power Tunnel Adit and a campground downstream. Engineering studies showed that remedial measures and erosion protection for the spill channel are needed to ensure that spill flows from Cherry Valley Dam spillway can be contained without erosion damage to the existing embankment dam and downstream area. Studies also found that long-term improvement to the spillway is needed to increase the hydraulic capacity of the spillway to safely pass the design flood. This project is a short-term interim solution until the long-term spillway improvements are implemented. This project will reestablish containment for the breached spill channel section from the 2010 spill and install armoring to protect the upper spill channel section against erosion from spillway releases of up to 2,000 cubic feet per second.

10030759 Eleanor Dam Rehabilitation

Mitigation alternatives will include improvements to increase spill capacity to safely pass the design flood, installation of a liner on the upstream face of the dam, concrete repairs, valve replacement, and installation of concrete lining and riprap for foundation armoring, and replacement of the existing bridge.

10039119 Early Intake Dam - Long Term

Remove the existing deteriorated dam and construct a new concrete diversion structure and conveyance system within the existing Raker Act boundary to divert flows from Cherry Creek and Tuolumne River upstream of Kirkwood Powerhouse into Mountain Tunnel for SFPUC customers during emergencies.

O'Shaughnessy Dam Outlet Works Phase 2

O'Shaughnessy Dam was completed in 1923 and raised in 1938. A condition assessment of the dam outlet works revealed the need for improvements to the existing outlet works, including gates and valves (1923 construction), to ensure safe and reliable operation. Based on engineering studies and prioritization of asset condition, needs, and risks, improvements to the existing outlet works will be implemented in two

phases. The O'Shaughnessy Dam Outlet Works Phase 1 Project is described under Project Number 10032903 and is currently in the design and construction phases. Phase 2 of the O'Shaughnessy Dam Outlet Improvement Project will begin in 2025 and will include replacement and/or refurbishment of eight discharge valves, rehabilitation of three drum gates, refurbishment of twelve slide gates, installation of a new diversion pipe isolation valve, and improvements for the diversion tunnel. The project will include: (1) replacement of six 60-inch and one 72-inch discharge needle valves; (2) refurbishment of one 72-inch discharge butterfly valve; (3) rehabilitation of three drum gates; (4) refurbishment of twelve slide gates; (5) installation of a new diversion pipe isolation valve; and (6) improvements for the diversion tunnel.

Mountain Tunnel

10014114 Mountain Tunnel Improvement Project

Constructed between 1917 and 1925, Mountain Tunnel (MT) is a critical, nonredundant link in the Hetch Hetchy Regional Water System, conveying SFPUC water supply from Kirkwood Powerhouse to Priest Reservoir. Due to the tunnel's 90 years of operation, deferred maintenance, and construction deficiencies from the early 1900s, sections of the tunnel have deteriorated, some more extensively than others. The Mountain Tunnel Inspection and Repairs Project provided a tunnel inspection in 2017 to update the Condition Assessment conducted in 2008. Short-term repairs were also made in 2017 and 2018 to reduce the risk of failures in the concrete lining prior to implementation of the long-term project. The Mountain Tunnel Improvements (Rehabilitation)Project was selected for the design and construction of the preferred engineering alternative that will keep this vital component of the Hetch Hetchy Regional Water System in reliable service for years to come. The budget and schedule are based on the Mountain Tunnel Improvements Project construction phase, which is anticipated to take place between 2021 and 2027. This is the water funded portion of the Mountain Tunnel projects. For the Mountain Tunnel Improvements Project, the water portion will rehabilitate the inside of the tunnel and extend the siphon at South Fork, along with related safety improvements to the roadways that access the Mountain Tunnel.

Powerhouse (Joint)

10037077 Moccasin Old Powerhouse Hazard Mitigation

Design and install mitigation measures to prevent the building from collapsing and to prevent hazardous materials (such as lead-based paint and asbestos) from contaminating Moccasin Reservoir.

Tunnels (Joint)

10014108 Canyon Tunnel - Hetchy Adit Rehab & OSH Bridge

The project is to install a new reinforced concrete plug downstream of the existing plug in Hetchy Adit and rehabilitate O'Shaughnessy Adit Access Bridge including sub-structure retrofit and super structure replacement.

Utilities (Joint)

10014110 Moccasin Wastewater Treatment Plant

This project will replace the existing plant with a package two-train sequencing batch reactor (SBR) plant with grit removal and screening facilities, upgraded electrical and flow monitoring systems, flow equalization, SCADA instrumentation and automation features, and related site improvements.

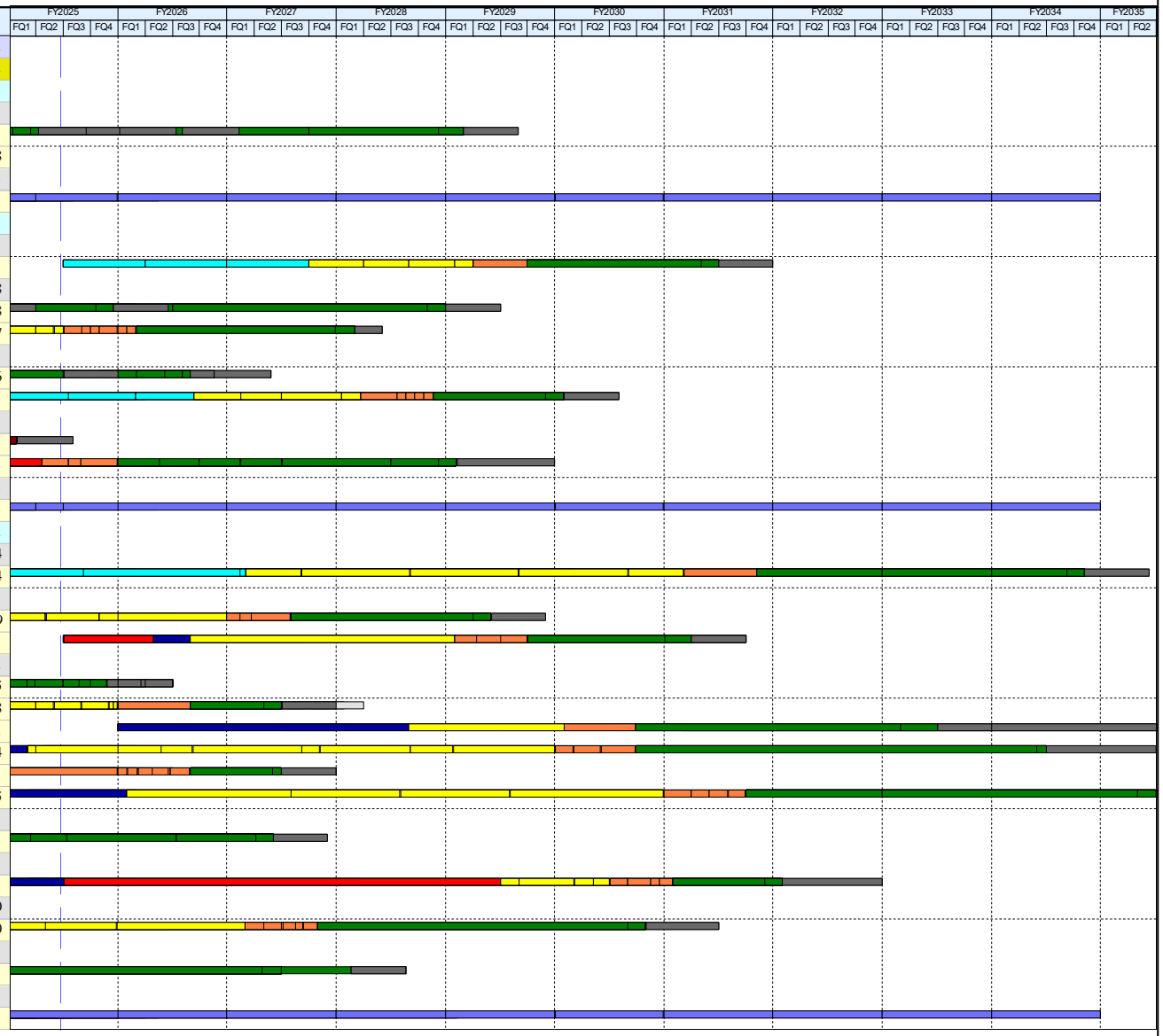
Joint Infrastructure Project Development

10014116 JOINT - PROJECT DEVELOPMENT

The Project Development (PD) Account captures program-level expenditures. The following charges are allocated to the joint funded PD Account: 1) task orders for overall program management and project prioritization tasks, where the costs should be distributed over all CIP Projects; 2) infrastructure and HHWP staff performing program-level tasks, including capital plan development, budget management (including fund management, and cost reallocations), and unifier and quarterly report generation tasks, where the costs should be distributed over all CIP projects; 3) portal support for the existing SharePoint portal (including document management and project dashboard reporting); 4) work outreach program; and 5) City Attorney contract development charges.

APPENDIX B. Hetch Hetchy Capital Improvement Program Approved Project Level Budgets/Schedules

Project Name	Approved Budget	Start	Finish
Hetchy Capital Improvement Program	$2,016,814,835.02	03-Oct-11	31-Dec-41
Hetch Hetchy Water Enterpise	$2,016,814,835.02	03-Oct-11	31-Dec-41
Water Infrastructure	$209,409,421.01	26-Mar-12	30-Jun-34
Water Conveyance (Water)	$196,494,822.00	01-Jul-19	28-Feb-29
10035575 SJPL Valve and Safe Entry Improvement	$157,752,191.00	01-Jul-19	28-Feb-29
10041725 SJPL Valve Remote Control and Monitoring	$38,742,631.00	01-Oct-24	31-Dec-28
Water Infrastructure Project Development	$12,914,599.00	26-Mar-12	30-Jun-34
CUH100PD HHW- Water Project Development	$12,914,599.00	26-Mar-12	30-Jun-34
Power Infrastructure	$376,407,179.00	29-May-12	30-Jun-34
Dams & Reservoirs (Power)	$38,798,254.00	01-Jan-25	30-Jun-31
CUH10106 Cherry-Eleanor Pumps	$38,798,254.00	01-Jan-25	30-Jun-31
Powerhouse	$141,611,932.99	18-Sep-20	31-Dec-28
CUH10114 Moccasin Powerhouse and GSU Rehabilitation	$100,556,003.00	18-Sep-20	31-Dec-28
10036809 HHW - Moccasin Powerhouse Bypass Upgrade	$41,055,930.00	18-Sep-20	01-Dec-27
Switchyard & Substations (Power)	$57,115,334.99	01-Sep-15	31-Jan-30
CUH10115 Warnerville Substation Rehabilitation Project	$37,407,004.00	01-Sep-15	25-Nov-26
10039568 Moccasin Switchyard Rehabilitation	$19,708,331.00	01-Nov-22	31-Jan-30
Transmission Lines	$121,007,957.01	01-Jul-17	30-Jun-29
10035721 Transmission Lines 7/8 Upgrades	$37,327,197.00	02-Dec-19	31-Jan-25
10014089 Transmission Lines Clearance Mitigation	$83,680,760.00	01-Jul-17	30-Jun-29
Power Infrastructure Project Development	$17,873,700.00	29-May-12	30-Jun-34
CUH101PD HHW- Power Project Development	$17,873,700.00	29-May-12	30-Jun-34
Joint Infrastructure	$1,430,998,235.01	03-Oct-11	31-Dec-41
Water Conveyance (Joint)	$331,171,945.00	03-Feb-14	08-Dec-34
CUH10116 Moccasin Penstock Rehabilitation	$331,171,945.00	03-Feb-14	08-Dec-34
Buildings (Join)	$115,023,904.00	14-Dec-22	01-Apr-31
10039680 Moccasin Engineering and Records Building	$88,733,548.00	14-Dec-22	31-May-29
10041727 Moccasin Warehouse Building	$26,290,356.00	01-Jan-25	01-Apr-31
Dams & Reservoirs (Joint)	$598,857,830.01	01-Feb-18	31-Dec-41
10032903 O'Shaughnessy Dam Outlet Works Phase 1	$43,731,371.01	01-Feb-18	31-Dec-25
10030759 Eleanor Dam Rehabilitation	$113,873,604.00	01-Jun-20	31-Dec-38
CUH102-N03 O'Shaughnessy Dam Outlet Works Phase 2	$184,106,942.00	01-Jul-25	31-Dec-41
10037351 Moccasin Dam & Reservoir Long Term Improve	$142,187,984.00	03-May-21	31-Dec-34
10014115 Cherry Dam Spillway - Short Term Improvemen	$14,885,874.00	01-Mar-21	30-Jun-27
10039119 Early Intake Dam - Long Term	$100,072,055.00	01-Jul-23	31-Dec-35
Mountain Tunnel	$268,668,950.00	03-Oct-11	03-Jun-27
CUH10221 Mountain Tunnel Improvement Project	$268,668,950.00	03-Oct-11	03-Jun-27
Powerhouse (Joint)	$13,474,515.00	01-Jan-21	01-Jul-32
10037077 Moccasin Old Powerhouse Hazard Mitigation	$13,474,515.00	01-Jan-21	01-Jul-32
Tunnels (Joint)	$30,138,401.00	03-Feb-14	31-Dec-30
CUH10215 Canyon Tunnel - Hetchy Adit Rehab & OSH Br	$30,138,401.00	03-Feb-14	31-Dec-30
Utilities (Joint)	$15,376,737.00	03-Jan-22	20-Feb-28
10014110 Moccasin Wastewater Treatment Plant	$15,376,737.00	03-Jan-22	20-Feb-28
Joint Infrastructure Project Development	$58,285,953.00	25-Jun-12	30-Jun-34
CUH102-PD HHW- Joint Project Development	$58,285,953.00	25-Jun-12	30-Jun-34



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

APPENDIX C. LIST OF ACRONYMS

Cat Ex	Categorical Exemption
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CER	Conceptual Engineering Report
CIP	Capital Improvement Program
CM/GC	Construction Manager/General Contractor
CFS	Cubic Feet Per Second
DB	Design-Build
EIR	Environmental Impact Report
FY	Fiscal Year
GSU	Generator Step-Up
GWH	Gigawatt Hours
HCIP	Hetch Hetchy Capital Improvement Program
HH	Hetch Hetchy
HHWP	Hetch Hetchy Water and Power
IFR	Instream Flow Release
kV	Kilovolts
MCC	Motor Control Center
MND	Mitigated Negative Declaration
MT	Mountain Tunnel
NCN	Non-Conformance Notice
NTP	Notice to Proceed
OSH	O'Shaughnessy Dam
PD	Project Development
PG&E	Pacific Gas and Electric
PLC	Programmable Logic Controller
RFI	Requests for Information
R&R	Renewal and Replacement
SBR	Sequence Batch Reactor
SCADA	Supervisory Control and Data Acquisition
SFPUC	San Francisco Public Utilities Commission
SJPL	San Joaquin Pipeline
TBD	To Be Determined
TSC	Technical Steering Committee

This page is intentionally left blank.