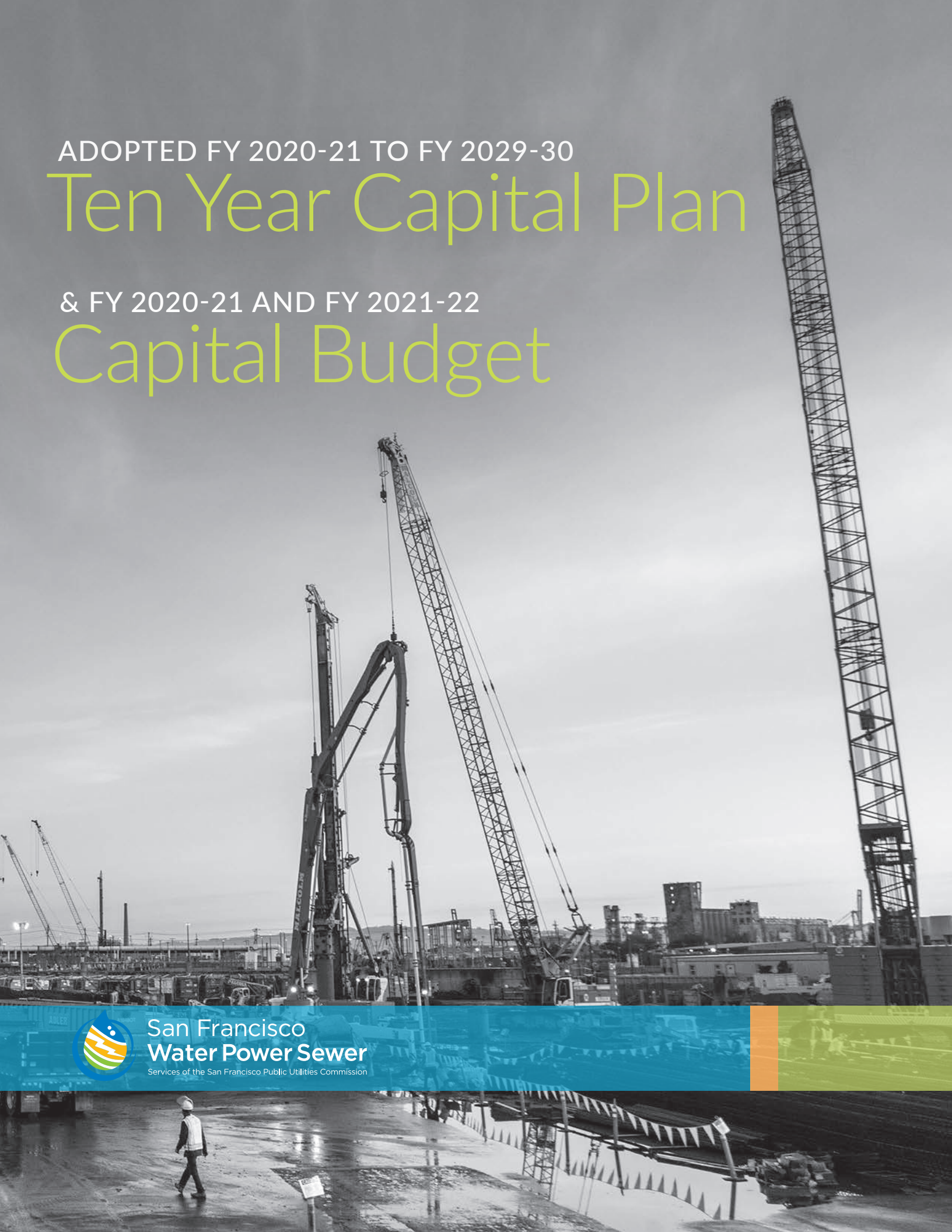
ADOPTED FY 2020-21 TO FY 2029-30

Ten Year Capital Plan

& FY 2020-21 AND FY 2021-22

Capital Budget



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

COVER PHOTO: Southeast Wastewater Treatment Plant: Biosolids Digester Facilities Project: Clamshell Grab Machinery, used for slurry wall excavation. *Photo by Robin Scheswohl*

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

ADOPTED FY 2020-21 TO FY 2029-30 TEN YEAR CAPITAL PLAN & ADOPTED FY 2020-21 TO FY 2021-22 CAPITAL BUDGET

Page intentionally left blank

TABLE OF CONTENTS

1. INTRODUCTION 3

2. TEN-YEAR CAPITAL PLAN PROCESS 7

3. WATER ENTERPRISE 13
   - Ten-Year Capital Plan 15
   - Two-Year Capital Budget 18

4. WASTEWATER ENTERPRISE 23
   - Ten-Year Capital Plan 25
   - Two-Year Capital Budget 29

5. HETCH HETCHY WATER AND POWER ENTERPRISE 33
   - Ten-Year Capital Plan 35
   - Two-Year Capital Budget 39

6. CLEANPOWERSF 43
   - Ten-Year Capital Plan 44
   - Two-Year Capital Budget 45

7. CAPITAL PLAN SUMMARY TABLES 47

8. CAPITAL BUDGET SOURCES 65

9. DATA SHEETS 69
   - Water Enterprise Fiscal Years 2021-2030 Ten Year CIP 69
   - Water Enterprise Fiscal Years 2021-2030 Programmatic Projects 135
   - Wastewater Enterprise Fiscal Years 2021-2030 Ten Year CIP 143
   - Wastewater Enterprise Fiscal Years 2021-2030 Programmatic Projects 239
   - Hetch Hetchy Water and Power Enterprise Fiscal Years 2021-2030 Ten Year CIP 243
   - Hetch Hetchy Water and Power Enterprise Fiscal Years 2021-2030 Programmatic Projects 287
   - CleanPowerSF Fiscal Years 2021-2030 Ten Year CIP 293

10. APPENDICES 295
    - a. Commission Staff Reports and Resolutions 295
    - b. Board Staff Report and Ordinances 309

Page intentionally left blank

INTRODUCTION

The San Francisco Public Utilities Commission (SFPUC) provides retail drinking water and wastewater services to the City of San Francisco, wholesale water to three Bay Area counties, and green hydroelectric and solar power to municipal departments. Capital investments are essential for the reliable delivery of clean drinking water, the protection of public health and the environment, including the San Francisco Bay and Pacific Ocean off San Francisco and the continued delivery of clean energy for municipal services. The SFPUC is an Enterprise Department of the City and County of San Francisco.

MISSION. The mission of the SFPUC is to provide our customers with high quality, efficient and reliable water, power, and wastewater services in a manner that values environmental and community interests, and sustains the resources entrusted to our care. The SFPUC is an innovative utility leader, recognized for excellent results in service, safety, stewardship and inclusiveness.

The SFPUC is comprised of three Enterprises, Infrastructure, CleanPowerSF, and the the adminstrative support Bureaus. The three Enterprises are the Water Enterprise, Wastewater Enterprise, and the Power Enterprise. Infrastructure manages the planning, design and construction of the capital programs. CleanPowerSF, the electrical power community choice aggregation program, initiated in 2015, is managed under the Power Enterprise. The Bureaus comprised of the Office of the General Manager, Business Services, and External Affairs provide critical support services and oversight to the Enterprises and Infrastructure.

Continued on next page...

HIKERS WALKING THE ELEANOR DAM & RESERVOIR

The SFPUC has separate operating and capital budgets, along with a Ten Year Financial Plan and Ten Year Capital Plan. The total SFPUC operating budget is $1.4 billion in FY 2020-21, and $1.5 billion in FY 2021-22. Supporting capital expenditures is the most significant portion the SFPUC operating budget for FY 2020-21 and FY 2021-22. Debt service to support capital expenditures as well as revenue-funded (i.e. cash funded) capital expenditures make up around 39 percent of the total operating budget.

The SFPUC's capital budget for FY 2020-21 is $517.7 million, and in FY 2021-22 is $698.0 million. The 10 Year Capital plan is almost $9 billion. In addition, the overall capital program includes programmatic projects that are funded as part of the operating budget. The programmatic budget for FY 2020-21 is $62.1, and in FY 2021-22 is $53.0. In total, the SFPUC will invest $1.3 billion through its capital program over the 2-year budget period. The total size of the Ten-Year Capital Plan, including programmatic projects, is $9.5 billion.

CAPITAL BUDGET SUMMARY

ENTERPRISE	FY 2020-21	FY 2021-22	10-YEAR PLAN TOTAL
Water	272,686,937	189,382,054	2,204,769,647
Wastewater	162,292,881	364,404,373	5,126,868,226
Hetchy Hetchy Water and Power	80,833,733	141,778,552	1,566,826,191
CleanPowerSF	1,898,497	2,432,829	75,819,326
Total Capital Budget	**517,712,048**	**697,997,808**	**8,974,283,390**
Programmatic Projects	62,123,993	52,979,658	558,975,190
Total with Programmatic Projects	**579,836,041**	**750,977,466**	**9,533,258,580**

Some highlights in the Capital Plan include:

Sewer System Improvement Program

The Sewer System Improvement Program (SSIP) will help the Wastewater Enterprise meet the SFPUC goals and levels of service for operational reliability, regulatory compliance, effective stormwater management, community benefits, climate change adaptation, economic and environmental sustainability and ratepayer affordability. The Ten-Year Capital Plan as adopted anticipates approximately $4.0 billion of investments in the SSIP.

Mountain Tunnel

Improvements to enhance SFPUC's ability to provide reliable, high-quality water to its customers will be carried out through three projects, the Mountain Tunnel Adits & Access Improvements Project to provide access to the tunnel, Inspection and Repair Project to provide for tunnel inspection and updated condition assessment and the Improvement Project to implement the needed improvements to assure reliability of water delivery. The first two projects are already completed, and the construction contract has been awarded for the third, and largest, project. The total size of this project is $238 million.

Bay Corridor Transmission and Distribution (BCTD)

This $123 million project funds the distribution infrastructure from the Potrero substation to a new substation facility proposed at Quinn Street. The scope of work includes underground duct bank work, cable pulls, transformer substation and transmission connections to PG&E Potrero and related customer interface equipment and cables. Work will extend initially from Southeast Plant to the Mission Rock.

The BCTD program will provide significant benefits to Power Enterprise customers including providing access to the distribution grid, ease of customer connections, ability to easily implement green grid options such as local solar, wind and cogeneration and better ability to market and plan for customer connection and service.

Regional Water Treatment Program

This $281 million program includes major upgrades to the Sunol Valley and Harry Tracy Water Treatment Plants. Projects are identified through condition assessments, operations staff review, level of service and feasibility studies, and alternative analysis at each plant. Projects include upgrades of chemical dosage, flow monitoring, valve and pump replacement, and chemical handling upgrades. New projects include improvements to the polymer feed facility and Chloramination facility at the Sunol Valley Plant.

San Francisco Westside Recycled Water Project

Projects in this $213 million program include the San Francisco Westside Enhanced Recycled Water Project, funding new facilities to generate and deliver 2 MGD of recycled water for irrigation use in the western end of San Francisco. The project includes a new recycled water treatment facility consisting of membrane filtration, reverse osmosis, and ultraviolet light disinfection; a 1.1-million-gallon storage reservoir; distribution pumping facilities; and five to six miles of new pipelines.

What is a Capital Expenditure?

SFPUC's Capital Budget is comprised of a biennial capital budget for each of the three enterprise departments and an annually updated Ten-Year Capital Plan. Capital projects must result in the addition of new capital assets and/or improvements to existing assets which extend the asset's service life by at least five years. Capital projects may include associated costs of acquisition or construction of new assets and/or expenditures for activities that enhance the function, improve the performance and/or extend the service life of existing assets.

What are Programmatic Projects?

Programmatic projects are considered part of the SFPUC's capital program but are funded as part of the operating budget. Programmatic projects are mainly comprised of annual programs including facilities maintenance. The programs are funded through operating revenues but are not considered part of regular recurring operations. Projects include planned maintenance of various watershed structures and facilities maintenance at the SFPUC's 525 Golden Gate headquarters.

Page intentionally left blank

TEN-YEAR CAPITAL PLAN PROCESS

TEN-YEAR CAPITAL PLAN PROCESS

Charter Section 8B.123 requires that the Commission hold public hearings on an annual basis to review, update, and adopt a Long-Term Capital Improvement Program (the Ten-Year Capital Plan) and a Long- Range Financial Plan (Ten-Year Financial Plan). The Capital Plan is to contain a list of projects to be executed during the 10 year planning horizon, including cost estimates and schedules. The Financial Plan is to contain estimates of operations and maintenance expenses, repair and replacement costs, debt costs and projected rate increases. Together, the two plans provide visibility into the capital investment required to meet service levels and the rate impacts of these investments. In addition, they serve as a basis and supporting documentation for the Commission's capital budget and the issuance of revenue bonds and other indebtedness to support the SFPUC capital program.

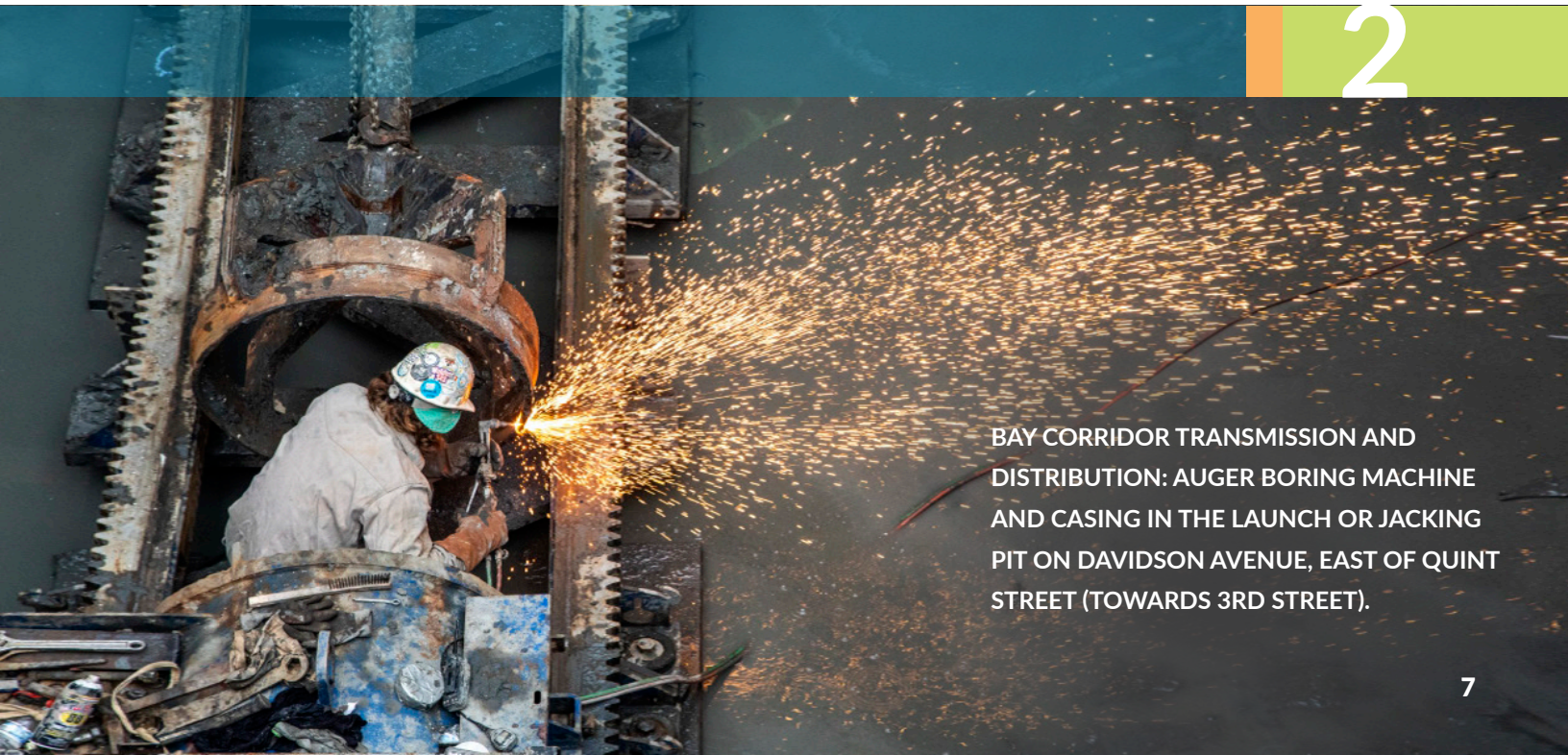
Also, as required by the City & County of San Francisco Charter, the San Francisco Public Utilities Commission (SFPUC) prepares a biennial operating and capital budget, as well as Ten-Year Capital and Financial Plans, for each of its three enterprises.

The development of the plans occurred from June through December 2019 and was directed by the Budget Steering Committee comprised of the SFPUC executive team. The Ten-Year Capital Plan informs and guides managers, policy makers, elected officials, and the public by providing the proposed long-term capital program, projects, and investments. The Ten-Year Capital Plan also guides the Ten-Year Financial Plan and the rate analysis approved every five years. The Ten-Year Capital Plan is not a budget; it is the plan that guides the annual capital budget. As the budget process progresses through the spring and into final adoption in the summer, the annual CIPs can be revised, and final projects, costs, and totals for the two annual CIPs can change. The annual CIPs are based on the Ten-Year Capital Plan, but they do not always match by project or dollar amount.

Project Selection and Scheduling

As a preliminary step to Capital Plan development, a baseline review of all existing project appropriations was completed for potential closeout or repurposing to new

Continued on next page...



2

BAY CORRIDOR TRANSMISSION AND DISTRIBUTION: AUGER BORING MACHINE AND CASING IN THE LAUNCH OR JACKING PIT ON DAVIDSON AVENUE, EAST OF QUINT STREET (TOWARDS 3RD STREET).

capital budget needs. This important step focused on capital project delivery and reduced the 2-year capital budget request resulting in a more efficient use of financial resources.

The Capital planning decision making process includes prioritizing project submittals and allocating limited resources. The SFPUC's capital planning tool (Unifier) established a project prioritization methodology to assist in the efficient allocation of limited capital resources. The prioritization process included a project criticality score based on a set of factors including:

1. Probability and Consequence of Failure – how likely to fail and potential to result in interruption of service should the asset fail
2. Strategic Priority – does the project advance SFPUC towards meeting agency's overall Strategic Plan goals and objectives
3. Project Status – projects already in progress receive priority over those not yet started
4. Dependencies – are there other projects that require initiation or completion of the project in question
5. Regulatory Requirements – is there a regulatory requirement driving the project, and if so, what is the timeframe for meeting the requirement without penalty
6. Impact to Operations – if the project is not completed are there impacts to Productivity/Quality/ Reliability/ Revenue/ Supply/ Safety

New this capital planning cycle, Capital Plan project submissions were reviewed and validated by the SFPUC Infrastructure Bureau, resulting in a consistent and comprehensive capital planning approach across the agency comprised of individual project datasheets describing the project budget, schedule and scope. This new capital planning effort helps assure the 10-Year Capital Plan meets the Enterprises' long-range capital needs, reflects a sound project prioritization process and supports affordability by promoting efficient use of ratepayer funds.

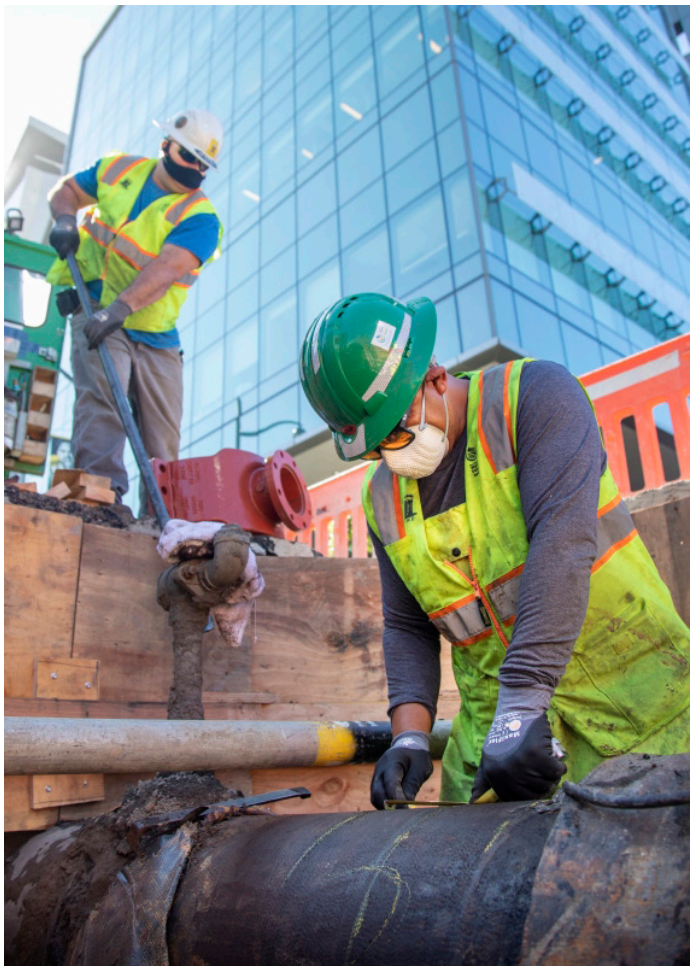
Project submissions must be based on cost estimates and assumptions this includes focusing on scope, schedule and cost planning improvements across the agency so that project budgeting ties to annual project delivery; i.e. what can be accomplished each year. This results in the most efficient funding of projects and ratepayer fairness.

The ability to deliver the projects in the Ten-Year Capital Plan was assessed by converting the requested funding into estimated full-time-equivalents (FTE) based on an assumed annual cost for a resource. Where necessary, proposed project schedules were modified to ensure adequate staffing would be available to deliver the project. This assessment occurred after the initial scoring and selection of projects to include in the Ten-Year Capital Plan.

TWO–YEAR CAPITAL BUDGET DEVELOPMENT

The Two-Year Capital Budget is developed along with and is consistent with the Ten-Year Capital Plan. As a preliminary step to Two–Year Capital budget development, a baseline review of all existing project appropriations was completed for potential closeout or repurposing to new capital budget needs. This important step focused on capital project delivery and reduced to the amount of funding request in the Two–Year Capital budget and more efficient use of existing project appropriations, commercial paper and bond funding issuances.

The budget development and baseline review resulted in project budget re-appropriations and closeouts. The Wastewater Enterprise is re-appropriating $391.4 million of prior year project appropriations to fund the 2 year budget request. The Water Enterprises is closing un-spent project balances returning $3.5 million to the



City Distribution Division (CDD) crews hot tapping main connection at the intersection of 16th Street & 4th Street.

Waters fund balance and re-appropriating $15.3 million to fund Water Supply projects in next the 2 year budget request. The Power Enterprise is including reallocations for project closeout. These movements are shown in the attached 2-Year Capital Budget and included in the 2-Year Supplemental Appropriation Ordinances, included in **10. Appendix B.**

COORDINATION WITH CAPITAL FINANCING

Supporting capital expenditures is the most significant portion of the SFPUC operating budget for FY 2020-21 and FY 2021-22. Debt service to support capital expenditures as well as revenue-funded (i.e. cash funded) capital expenditures make up around 39 percent of the total operating budget.

The SFPUC's single biggest operating cost driver is debt service, which supports around two thirds percent of capital expenditures. Debt Service comprises $394.7 million or 28 percent of the total operating budget in FY 2020-21. In addition, revenue-funded capital accounts for $168.8 million or 11 percent of the FY 2020-21 operating budget. In FY 2021-22 the total debt service increases to $418.1 million which is 28 percent of the total budget, and revenue-funded capital increases to $170.0 million which is 11 percent of the total budget.

In the longer term, the 10-year Capital and Financial Plans assume significant debt financing of capital needs over the next ten-year period. The plans assume a financing strategy that utilizes short-term financing via the existing Commercial Paper (CP) program to calibrate financing needs with project spending. Long-term (30-year) 5 percent fixed rate debt issuance is assumed to periodically refund the CP program. The CP program facilitates short-term financing typically at lower interest rates than longer term debt, which minimizes costs.

Along with the Budget process, the SFPUC financing team seeks Commission adoption of the Charter-mandated Financial Plan for the 10-year planning horizon. This rolling 10-year plan is required by Charter Section 8B.123 and is revised annually as a part of the budget process. It serves as a multi-year financial planning tool describing projected sources and uses, resulting fund balances and associated financial reserve ratios.

The Capital Plan is to contain a list of projects to be executed during the 10-year planning horizon, including cost estimates and schedules. The Financial Plan is to contain estimates of operations and maintenance expenses, repair and replacement costs, debt costs and projected rate increases. Together, the two plans provide visibility into the capital investment required to meet service levels and the rate impacts of these investments. In addition, they serve as a basis and supporting documentation for the Commission's capital budget and the issuance of revenue bonds and other indebtedness to support the SFPUC capital program. The planning process includes an assessment of SFPUC fiscal capacity so that the final capital plan is based on what can realistically be funded. This budget cycle had a greater focus on integrating the work from the budget and financial planning teams. This coordination included:

a. An early version of the 10-year financial plan in the budget instructions
b. Tying proposed budget to 10-year financial plan and projected rates/charges
c. Incorporating the capital plan within the financial plan modeling
d. Regular meeting of both teams as a part of the budget workgroup

CAPITAL BUDGET CONTROLS

For this budget approved by the Commission, the General Manager would have authority during the next two years to re-allocate project appropriations within the same Authority Code, subject to the procedures set forth in the Infrastructure Division's Procedures Manual on Project Change Management. This procedure establishes a formal process for all SFPUC capital projects or programs to identify, track, and approve or deny Change Authorization Requests to project scope, schedule and/or budgets. However, the reallocation of project appropriations from one Authority Code to a different one would require both Commission and Board of Supervisors approval. This level of capital project budgetary control is consistent with the Board of Supervisors level of control, as determined by the 2–Year Capital budget appropriation ordinances.

QUARTERLY REPORTING

The SFPUC Infrastructure division is responsible for delivering all capital improvement projects in accordance with the approved ten-year Capital Plan along with providing reporting on projects budgets, schedules and costs.

Following infrastructure procedures, the project team develops budgets and schedules for all capital improvement projects over $5 million in total project cost. The project budget is developed consistent with the funding approved in the ten-year capital plan. The project schedules are developed in Primavera Project

Manager scheduling software (P6), and are utilized as a management tool to monitor progress and measure performance for Capital Improvement Programs/ Projects. The P6 database is linked with SFPUC Infrastructure Division's electronic timecard system and procedures are in place to capture and report cost data from PeopleSoft.

The project teams provides quarterly update reports to the SFPUC Commission. The reports provide the overall status of the program, including a project status sheet for each project outlining project progress during the reporting quarter, as well as forecasting budget and schedule status at project completion.

CAPITAL BUDGET APPROVAL PROCESS

SFPUC's normal biennial budget cycle begins in September and ends in July. The two-year fixed budget is prepared, reviewed, enacted by the Commission and Board of Supervisors (BOS), signed by the Mayor, and then implemented by departments. The Board of Supervisors approves both years together and may amend the second year through supplemental budget adjustments if increases or decreases in revenues or expenditures are significant[1]. SFPUC's two-year budget is comprised of two, single-year spending plans.

In FY 2010-11, the City adopted two-year budgets for the SFPUC and three other pilot departments (the Airport, the Port, and the Municipal Transportation Agency), in accordance with Proposition A passed in 2009. FY 2020-21 & FY 2021-22 represent SFPUC's sixth biennial budget.

Stakeholders

- The Public is invited to all public meetings, notified in advance to ensure stakeholder awareness of any budget items. This includes SFPUC's Citizen Advisory Committee.
- The SFPUC Commission holds publicly-noticed Budget meetings, during business hours for public comment on the proposed budget.
- The Committee on Information Technology (COIT) evaluates all departmental technology plans and makes recommendations for approval and funding of the departmental technologies budget requests.
- The Capital Planning Committee (CPC) reviews SFPUC proposed 10-Year Capital Plan and two-year capital project budget specifics along with associated funding requirements and provides recommendations to the Board of Supervisors' on City-wide priorities for capital and the level of investment needed to meet the priorities identified.
- The Mayor prepares and submits a balanced SFPUC budget to the Board of Supervisors for review and approval on a biennial basis.
- The Board of Supervisors is the City's legislative body and is responsible for budget review and may amend then approve the Mayor's proposed budget. As a function of this review, the Board's Budget and Legislative Analyst examines SFPUC's proposed budget as well as spending and financial projections.
- The Controller is the City's Chief Accounting and Auditing Officer and ensures the accuracy of the final budget.

Quarterly Projects Reports:

- *The SFPUC shall include within the Quarterly Projects Report a detailed status update of each project in the ten-year plan that has an estimated cost greater than $5 million and a summary of the work completed to date for such projects.*
- *The Quarterly Projects Report shall focus on projects in the first two years' projects of the ten-year plan but shall also demonstrate a connection to the ten-year plan asset classification and the Level of Service Goals and Objectives.*
- *The Quarterly Projects Report shall identify any project in the ten-year plan with an estimated cost greater than $5 million that is behind schedule, and, for each project so identified, shall describe the SFPUC's plan and timeline for either making up the delay or adopting a revised project schedule.*
- *In each fourth quarter of the fiscal year Quarterly Projects Report, the SFPUC will also address the status of projects in the ten-year plan that have an estimated cost of less than $5 million, noting any such projects that are behind schedule and describing the SFPUC's plan and timeline for either making up the delay or adopting a* revised project schedule.

[1] "Significant increases or decreases in revenues or expenditures shall be defined as greater than five percent difference between the projected and adopted budget for operating or capital expenditures or revenues for the second year of the department's biennial budget." (Resolution 464-11)

Calendar and Process

Beginning in September and concluding in July, the biennial two-year budget cycle can be divided into four major stages.

1. Commission Budget Policy Review: budget policy review and implementation.
2. Budget Preparation: budget development and submission to the Commission.
3. Approval: budget review and enactment by the SFPUC, Mayor and Board of Supervisors.
4. Implementation: department execution and budget adjustments.

Preparation

The SFPUC's budgetary process precedes the citywide budgeting process as managed by the Mayor's Office. SFPUC implemented a "Project Charter" which governs the entire scope of the budget development and adoption cycle, up to and including final adoption by the Board of Supervisors.

Two categories of budgets are prepared:

Enterprise and Bureau Operating Budgets: Enterprise departments generate budgets to support operations based on the projected non-discretionary revenue primarily from charges for services. Operations include personnel, non-personnel services, materials and supplies, equipment, and services of other departments.

BUDGET CALENDAR

	Normal Budget Cycle	Budget Cycle with COVID-19
September 2019	• SFPUC FY 2020-21 and FY 2021-22 budget process launch • Commission budget policy discussion	
October 2019	• Staff review and analysis: • Operating and capital budget proposals • Ten-Year Capital Plan • Ten-Year Financial Plan	
November 2019	• General Manager and Assistant General Manager review of budget proposals and plans	
December 2019	• Budget approved by General Manager	
January 2020	• Commission budget workshops • Departmental technology plans submitted to COIT • Biennial Capital budget requests submitted Capital Planning Committee • Ten-Year Capital Plan submitted to Capital Planning Commission	
February 2020	• Commission adopts Operating Budget, Ten-Year Capital Plan, and Ten-Year Financial Plan • Operating and Capital budget requests submittal to Controller and Mayor	• COVID-19 Emergency Declaration by the Mayor
March 2020	• Mayor's Office and Controller's Office review of budget • CPC reviews Ten-Year Capital Plan and staff recommendations	• Shelter-in-Place Order Declared
April 2020	• Mayor's Office and Controller's Office review of budget	• Revised revenue projections developed • Budget process delayed
May 2020	• Operating and capital budget requests submitted to Board of Supervisors by Mayor	• Revised budget instructions issued by Mayor • SFPUC budget adjusted to rebalance around reduced revenue projections
June 2020	• Board review of operating and capital budget	• SFPUC submits revised budget proposal to Controller and Mayor's Office
July 2020	• Mayor signs budget	• Mayor's Office and Controller's Office review of budget • Operating and capital budget requests submitted to Board of Supervisors by Mayor
August 2020	• Final budget adoption by Board of Supervisors and Mayor	• Board review of operating and capital budget
September 2020		• Board adoption of budget
October 2020		• Mayor signs and adopts final budget

Capital Budgets: Comprised of a biennial capital budget for each of the three enterprise departments and CleanPowerSF and also includes an annually updated Ten-Year Capital Plan. Capital projects must result in the addition of new capital assets and/or improvements to existing assets which extend the asset's service life by at least five years. Capital projects may include associated costs of acquisition or construction of new assets and/or expenditures for activities that enhance the function, improve the performance and/or extend the service life of existing assets.

Beginning in October, SFPUC Enterprises prepare both their operating and capital budget requests which are then submitted to SFPUC's Budget Team. From November to December, the Assistant General Managers (AGM), the Deputy General Manager, and the General Manager review these requests. In December and early January, the General Manager's proposed budget, which includes all the Enterprises, CleanPowerSF, the Bureaus and Infrastructure, is consolidated and submitted to the SFPUC Commission for deliberation. From January to February, the Commission holds public hearings to review and ultimately approve the operating and capital budget requests, Ten-Year Capital Plan, and Ten-Year Financial Plan. By mid-February, the SFPUC approved budget requests are submitted to the Controller's Office. The Controller consolidates, verifies, and refines all the information the SFPUC has submitted. The Controller submits the SFPUC proposed budget requests to the Mayor's Office of Public Policy and Finance for review by mid-March.

The Mayor's Office meets with community groups to provide budget updates and to hear concerns and requests for funding to improve public services. The Controller ensures that the Mayor's final budget request is balanced, accurate, and based on reasonable assumptions.

Approval

On May 1, the Mayor's proposed budget, which includes the SFPUC's budget is submitted to the Board of Supervisors. The Budget and Finance Committee of the Board of Supervisors holds public hearings during the months of May and June to review the Mayor's proposed budget and to solicit public input. The Board of Supervisors' Budget Analyst then develops recommendations on the budget proposal which are shared and discussed with departments. Based on these discussions, the Board's Budget Analyst forwards budget recommendations to the Budget and Finance Committee for public review. If the Board of Supervisors' budget review lapses into the new fiscal year beginning July 1st, a continuing resolution adopting an Interim Budget--the Mayor's proposed budget with some limitations--is passed by the Board and serves as the operating budget until the budget is adopted. The Mayor typically signs the budget ordinance into law no later than July.

Adjustments to this year's process due to COVID-19 Emergency

The COVID-19 pandemic emergency caused significant changes and delays to the normal budget process for the FY 2020-21 and FY 2021-22 budget. Within a week of the SFPUC's Commission-approved budget being proposed to the Controller's and Mayor's Office on February 21, 2020, a State of Emergency was declared in San Francisco, with a Shelter-in-Place order issued on March 16, 2020.

To allow for the necessary City response to COVID-19 and to ensure the City had enough time to incorporate updated economic projections into its budget process, the Mayor and Board of Supervisors agreed to an updated schedule for FY 2020-21 and FY 2021-22 budget process. The Mayor reissued Budget Instructions to departments in May and departments were instructed to submit new department proposals to aid the Mayor in developing the proposed balanced budget in June and July. The Mayor introduced a balanced interim budget at the Board of Supervisors on June 1, 2020 to support essential city spending from July through September while the budget process was concluded. The Mayor then introduced a balanced budget to the Board of Supervisors on July 31, 2020. Following the Budget and Finance Committee review and the full Board phase, the budget was signed by the Mayor on October 2, 2020.

Overall, the effect of the pandemic was to delay the budget process by 2 months and cause the SFPUC to revise its budget to rebalance from reduced revenues during the months of April and May 2020. In addition, due to the significant uncertainty about COVID-19 and the ensuing economic disruption, the Mayor requested that the SFPUC re-open the second year of its 2-year budget during the fall of 2020 to update revenue projections and make adjustments to rebalance.

WATER ENTERPRISE

The SFPUC serves as the retail water supplier for the City of San Francisco and is responsible for water deliveries to residents and businesses within the City limits, as well as to a number of retail customers outside of the City limits. The SFPUC sells water to 27 Wholesale Customer entities in San Mateo, Alameda and Santa Clara Counties. Altogether, 2.7 million people rely on water supplied by the Water Enterprise. The Water Enterprise consists of over 389 miles of pipeline, over 74 miles of tunnels, 11 reservoirs, five pump stations, and three water treatment plants located outside of the City (Regional System) and over 1,235 miles of pipeline, 11 reservoirs, eight storage tanks, 24 pump stations, eight hydropneumatic stations and 17 chlorination stations located within the City limits.

Wholesale sales are made under the under the Water Supply Agreement (WSA) and related individual contractual agreements. Collectively, except for the Cordilleras Mutual Water Company, the Wholesale Customers are represented by BAWSCA, which is a public agency, separate and apart from the 27 Wholesale Customers.

SFPUC's Water enterprise is the third largest municipal utility in California. Approximately one-third of our delivered water goes to retail customers in San Francisco, while wholesale deliveries to 27 suburban agencies in Alameda, Santa Clara, and San Mateo counties comprise the other two-thirds.

Continued on next page...

22ND STREET AT MISSION STREET PIPE INSTALLATION: THIS 10" WATER PIPE IS EARTHQUAKE RESISTANT.

The Regional Water System draws approximately 85 percent of its water from the Upper Tuolumne River Watershed, collected in Hetch Hetchy Reservoir in Yosemite National Park, feeding a single aqueduct system, delivering water 167 miles by gravity to Bay Area reservoirs and customers. The remaining 15 percent of our water supply is drawn from local surface waters in the Alameda and Peninsula watersheds. Starting in April 2017, one million gallons a day of groundwater is pumped from the westside of San Francisco and blended with the regional water supplies.

The San Francisco Public Utilities Commission operates the facilities of its Water Enterprise to optimize the reliability and quality of its water deliveries. The SFPUC is making significant Water Enterprise infrastructure capital investments, designed to maximize the Water Enterprise's ability to deliver water sufficient to meet the needs of its customers following the occurrence of a major seismic event or during an extended period of drought.

WATER ENTERPRISE CAPITAL BUDGET

In FY 2020-21, the Water Enterprise's capital budget is $272.7 million, of which $223.5 million or 82.0 percent is funded by debt and $49.2 million or 18.0 percent is revenue funded. In FY 2021-22, the capital budget is $189.4 million of which $132.2 million or 69.8 percent is supported by debt and $57.2 million or 30.2 percent in revenue funding. Of the Debt funding, the majority is ESER GO bonds, with the remainder met by local and regional bonds. The majority of the revenue funding is from local and regional water sales revenues.

The Water Enterprise's annual programmatic project budget, which is funded in the operating budget but forms part of the capital program, is $37.1 million in FY 2020-21 and $32.6 million in FY 2021-22, with the majority being revenue funded and the remainder coming from Federal bond interest subsidies and recovery capital.

Overview

The Water Enterprise of the San Francisco Public Utilities Commission is responsible for the distribution of high quality water to San Francisco and its Bay Area Wholesale Customers.

The Regional Water Distribution System consists of three regional water sub-systems: the Hetch Hetchy System; the Regional Water East Bay sub-system); and the Regional Water System Peninsula/West Bay sub-system) plus the In-City Distribution System.

Hetch Hetchy System: Water is diverted from Hetch Hetchy Reservoir into a series of tunnels and power generation facilities from the Sierra Nevada to the San Joaquin Pipelines that cross the San Joaquin Valley to the Coast Range Tunnel which connects to the Regional Water East Bay sub-system at the Alameda East Portal.

Regional Water East Bay sub-system: This includes two reservoirs, San Antonio Reservoir and Calaveras Reservoir, which collect water from the San Antonio Creek upper Alameda watersheds in Alameda and Santa Clara Counties plus conveyance facilities connecting the Hetch Hetchy System and the East Bay water sources to the Peninsula System as well as to East and South Bay Wholesale Customers. These conveyance facilities include pipelines known as the Alameda Siphons that connect the Coast Range Tunnel to the Irvington Tunnel.

Regional Water Peninsula/West Bay sub-system: This includes conveyance facilities connecting the Bay Division Pipelines to other SFPUC Wholesale Customers on the Peninsula and the In-City Distribution System. Three reservoirs, Crystal Springs, San Andreas, and Pilarcitos collect runoff from the San Mateo Creek and Pilarcitos Creek watersheds. Water from these reservoirs serves San Francisco and Peninsula Wholesale Customers, including the Coastside County Water District.

In-City Distribution System: The City's retail water supply is delivered to the City in several major pipelines from the Peninsula/West Bay sub-system. Two pipelines provide water to the eastside of the In-City Distribution System and three pipelines serve the west side of the In-City Distribution System. The In-City Distribution System delivers water to homes and businesses in the City.

WATER ENTERPRISE TEN-YEAR CAPITAL PLAN

The adopted capital project costs for the Water Enterprise total approximately $2.2 billion over the next ten years. Identified capital needs will be financed with a combination of water revenue bonds and Water Enterprise revenues along with general obligation bonds for the Auxiliary Water Supply System. Project timelines may be adjusted to match available funding.

Regional spending will increase over the next several years from $54.5 million in FY 2020-21 to an average of $60.8 million per fiscal year in the final five years of the Ten-Year Plan. Local Water improvement costs over the same five-year period, FY 2026-30, average $67 million per year.

The SFPUC's Water Enterprise uses the annual updates to the Ten-Year Capital Plan to ensure projects and investments are in place to ensure adopted levels of service are maintained. To update the Ten-Year Capital Plan, the Water Enterprise relies on the latest information including condition assessments (performance and remaining useful life of existing assets), master plan updates, review of levels of service objectives, and financial data (revenue requirement, project expenditures and cash flow).

WATER ENTERPRISE TEN-YEAR CAPITAL PLAN

$ Thousands Program/Project	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2026-30	PLAN TOTAL
SPENDING PLAN							
Regional Costs							
Water Treatment Program	9,225	12,546	136,614	89,891	16,079	16,100	280,455
Water Transmission Program	0	0	15,629	26,955	23,379	76,543	142,506
Water Supply & Storage Program	0	29,842	35,280	35,710	56,371	176,328	333,532
Watersheds & Land Management	37,720	14,861	2,812	2,350	2,350	11,785	71,878
Communication and Monitoring Program	500	482	500	725	1,515	3,860	7,582
Long Term Monitoring & Permit Program	4,043	4,000	3,457	3,374	1,782	8,130	24,786
Buildings and Grounds Program	3,000	2,000	11,967	74,930	59,462	11,040	162,399
Regional Total	**54,488**	**63,731**	**206,259**	**233,936**	**160,938**	**303,786**	**1,023,138**
Local Costs							
Water Supply Projects	2,702	6,700	500	500	0	0	10,402
Water Conveyance /Distribution System	34,575	71,351	57,405	82,116	77,875	269,391	592,714
Local Tanks/ Reservoir Improvements	3,475	5,265	350	350	350	12,475	22,265
Pump Station Improvements	0	200	0	500	1,500	450	2,650
Recycled Water Projects	5,057	4,665	0	0	0	0	9,722
Automated Meter Reading System	4,240	2,970	3,222	3,012	3,162	15,213	31,819
Buildings & Grounds Improvements	15,150	34,500	17,724	119,465	134,818	37,403	359,060
Local Total	**65,199**	**125,651**	**79,202**	**205,943**	**217,705**	**334,932**	**1,028,632**
Auxiliary Water System	153,000	0	0	0	0	0	153,000
Total Regional & Local	**272,687**	**189,382**	**285,460**	**439,879**	**378,643**	**638,718**	**2,204,770**
Sources							
Water Revenue	47,600	55,658	67,100	72,100	77,100	332,973	652,531
Water Bonds	70,533	132,204	216,840	366,259	300,023	297,723	1,383,583
General Obligation Bonds	153,000	0	0	0	0	0	153,000
Capacity Fee	1,554	1,520	1,520	1,520	1,520	8,022	15,656
Total	**272,687**	**189,382**	**285,460**	**439,879**	**378,643**	**638,718**	**2,204,770**

Regional Water

The Regional Water Ten-Year Capital Plan is $1,023.1 million and funds the following projects:

Regional Water Treatment Program, $280.5 million

This program includes major upgrades to the Sunol Valley and Harry Tracy Water Treatment Plants. Projects are identified through condition assessments, operations staff review, level of service and feasibility studies, and alternative analysis at each plant. Projects include upgrades of chemical dosage, flow monitoring, valve and pump replacement, and chemical handling upgrades. New projects include improvements to the polymer feed facility and Chloramination facility at the Sunol Valley Plant.

Regional Water Transmission Program, $142.5 million

This program will provide upgrades to the Transmission System including pipeline inspection and repairs, valve replacements, metering upgrades, corrosion protection, and pump station and vault upgrades. As part of the pipeline improvement program, funding is included to monitor, strengthen, and replace older pipeline to achieve higher level performance and reliability

Regional Water Supply & Storage Program, $333.5 million

This program includes upgrades to structures to meet State Division of Safety of Dams requirements including geotechnical work, installation of monitoring systems, and a regional desalination project. The automated data acquisition system in the monitoring system will provide timely, accurate data related to inspections at various dams. The program also includes funding for projects that increase regional water supply diversification and explore alternative methods for expanding water sources including purified water, recycled water and desalination projects.

The program also includes the Daly City Recycled Water Expansion Project to provide 3.4 MGD of recycled water to customers of the Regional Water System and help offset groundwater pumping in the Westside Basin.

Regional Watersheds & Land Management, $71.9 million

This program supports projects that improve and/or protect the water quality and/or ecological resources impacted by the siting and operation of SFPUC facilities. Projects include the repair, replacement, maintenance, or construction of roads, fences, or trails, the acquisition of easements and/or fee title of properties, and other ecosystem restoration or public access, recreation, and education projects.

Regional Communications & Monitoring Program, $7.6 million

This project will provide much needed redundant emergency communications capability and increased bandwidth for security data transfer. Specifically, it will build a microwave backbone to link the entire SFPUC regional water system from the O'Shaughnessy Dam site in Yosemite to the rest of the SFPUC sites (San Francisco, San Mateo, Santa Clara, and Alameda counties).

Long Term Monitoring and Permit Program $24.8 million

The purpose of this program is to meet the long-term monitoring and permit requirements associated with capital projects and the operation and maintenance of the SFPUC water supply system and watershed/right-of-way lands within the Bay Area. Projects with long-term monitoring required by environmental permits include WSIP-related environmental mitigation and permit requirements (i.e., Bioregional Habitat Mitigation Program) and non-WSIP capital projects.

Regional Buildings & Grounds Programs, $162.4 million

This program provides funding for major improvements to the Sunol and Millbrae Yards. Sunol Yard improvements include LEED replacement facilities for maintenance shops and equipment storage, a new fueling center and administration building, re-surfacing of the yard, and demolition of six dilapidated structures. The project includes funding for the Alameda Creek Watershed Center that includes exhibits, classrooms, event space, outdoor picnic and play areas, trails, and gardens representing the watershed. Millbrae Yard improvements include a new laboratory and office building to update the lab facilities and consolidate staff from the Rollins Road facility, maintenance shop, and equipment storage, demolition of a large unused abandoned building, a new parking lot, and a new vehicle wash site. The upgrades address occupational safety, reliability, and functional regulatory compliance.

Local Water

As shown in the table, the Local Water Ten-Year Capital Plan is $1,028.6 million and funds the following projects:

Water Supply Projects, $10.4 million

This program includes planning for local water diversification to explore alternative methods for expanding local water sources. Such sources include the Eastside Water Purification Project and Innovations for San Francisco ratepayers that highlight innovative water supplies and technologies.

Local Water Conveyance/Distribution System, $592.7 million

Includes funding to install, replace and renew distribution system pipelines and service connections for the 1,230 miles of drinking water mains in San Francisco and meet customer level of service goals for uninterrupted service. The increased investment is needed to improve annual replacement rate to 15 miles per year to minimize main breaks. Improvements include replacement, rehabilitation,

re-lining, and cathodic protection of all pipe categories to extend or renew pipeline useful life.

The Renew Services Program provides funding to renew assets between the water main and the customer's service connection, identify lead service lines still in use and the Water Loss Reduction Program to implement of cost-effective and comprehensive strategies to reduce water loss.

Additional projects include the Sunset Pipeline/Potable AWSS, Automated Water Meter Program, New Services Connection Program and Town of Sunol Pipeline projects.

Local Tanks/Reservoir Improvements $22.3 million

Provides long-term funding for renewal and rehabilitation of water storage reservoirs and tanks, within the San Francisco Distribution System. Projects included improvements to the Sunset South and University Mound reservoirs and roof repairs at multiple locations to extend the useful service life of the reservoir.

⋀ 22nd Street Water Main Replacement Project: This Earthquake Resistant Ductile Iron Pipe, manufactured by Kubota, has been deployed in Japan since 1974 and has had no documented failures in subsequent seismic events including the 1995 Kobe and the 2011 Great East Japan earthquakes.

Local Pump Station Improvements, $2.7 million

The SFPUC's 12 major water pump stations and seven hydropneumatics tanks that boost pressure within the San Francisco distribution system need ongoing renewal and rehabilitation. This program provides long term funding for renewal and rehabilitation of the water pump stations and hydro-pneumatic tanks that boost water pressure within the distribution system including the automation of the five pump suction valves at Lake Merced Pump Station.

San Francisco Westside Recycled Water Project, $9.7 million

Projects in this program include the San Francisco Westside Enhanced Recycled Water Project, funding new facilities to generate and deliver 2 MGD of recycled water for irrigation use in the western end of San Francisco. The project includes a new recycled water treatment facility consisting of membrane filtration, reverse osmosis, and ultraviolet light disinfection; a 1.1-million-gallon storage reservoir; distribution pumping facilities; and five to six miles of new pipelines.

Automated Meter Reading System (AWMP)- $31.8 million.

This program will provide funding to complete the Automated Water Meter Program (AWMP) during FY22 and for replacement planning of the AWMP System by the end of useful life. This project provides funding for AWMP Renewals needed through the 20-year system life (ending in2031) and metering equipment (including automation) for all renewals and new services through 2031.

Local Buildings & Grounds Improvements, $359.1 million

This provides funding for capital improvements at CDD facilities and structures. Projects include a new fueling station, yard improvements to address health and safety issues and security, a comprehensive arc flash and electrical hazard study and construction of a seismically reliable building for CDD's communications and control systems.

Additional funding is included for a new CDD Headquarters at 2000 Marin to address life safety standards for seismic events, building code requirements and facilities that are past useful life. The 2017 Condition Assessment found all buildings aged, water-damaged, and deficient in meeting seismic, ADA, electrical and other building code standards. Existing facilities include administrative offices, warehouse, shops, materials and equipment storage and vehicle fleet.

Auxiliary Water Supply System (AWSS)

The AWSS is primarily a water supply to fight fires. The water that is stored and supplied is not intended for consumptive use and so a user fee is not possible. The

funding for this system is from the CCSF General Fund. The 2010 Earthquake Safety and Emergency Response (ESER) bond provided funding for repairs to the AWSS to increase the earthquake safety response capacity of the Fire Department following a major earthquake and during multiple-alarm fires from other causes.

In June 2020, San Francisco voters approved the Earthquake Safety and Emergency Response Bond 2020 (ESER 2020) for $628.5 million. ESER 2020 includes $153 million for the retrofit, improvements or replacement of existing firefighting pipes and tunnels, construct new or retrofit existing cisterns, and improve and seismically upgrade two pump stations, two storage tanks, and the primary reservoir. The project will be funded through the issuance of City of San Francisco General Obligation Bonds.

FY 2020-21 AND FY 2021-22 CAPITAL PROJECT BUDGET

The Water Enterprise FY 2020-21 budget shows a decrease of about $100 million from the FY 2019-20 budget. A baseline review of all existing project appropriations was completed for potential closeout or repurposing to new capital budget needs resulting in a reduction to the amount of funding request in FY 2020-21 in the 2–Year Capital budget.

The table shows the Water Enterprise's capital budget for FY 2019-20, FY 2020-21 and FY 2021-22 by major programs. The capital budget includes continuing Renewal and Replacement Projects for the Regional and Local Water Enterprise along with nonrecurring major capital upgrades such as the New CDD Headquarters and Millbrae Yard Projects.

The capital budget is funded by a combination of Water Enterprise revenues, water revenue bonds and capacity fees. Revenue Bonds account for 73 percent of budget sources. The capital budget for FY 2020-21 and FY 2021-22 totals $212.7 million.

FY 2020-21

As shown in the table, the FY 2020-21 Water Enterprise CIP is $132.1 million, which includes financing costs, and decreased $100.9 million from the FY 2019-20 approved CIP of $233.0 million.

Major projects in the Water Enterprise FY 2020-21 CIP include:

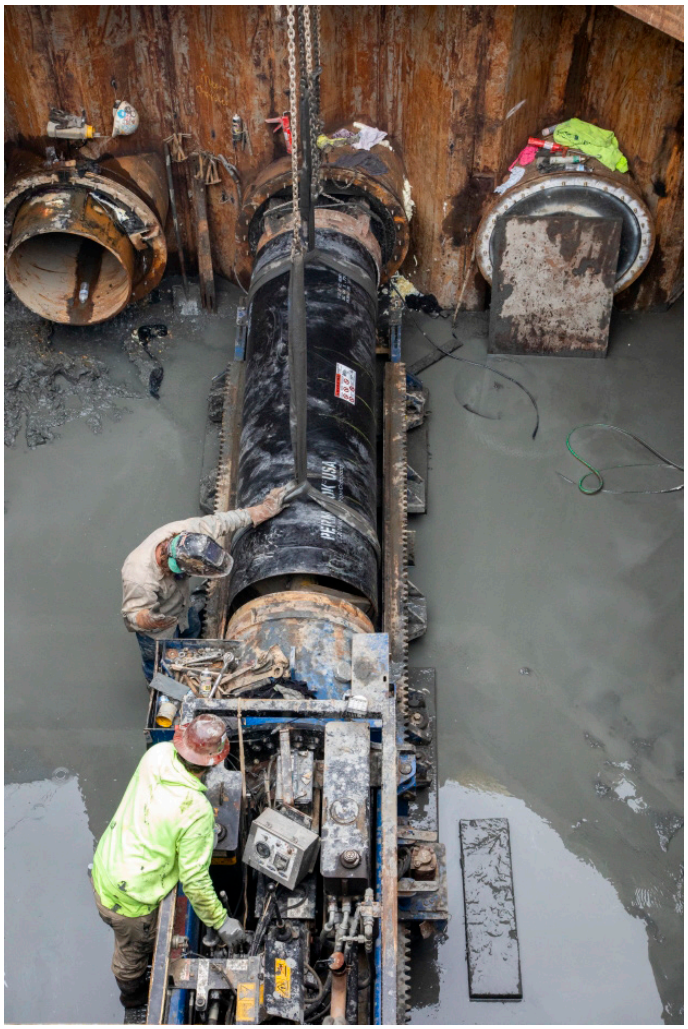
Regional Water Costs

$9.2 million for Water Treatment Program including and major improvements to the Sunol Valley Water Treatment Plant (SVWTP) and Harry Tracy Water Treatment Plant (HTWTP) to achieve a higher level of performance and reliability and the SVWTP Ozone and Polymer Feed Facility Projects.

$37.7 million for Watersheds & Land Management which supports capital projects that improve and/or protect the water quality and/or ecological resources impacted by the operations of the SFPUC water system. Projects include the repair, replacement and maintenance of roads, fences, or trails and the acquisition of easements or properties to meet these purposes.

$0.5 million for Communication & Monitoring Program including developing a microwave radio communication system to link the SFPUC Regional water system from the Hetch Hetchy Dam in Yosemite to other SPUC sites (San Francisco, San Mateo, Santa Clara and Alameda counties) and ongoing upgrades to the water supply security infrastructure.

$4.0 million for the Long-Term Monitoring and Permit Program to meet the long-term monitoring and permit requirements associated with capital projects and the



Bay Corridor Transmission and Distribution Phase 2 DB-129.2: 36-inch casing getting attached to the auger boring machine in the launch or jacking pit on Davidson Avenue, east of Quint Street (towards 3rd Street).

operation and maintenance of the SFPUC water supply system and watershed/right-of-way lands within the Bay Area.

$3.0 million for the Buildings & Grounds Programs Rollins Road Building Renovation Project for upgrades to the roof, security, HVAC and electrical system

Local Water Costs

$2.7 million for Water Supply Projects for local water diversification to explore alternative methods for expanding local water sources including planning work for recycled water projects on Sunset Boulevard, the San Francisco Zoo and the Eastside Satellite Project to meet water supply demands on the eastside of San Francisco.

WATER ENTERPRISE TWO-YEAR CAPITAL BUDGET

$ Millions Program/Project	FY 2019-20 Adopted Budget	FY 2020-21 Adopted Budget	FY 2021-22 Adopted Budget
REGIONAL COSTS			
Water Treatment Program	14.5	9.2	12.5
Water Transmission Program	45.1	0.0	0.0
Water Supply & Storage Program	25.1	0.0	29.8
Watersheds & Land Management	12.5	37.7	14.9
Communication and Monitoring Program	0.0	0.5	0.5
Long Term Monitoring & Permit Program	0.5	4.0	4.0
Buildings and Grounds Program	33.5	3.0	2.0
Regional Total	**131.2**	**54.5**	**63.7**
LOCAL COSTS			
Water Supply Project	5.5	2.7	6.7
Local Water Conveyance /Distribution System	68.2	34.6	71.4
Local tanks/Reservoir Improvements	3.2	3.5	5.3
Pump Station Improvements	2.3	0.0	0.2
Westside Recycled Water Projects/Other	0.5	5.1	4.7
Automated Meter Reading System	0.0	4.2	3.0
Buildings & Grounds Improvements	0.2	15.2	34.5
Systems Monitoring & Control	0.2	0.0	0.0
Local Total	**80.0**	**65.2**	**125.7**
Financing Cost	21.8	12.4	23.3
Total Regional & Local	**233.0**	**132.1**	**212.7**
SOURCES			
Water Revenue	57.3	47.6	55.7
Water Bonds	174.2	83.0	155.5
Capacity Fee	1.5	1.6	1.5
Total Sources	**233.0**	**132.1**	**212.7**

Cherry Dam and Reservoir

$34.6 million for the Local Water Conveyance and Distribution program to fund the management of all linear assets in the local water distribution system. Projects to install, replace, and renew pipelines and service connections for the 1,230-mile drinking water distribution system in San Francisco with the goal of replacing 15 miles per year to minimize main breaks and meet customer level of service goals for uninterrupted service.

Additional projects include the Renew Services Program to renew assets between the water main and the customer's service connection and the Better Market Street and Joint Transit projects that coordinate water main replacement with other City Departments.

$3.5 million for Local Tanks/Reservoir to provides long-term funding for renewal and rehabilitation of water storage reservoirs and tanks including funds to rebuild College Hill Reservoir.

$5.1 million San Francisco Westside Recycled Water Project which includes all facilities to generate and deliver 2 MGD of recycled water for irrigation use in the western end of San Francisco. The project includes a new recycled water treatment facility consisting of membrane filtration, reverse osmosis, and ultraviolet light disinfection; a 1.1-million-gallon storage reservoir; distribution pumping facilities; and 5 to 6 miles of new pipelines.

$4.2 million for Automated Meter Reading System to facilities that control and monitor San Francisco's water distribution system. Facilities include enhancements to the System Control and Data Acquisition (SCADA) for remote monitoring of pressure, flow, and valve position status at key locations throughout the distribution system.

$15.2 million for Local Buildings & Grounds Improvements to fund the New CDD Headquarters Project to address life safety standards for seismic events, building code requirements and facilities that are past useful life Existing facilities needed to be replaced include administrative offices, warehouse, shops, materials and equipment storage and vehicle fleet.

Included in the FY 2020-21 budget is $12.4 million of financing costs.

FY 2021-22

As shown in the table, the Water Enterprise FY 2021-22 Capital Budget for Regional Water totals $63.7 million: $12.5 million for Regional Water Treatment, $29.8 million for Supply & Storage Program projects, $14.9 million for Watershed/Rights-of-Way Management, $0.5 million for the Communication and Monitoring Program, $2.0 million for Buildings and Grounds Programs and $4.0 million for the Long Term Monitoring and Permit.

The Local Water budget includes $71.4 million for water conveyance/distribution, $6.7 million for water supply project, $5.3 million for local tanks/Reservoir Improvement, $0.2 million for pump station improvements and $4.7 million for San Francisco Westside Recycled Water Project, $3.0 million for Automated Meter Reading System, and $34.5 million for buildings and grounds improvements.

Included in the FY 2021-22 budget is $23.3 million of financing costs.

Water Programmatic Projects

The table shows the Water Enterprise Programmatic Projects, for FY 2019-20, FY 2020-21, and FY 2021-2022, by major programs. Programmatic projects are annually appropriated projects in support of routine maintenance of programs most of which were initiated in support of the capital program. These programmatic projects include monitoring, mitigation, watershed protection, community benefits, and the Water Enterprise share of lease payment and operation of the SFPUC headquarters at 525 Golden Gate Avenue.

FY 2020-21

The Water Enterprise Programmatic Project budget is $36.1 million in FY 2020-21 to $31.4 million in FY 2021-22. This increase is a largely a result of the increase to the operations and maintenance costs of 525 Golden Gate Administration Building.

FY 2021-22

The Water Enterprise Programmatic Project budget decreased in FY 2021-22 to adjust for a one time increase to the 525 Golden Gate Operations and Maintenance project in FY 2020-21.

WATER ENTERPRISE PROGRAMMATIC PROJECTS

$ Millions Program/Project	FY 2019-20 Adopted Budget	FY 2020-21 Adopted Budget	FY 2021-22 Adopted Budget
REGIONAL COSTS			
Watershed Protection	0.5	1.1	1.0
WSIP-Related Mitigation & Monitoring	11.2	9.2	7.8
Watershed Structures	1.2	3.5	3.5
Water Resource Planning and Development	0.3	0.5	0.5
Total Regional	**13.2**	**14.3**	**12.7**
LOCAL COSTS			
Landscape Conservation Program	2.0	1.0	0.0
AWSS Maintenance	0.5	1.5	1.5
Treasure Island Facilities Maintenance	1.3	1.4	1.4
Youth Employment Program	1.3	1.3	1.3
Retrofit Grant Program	0.6	0.7	0.5
525 Golden Gate - Operations and Maintenance	4.1	6.9	4.2
525 Golden Gate - Lease Payment	9.2	9.2	9.8
Total Local	**19.0**	**21.9**	**18.6**
Total Regional & Local	**32.2**	**36.1**	**31.4**
SOURCES			
Infrastructure - Recovery Capital	**3.8**	**3.8**	**3.8**
Federal Bond Interest Subsidy	**2.0**	**2.0**	**2.0**
Water Enterprise Revenue	**26.4**	**30.4**	**25.6**
Total Sources	**32.2**	**36.1**	**31.4**

Page intentionally left blank

WASTEWATER ENTERPRISE

The Mission of the Wastewater Enterprise (WWE) is to operate and maintain San Francisco's combined sewer system to protect public health and the environment. These services extend across eight urban watersheds, over 1,900 miles of pipe, and benefit every resident and visitor of San Francisco. WWE operates three all-weather wastewater treatment plants, one wet-weather facility, 27 pump stations, eight transport/storage facilities, and 36 combined sewer discharge structures to treat an estimated 34.5 billion gallons of wastewater in a typical year[1]. Of that 34.5 billion gallons, approximately 24 billion gallons per year receive full secondary treatment, 9 billion gallons per year receive primary or decant treatment and are discharged to deep-water outfalls, and 1.5 billion gallons per year receive the equivalent to wet weather primary treatment and are discharged through nearshore outfalls.

San Francisco is the only major coastal city in California that operates a combined sewer system that collects and treats both sewage and stormwater.

The Wastewater Enterprise serves residential, commercial and industrial users, making up a daytime "population equivalent" of over 1 million (in 2018) The service area of the Wastewater Enterprise encompasses – the 49 square miles of San Francisco (City) and a portion of northern San Mateo County through long-term contracts with three municipal sewer service providers: North San Mateo County Sanitation District, the Bayshore Sanitary District and the City of Brisbane (collectively, the "Municipal Customers"). The SFPUC also currently provides waste treatment service on Treasure Island pursuant to contract, and after redevelopment expects to expand its service area to include Treasure Island.

Continued on next page...

[1] As simulated by the SFPUC's Hydrologic and Hydraulic Model, version CCSF19.

GREEN INFRASTRUCTURE GRANT PROGRAM: LAFAYETTE ELEMENTARY SCHOOL: BIORETENTION PLANTER OR RAIN GARDEN.

WASTEWATER ENTERPRISE CAPITAL BUDGET

In addition to the operating budget, the Wastewater enterprise also prepares a two-year Capital budget and Ten-Year Capital Plan.

The Wastewater Capital Plan is a collection of capital improvement programs that will help the WWE meet the levels of service goals for regulatory compliance, seismic safety, system reliability, functionality and sustainability of the City's combined sewer system. The Wastewater Capital Plan focuses on full-lifecycle asset management and builds on utility industry best practices, includes planning for a 20-year horizon, and adopts a rolling 10-year capital plan, which is re-budgeted every two years. The delivery of the Wastewater Capital Plan is a partnership between the Wastewater Enterprise and Infrastructure Bureau and consists of the following five categories:

- Sewer System Improvement Program (SSIP)
- Repair and Replace – Treatment (R&R)
- Repair and Replace – Collection System (R&R)
- Facilities and Infrastructure
- Treasure Island

Together, these programs will address the following challenges:

- Aging infrastructure and poor conditions of existing facilities
- Seismic deficiencies and lack of structural integrity
- Limited operating flexibility and lack of redundancy
- Optimizing system performance and efficiency
- Maintaining ratepayer affordability
- Asset protection against climate change-induced sea-level rise, and
- Protecting public health, the environment, and conservation goals to safeguard natural and human environments.

In FY 2020-21, the Wastewater Enterprise's capital budget is $162.3 million, of which $48.6 million or 29.9% is funded by debt and $113.7 million or 70.1% is revenue funded. In FY 2021-22, the capital budget is $364.4 million of which $248.8 million or 68.3% is supported by debt and $115.6 million or 31.7% in revenue funding. Debt funding consists of revenue bonds. The majority of the revenue funding is from sewer service charges, with the remainder being from capacity fees. The Wastewater Enterprise's annual programmatic project budget, which is funded in the operating budget but forms part of the capital program, is $8.7 million in FY 2020-21 and $7.6 million in FY 2021-22, with the majority being revenue funded and the remainder coming from Federal bond interest subsidies and recovery capital.

The Wastewater Enterprise is responsible for the operations, maintenance, capital improvements and repair/replacement of the following wastewater facilities and assets:

- Four Treatment Facilities including: Southeast Treatment Plant, Oceanside Treatment Plant, North Point Wet Weather Facility, and Treasure Island Treatment Plant;
- Twenty-nine Pump Stations, including those in Mission Bay, in San Francisco; twenty-eight sanitary pump stations on Treasure and Yerba Buena Islands and six stormwater pump stations on Treasure Island;
- Nine Transport/Storage Facilities with 199 million gallons of capacity for combined sewage;
- Three Bay and one Ocean Outfalls off of San Francisco;
- One Bay Outfall off of Treasure Island;
- Thirty-six Combined Sewer Discharge Structures in San Francisco;
- Fifty stormwater outfalls on Treasure and Yerba Buena Islands;
- Nine hundred and ninety-three miles of Sewers, Tunnels, Force Mains and Transport/Storage facilities;
- Two chemical feed stations for odor control in San Francisco;
- Six continuous deflective separation units for stormwater management in San Francisco; and
- One Southeast Community Facility in San Francisco.

San Francisco dry-weather wastewater is treated by two main treatment plants, Southeast and Oceanside, with a combined dry-weather design capacity of 107 MGD. During wet-weather, three plants, Southeast, Oceanside and North Point Facility, with a peak design capacity of 465 MGD, treat the combined sanitary and stormwater flows which are called "combined sewage". Wastewater generated at Treasure Island is treated at the Treasure Island facility with a dry-weather capacity of 2 MGD. The treatment plants are:

North Point Wet Weather Facility: The North Point Wet Weather Facility has been in operation since 1951. The facility provides primary-level treatment and disinfection of combined sewage collected in the north part of the City during rainstorms. The facility has a treatment capacity of 150 MGD. Treated combined sewage is discharged approximately 800 feet into the San Francisco Bay. In a typical year, the North Point Wet-Weather Facility treats about 1.3 billion gallons of combined sewage.

Southeast Treatment Plant: The Southeast Treatment Plant was built in 1952 and has been expanded several times since. The Plant treats an average dry-weather flow of approximately 58 MGD and discharges into the San Francisco Bay through an 810 foot-long pipe. The Plant has a peak wet-weather capacity of 250 MGD which is discharged through both the 810 foot-long pipe into the Bay and an auxiliary wet-weather-only outfall into Islais

Creek. In a typical year, the Southeast Treatment Plant treats about 25 billion gallons of combined sewage.

Oceanside Treatment Plant: Completed in 1993, the Oceanside Treatment Plant treats an average dry-weather flow of approximately 16 mgd and has a total capacity of 65 MGD during wet-weather. It treats wastewater from the west side of the City. Treated wastewater is discharged from the plant to the Pacific Ocean through the Southwest Ocean Outfall 4.5 miles offshore. In a typical year, the Oceanside Treatment Plant treats approximately 6.6 billion gallons of combined sewage. In 2004, the Oceanside Plant was awarded the U.S. Environmental Protection Agency's "Plant of the Year" Award over similar-sized treatment plants around the nation and in 2014 the Plant received the National Association of Clean Water Agencies Platinum Award for 18 consecutive years of compliance.

Treasure Island Treatment Plant: The San Francisco Public Utilities Commission, under a 1997 Cooperative Agreement between the U.S. Navy, agreed to operate and maintain the utility systems at Treasure Island, including the Treasure Island Plant, while the Navy retains ownership of all the utility systems. The Plant provides secondary treatment of wastewater from facilities on Treasure Island and Yerba Buena Island. It serves a population of approximately 2,400 and has a design capacity of 2 MGD; daily influent flows measured between December 2005 and June 2009 ranged between 0.35 and 0.50 MGD.

WASTEWATER ENTERPRISE TEN-YEAR CAPITAL PLAN

The Ten-Year Plan for FY 2020-21 through FY2029-30 increased $63.2 million (11%) from the prior years approved plan. The SSIP decreased $875 million. This reduction is largely a result of projects in the SSIP using prior year appropriations and a significant effort to smooth project spending within the Ten-Year plan window and moving budgets outside of the Ten -Year plan horizon.

The Plan also includes increases in the R&R program, $807 million (62%) due to moving large diameter sewer projects from SSIP to R&R and the Treatment Plant Facilities Projects increasing $82 million (28%) to maintain the capacity and reliability of wastewater treatment facilities operated by the Enterprise.

The Treasure island Project increased $139.5 million to fund a new Wastewater Treatment facility on the Island to replace the aging existing facility.

The table below shows total projected costs over 10 year period.

The 10-Year Capital Plan shown shows the Renewal and Replacement (R&R) program, which is mostly revenue-financed, increasing approximately 3 percent annually. The Capital Program includes the SSIP, Treasure Island and other Wastewater Facilities show an increase in FY 2023-24 & FY 2024 -25 to fund the Biosolids Project construction.

Aerial view of the Southeast Wastewater Treatment Plant: Biosolids Digester Facilities Project.

WASTEWATER ENTERPRISE TEN-YEAR CAPITAL PLAN

$ Thousands Program/Project	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2026-30	PLAN TOTAL
SPENDING PLAN							
Sewer System Improvement Program							
Program Wide Management	0	0	7,000	10,000	9,143	63,000	89,143
Treatment Facilities	6,892	119,352	169,132	248,142	291,222	598,823	1,433,564
Sewer/Collection System	1,790	15,048	33,494	44,959	73,723	631,146	800,159
Stormwater Management/Flood Control	772	46,544	87,263	106,984	127,207	242,198	610,968
Total SSIP	**9,454**	**180,944**	**296,888**	**410,086**	**501,296**	**1,535,167**	**2,933,834**
Renewal and Replacement							
Collection System - Condition Assessment	5,712	7,999	9,574	11,688	11,496	47,113	93,581
Collection System - Sewer Improvements	101,423	107,704	102,608	106,715	98,217	553,639	1,070,306
Collection System - Large Diameter Sewer	0	0	2,550	29,402	31,959	258,396	322,307
Treatment Plant Improvements	25,358	26,625	27,957	29,354	30,822	178,828	318,944
Total R&R	**132,493**	**142,328**	**142,689**	**177,159**	**172,494**	**1,037,975**	**1,805,138**
Treasure Island - New Wastewater Treatment Facility	0	35,000	60,000	52,810	0	0	147,810
Wastewater Facilities & Infrastructure							
Ocean Beach Protection	0	2,417	45,000	47,000	33,523	14,838	142,778
Islais Creek Crossing	15,847	3,715	5,761	3,890	2,878	509	32,600
Southeast Outfall Condition Assessment & Rehab	0	0	0	0	1,459	29,141	30,600
SWOO Condition Assessment & Rehab	0	0	0	0	1,313	28,294	29,608
Southeast Community Center Improvements	4,500	0	0	0	0	0	4,500
Total Wastewater Facilities & Infrastructure	**20,347**	**6,132**	**50,761**	**50,890**	**39,174**	**72,782**	**240,086**
Total Wastewater	**162,293**	**364,404**	**550,338**	**690,945**	**712,964**	**2,645,924**	**5,126,868**
Sources							
Revenue	107,895	110,252	122,657	125,111	127,613	677,384	1,270,912
Revenue Bonds	48,598	248,833	421,986	560,139	579,656	1,940,065	3,799,277
Capacity Fee	5,800	5,319	5,695	5,695	5,695	28,475	56,679
Total	**162,293**	**364,404**	**550,338**	**690,945**	**712,964**	**2,645,924**	**5,126,868**

Capital Program

The Ten-Year Capital Plan shows total project costs for the Wastewater Enterprise of approximately $5.1 billion of which $2.9 billion is for the SSIP, $1.8 billion is for R&R and $240.1 million is for other Wastewater Facilities & Infrastructure and $147.8 million is for Treasure Island. Capital investments during the 10-year period are in the following areas:

- Program Management, $89.1 million;
- Treatment Facilities, $1.4 billion;
- Collection System $800.2 million;
- Stormwater Management/Flood Control, $611.0 million;
- Renewal and Replacement, $1.8 billion;
- Treasure Island, $147.8 million;
- Wastewater facilities & Infrastructure, $240.1 million;

Sewer System Improvement Program (SSIP), $2.9 billion

The San Francisco Public Utilities Commission endorsed a $6.9 billion Sewer System Improvement Program (SSIP) to help the Wastewater Enterprise meet the SFPUC goals and levels of service for operational reliability, regulatory compliance, effective stormwater management, community benefits, climate change adaptation, economic and environmental sustainability and ratepayer affordability.

The Ten-Year Capital Plan as adopted anticipates approximately $4.0 billion of investments in the SSIP, focusing on projects in the following categories:

- **Program-Wide Efforts:** $89.1 million – the SSIP is a series of capital improvement projects focused on improving the wastewater system to meet the present and future needs of the City. The Program-Wide Management Project will support the SSIP implementation, providing condition assessments (facility inspections), project definition and prioritization, public outreach and education, analysis of the impacts of climate change, sustainability evaluation, and general program management (program controls, change control, constructability).
- **Treatment Facilities:** $1.4 billion - projects include the Bayside Biosolids (Digester) Project in southeast San Francisco; improvements to the combined sewer transport storage and near shore combined sewer discharge structures; and improvements to the liquid treatment at the Southeast Water Pollution Control Plant, the North Point Wet Weather Facility, the North Shore Pump Station and associated outfalls; and improvements to the Oceanside Water Pollution Control Plant, Westside Pump Station, and Westside Force Main.
- **Sewer/Collection System:** $800.1 million – includes the proposed Central Bayside System Improvement Project to provide system enhancements to the Channel Drainage Basin, and needed redundancy for the existing 66-inch Channel Force Main, hydraulic improvements to sewers/pump stations, and improvements to stormwater management through elements of both grey and green infrastructure. Also provides funding for replacement of existing sewers to increase hydraulic capacity, transportation/storage and combined sewer discharge structures, pump stations and force mains.
- **Stormwater Management/Flood Control:** $611.0 million program includes work on drainage basins, green infrastructure, flood resilience, and the Green Infrastructure Stormwater Management Grant Program. For drainage basins, the SFPUC will build, monitor, and evaluate the effectiveness of eight green infrastructure projects to minimize stormwater impacts throughout San Francisco's eight urban watersheds. Flood resilience projects will address combined sewer flooding caused by heavy rain through capital improvements, financial incentives, Building Code amendments, options for affordable flood insurance, and enhanced coordinated storm response. Green infrastructure construction of permeable surfaces and engineers' subsurface systems will sustainably augment the collection system for the management of stormwater flows. Finally, the Green Infrastructure Stormwater Management Grant Program will incentivize property owners to construct and maintain green infrastructure on large parcels. These projects will support the levels of service goals to minimize flooding, provide benefits to impacted communities, and achieve economic and environmental sustainability. Ancillary benefits may include reduced energy use (reduced pumping and treatment), potable water conservation, groundwater recharge, and improved community aesthetics.

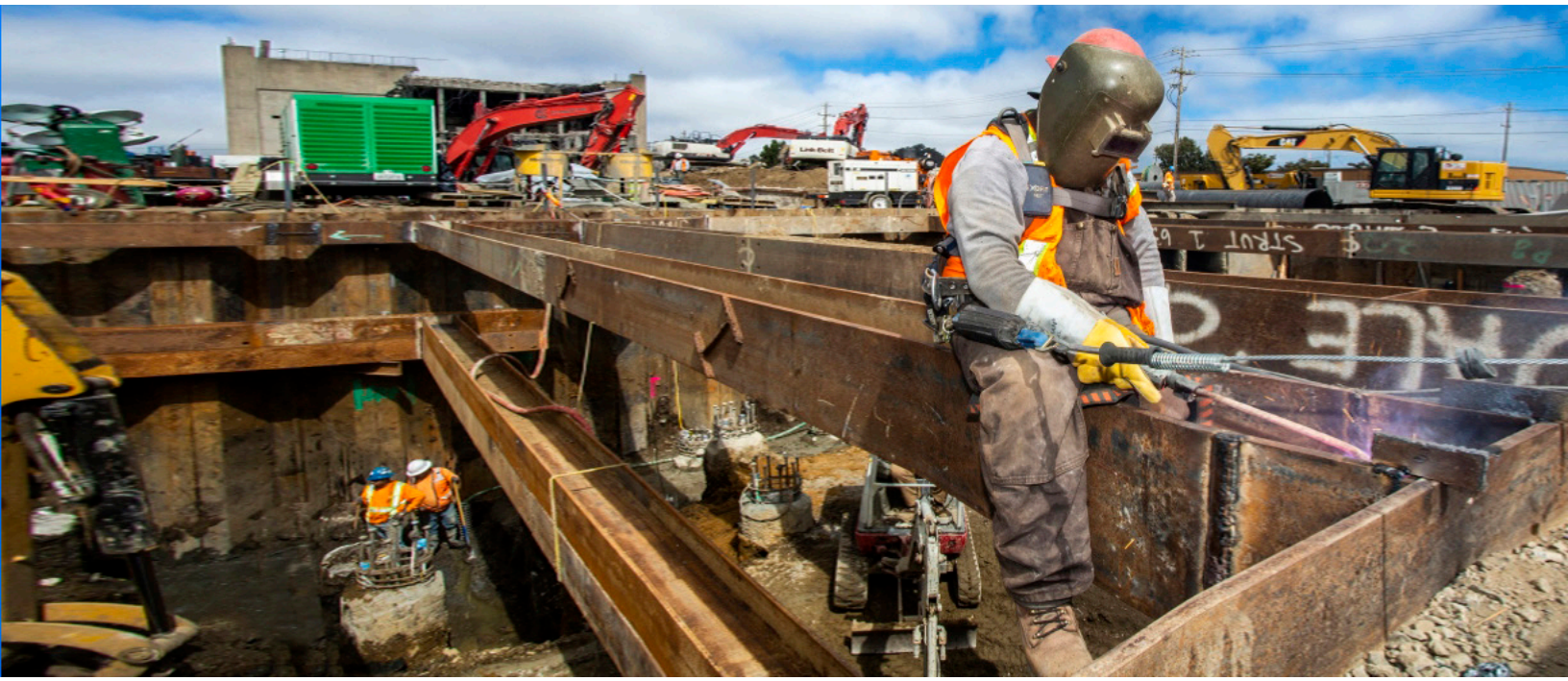
Sunset Boulevard Greenway: View of planter at 37th Avenue and Kirkham Street. Flags represent the variety of plants that will be planted in the rain garden.

Renewal and Replacement R&R) Program

The Wastewater R&R program includes two major categories: sewer replacements and treatment facilities. Increase in Collection System R&R is due to moving large diameter sewer projects from SSIP to R&R to better align with the perpetual nature of the need for sewer reinvestments.

Collection System, $1.5 billion

- Condition Assessment Project – There are more than 80 miles of major sewers that have been in service for



The Southeast Treatment Plant Headworks Facility Project includes constructing a new Headworks facility, modifing the Bruce Flynn Pump Station, and construction of a new odor control structure.

100 years or more and are at the end of their useful life. This project Includes cleaning and inspection of large diameter sewers, transport/storage boxes and collection system discharge/overflow structures. The results of the inspection program will inform the R&R Spot Repair and Collection System Sewer Improvements Programs, as well as the SSIP regarding needed sewer repairs. This project will assist with the on-going gathering of data necessary for the Wastewater Enterprise Collection Systems Asset Management Program.

- Sewer Replacement/Improvement Program – This program maintains the existing functionality of the sewage collection system and includes planned and emergency repairs and replacement of structurally inadequate sewers. Failure of the collection system will reduce the City's ability to handle and dispose of wastewater and stormwater which can lead to public health, safety and environmental risks and non-compliance with State discharge permit. Projects are identified utilizing an asset management approach which factors in physical condition, age, location, risk, public safety, paving schedule and other factors. This program allows for the renewal and replacement of approximately 15 miles of sewer per year.
- Large Diameter Sewer - This is a collection of large sewer improvement projects that will rehabilitate and/or replace Large Sewers (sewers greater than 36-inches in diameter or equivalent diameter) that have the highest risk for failure. The collection of projects (or subprojects) were identified from the efforts of SSIP Phase 1 projects.

Treatment Plants, $318.9 million

The Treatment Plant Improvement program helps maintain the capacity and reliable performance of the Wastewater treatment facilities owned and operated by the Wastewater Enterprise. This is a continuing annual program to extend the useful life of Wastewater treatment assets including Transport Boxes, Discharge Structures, Pump Stations, Force Mains, Tunnels and Treatment Plants.

The projects are prioritized based upon regulatory compliance, condition assessments, operation staff recommendations and Level of Service goals which were formally adopted as part of the SSIP. The completion of projects under the Treatment Plant Improvement program will increase reliability and efficiency of Wastewater Enterprise facilities and will ensure that the performance of the treatment facilities meets the established levels of service.

Treasure Islands Capital Improvement, $147.8 million

On October 1, 1997, concurrent with the operational closure of the Treasure Island Naval Station, the City entered into a Cooperative Agreement with the U.S. Navy in which the City agreed to take responsibility for caretaker services on Treasure Island and Yerba Buena Island. As a result of this agreement, the SFPUC provides utility operations and maintenance services for the wastewater and stormwater systems.

This project provides continued funding for a new tertiary three-million gallon per day wastewater treatment facility

for the Treasure Island/Yerba Buena Island service area to replace the existing, aged facility. The new treatment facility will include influent screening, a combined primary/secondary treatment process, anaerobic sludge digestion, sludge dewatering and truck load-out, disinfection, odor control, and tertiary treatment.

Wastewater Facilities and Infrastructure, $240.1 million

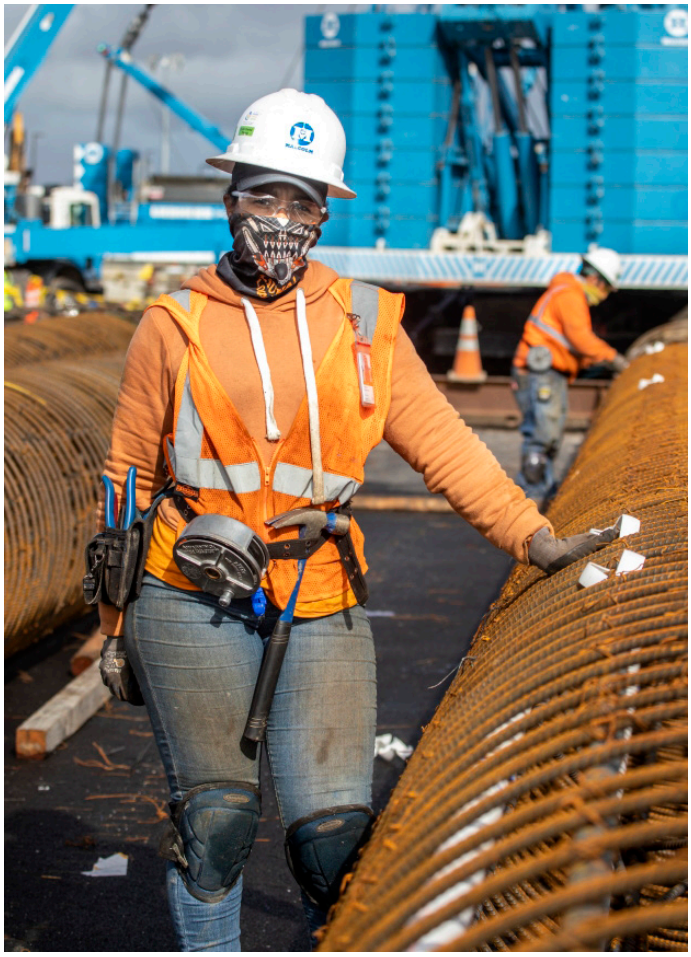
- **Ocean Beach Protection Process:** $142.8 million - This project is to develop comprehensive shoreline management and protection plan in partnership with relevant stakeholders and regulatory agencies and to establish a long-term solution to the erosion issues along Ocean Beach. This long-term solution is necessary to protect the integrity of critical wastewater assets that were planned, built, permitted and constructed to protect public health and the environment. These assets include the Lake Merced Transport/Storage facility, the Westside Pump Station and the Oceanside Treatment Plant which are threatened by sea level rise, and erosion at Ocean Beach.
- **Islais Creek Crossing:** $32.6 million – This project includes improvements to Islais Creek crossing of the effluent pipelines and modifications to the Booster Pump Station at Islais Creek. The project primarily addresses the compromised section of the effluent discharge outfall into the San Francisco Bay.
- **Southwest Outfall Condition Assessment:** $30.6 million – This project includes the condition assessment of the outfall and needed repairs. The facilities provided all-weather collection and treatment of flows from the westside of the City. The facilities must be monitored and maintained to ensure reliable and safe operation during all weather conditions.
- **Southeast Ocean Outfall Condition Assessment:** $29.6 million – The Southeast Outfall pipeline conveys treated effluent from the Southeast Plant to the San Francisco Bay. The condition assessment will determine if the pipeline from the onshore force main to offshore outfall can provide reliable service until the offshore outfall is replaced. Funding for rehabilitation is include in the project if determined necessary by the assessment.
- **Southeast Community Center Improvements:** $4.5 million – This project funds the building of a new community center at 1550 Evans. The project will include a childcare center, café, multipurpose space for meetings, events, and workshops, and co-working office and classroom space for community-based organizations providing workforce development services. It will also include parking and over two acres of landscaped open space, with play areas, an amphitheater, picnic areas and gardens.

FY 2020-21 AND 2021-22 CAPITAL BUDGET

The table on the following page shows the Wastewater Enterprise's capital budget for FY 2019-20, FY 2020-21, and FY 2021-22, by major program.

The Wastewater FY 2020-21 and FY 2021-22 Capital Budget is $579.2 million. The capital budget includes continuing Renewal and Replacement (R&R) Projects for the Collection System Sewer R&R and Treatment Plant Facilities Improvements and significant non-recurring capital expenditures for the Sewer System Improvement Program (SSIP), Treasure Island and other Wastewater Facilities and Infrastructure. The budget is funded by a combination of Wastewater Enterprise revenues, Wastewater revenue bonds and capacity fees.

As a preliminary step to two–year Capital budget development, a baseline review of all existing project appropriations was completed for potential closeout or repurposing to new capital budget needs. This important step reduced the amount of funding request



Southeast Wastewater Treatment Plant: Biosolids Digester Facilities Project: Preparation of pile steel reinforcement cages with rebar.

in FY 2020-21 in the two–year Capital budget and a more efficient use of existing project appropriations, commercial paper and bond funding issuances.

FY 2020-21

The Wastewater Enterprise's capital budget for FY 2020-21 is $170.9 million and includes $162.3 million for Wastewater Capital Projects and $8.6 million for financing cost. The FY 2020-21 Wastewater Enterprise capital budget, including financing costs, is $340.2 million less than the FY 2019-20 approved budget.

The decrease is the result of the SSIP being able to repurpose unspent prior year project appropriations to cover budgetary needs in FY 2020-21.

Major projects include:

Capital Enhancements included in the SSIP

$6.9 million for SSIP Treatment Facilities on-going improvements at the Southeast Plant including Oxygen Generation and Building Health and Safety projects, upgrades to the North Point Facility Administration Building and the Oceanside Plant Solids Thickening Process Upgrade.

WASTEWATER TWO-YEAR CAPITAL BUDGET

$ Millions Program/Project	FY 2019-20 Adopted Budget	FY 2020-21 Adopted Budget	FY 2021-22 Adopted Budget
SEWER SYSTEM IMPROVEMENT PROGRAM			
Program Wide Management	16.6	0.0	0.0
Treatment Facilities	169.1	6.9	119.4
Sewer/Collection System	69.3	1.8	15.0
Stormwater Management/Flood Control	40.5	0.8	46.5
Total SSIP	**295.4**	**9.5**	**180.9**
RENEWAL AND REPLACEMENT			
Collection System - Condition Assessment	3.6	5.7	8.0
Collection System - Sewer Improvements	89.8	101.4	107.7
Treatment Plant Improvements	24.2	25.4	26.6
Total R&R	**117.5**	**132.5**	**142.3**
Treasure Island - Wastewater Treatment Facility	24.0	0.0	35.0
WASTEWATER FACILITIES & INFRASTRUCTURE			
Ocean Beach Protection	5.4	0.0	2.4
Islais Creek Crossing	15.0	15.8	3.7
Southeast Outfall Condition Assessment & Rehab	1.1	0.0	0.0
Southeast Community Center Improvements	3.5	4.5	0.0
Total Wastewater Facilities & Infrastructure	**25.0**	**20.3**	**6.1**
Financing Cost	49.2	8.6	43.9
Total Cost	**511.1**	**170.9**	**408.3**
SOURCES			
Revenue	113.0	107.9	110.3
Revenue Bonds	393.6	57.2	292.7
Capacity Fee	4.5	5.8	5.3
Total Sources	**511.1**	**170.9**	**408.3**

Bessie Carmichael Middle School Green Schoolyard and Green Infrastructure Grant Project: Rain garden and bioretention planters.

$1.8 million for Sewer/Collection System including the Seacliff Pump Station and Force Main upgrade and Sunnydale Safety Improvement Projects.

$0.8 million for Stormwater Management/Flood Control Green Infrastructure Projects to provided sustainable alternatives to the collection system management of stormwater flows.

Renewal and Replacement Projects (Recurring)

$107.1 million for Collection System R&R projects including sewer condition assessments which support the Collection System Asset Management program, spot sewer repairs (repair that cover less than one block) and planned/emergency projects to repair/replace 15 miles of structurally inadequate sewers to maintain the existing functionality of the collection system.

$25.4 million for Treatment Plant R&R program to maintain the capacity and reliable performance of the wastewater treatment facilities. Includes repairs to Transport Boxes, Pump Stations, Force Mains, Tunnels and Treatment Plants prioritized by condition assessments, regulatory compliance, staff recommendations and level of service goals.

Capital Enhancements Non-SSIP

$15.8 million for Islais Creek Crossing, which will rehabilitate pipelines and modify the effluent pump station at Islais Creek to ensure compliance with regulatory requirements and increase reliability.

$4.5 million for Southeast Community Center Improvements for a new community center located at 1550 Evans. The project will include a childcare center, café, multipurpose space for meetings, events, and workshops, and co-working office and classroom space for community-based organizations providing workforce development services.

FY 2021-22

The capital budget total for FY 2021-22 is $408.3 million. It includes funding for: SSIP Treatment Facilities, $119.4 million; SSIP Sewer/Collection System, $15.0 million; SSIP Flood Control Program, $46.5 million; Collection System R&R, $115.7 million; Treatment Plant Improvement R&R, $26.6 million; Ocean Beach Protection Project, $2.4 million; and Islais Creek Crossing, $3.7 million.

WASTEWATER PROGRAMMATIC PROJECTS

The table shows The Wastewater Enterprise Programmatic Projects, for FY 2019-20, FY 2020-21, and FY 2021-22, by major programs. Programmatic projects are annually appropriated projects in support of routine maintenance of programs most of which were initiated in support of the capital program.

FY 2020-21

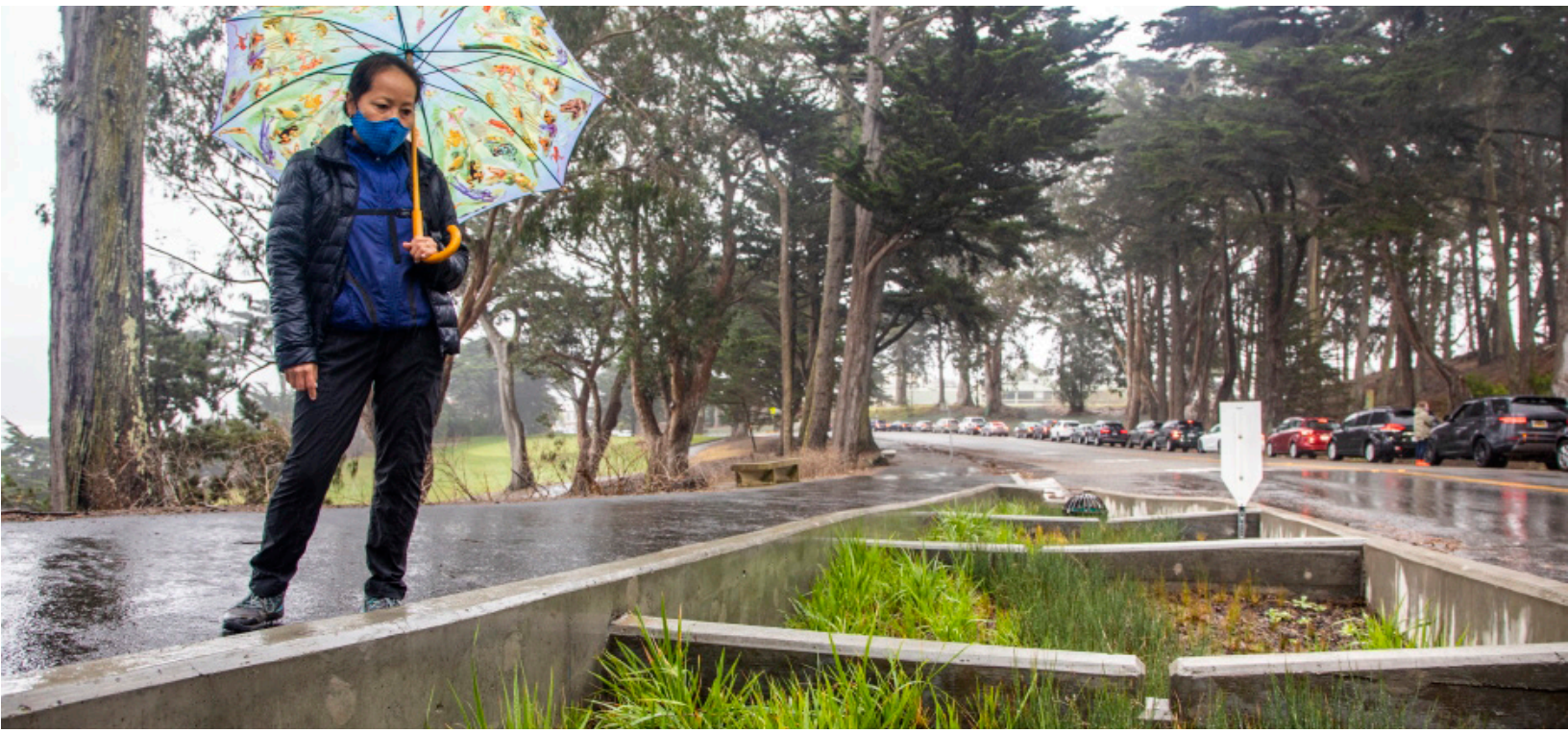
Wastewater Enterprise Programmatic Projects budget for FY 2020-21 is $7.4 million to fund facilities maintenance activities at Treasure Island, Low Impact Development, Youth Employment Programs, and the SFPUC 525 Golden Gate Headquarters Building.

FY 2021-22

The Wastewater Enterprise Programmatic Project budget for FY 2021-22 is $6.6 million, and fund projects similar to those in FY 2020-21.

WASTEWATER ENTERPRISE PROGRAMMATIC PROJECTS

$ Millions Program/Project	FY 2019-20 Adopted Budget	FY 2020-21 Adopted Budget	FY 2021-22 Adopted Budget
Treasure Island Facilities Maintenance	1.4	1.4	1.5
Low Impact Development	0.7	0.7	0.7
Youth Employment Project	0.7	0.7	0.7
Community Benefits - Wastewater	0.8	0.0	0.0
525 Golden Gate - Operations & Maintenance	1.3	2.1	1.3
525 Golden Gate - Lease Payments	2.4	2.4	2.4
Total Cost	**7.2**	**7.4**	**6.6**
SOURCES			
Infrastructure - Recovery Capital (O&M)	0.3	0.2	0.3
Infrastructure - Recovery Capital (Lease)	1.9	1.9	1.9
Federal Bond Interest Subsidy	0.5	0.5	0.5
Revenue	4.6	4.7	3.9
Total Sources	**7.2**	**7.4**	**6.6**



Baker Beach Green Streets: Rain gardens during wet weather on El Camino Del Mar.

HETCH HETCHY WATER AND POWER ENTERPRISE

Hetch Hetchy Water and Power is comprised of two components: **Hetchy Water**, which operates and maintains the Hetch Hetchy Project, and Hetch Hetchy Power (known and referred to as the **Power Enterprise**), which is responsible for all SFPUC power utility commercial transactions and in-City power operations.

The Hetch Hetchy Project provides both water for distribution through the Water Enterprise and hydroelectric power to municipal and other customers through the Power Enterprise. A number of facilities in the Hetch Hetchy Project are joint assets used for both water conveyance and power generation and transmission, benefiting both Hetch Hetchy Water and the Power Enterprise. All power sale revenues are allocated to the Power Enterprise. Operating and capital costs benefitting Power and 55 percent of operating and capital costs that jointly benefit Hetch Hetchy Water and Power are allocated to the Power Enterprise. Operating and capital costs benefitting Hetch Hetchy Water and 45 percent of operating and capital costs jointly benefitting Hetch Hetchy Water and the Power Enterprise are allocated to the Water Enterprise.

Through the Hetch Hetchy Project, the Water Enterprise impounds and delivers, to the Water Enterprise, water for approximately 2.7 million Bay Area residents and, in an average year, generates more than 1,600,000 MWh of clean, renewable electricity which the Power Enterprise uses to serve its customers.

Continued on next page...

Hetchy Water

Hetchy Water's mission is to operate as an efficient, reliable water and power supplier, in a manner that values environmental and community interests and sustains the resources entrusted to our care. Hetchy Water delivers high quality water to SFPUC customers while optimizing the generation of clean hydropower as water is transported through the system. Hetchy Water is responsible for the operation, maintenance and improvement of water, power and joint facilities to ensure safe and reliable operations and service delivery while meeting regulatory requirements. Hetchy Water also maintains land and properties consistent with public health, watershed values and neighborhood concerns, and promotes diversity, health, safety and professional development of its employees.

Power Enterprise

The core business of the Power Enterprise is to provide reliable supplies of electric power to meet the electricity needs of the City and County of San Francisco's municipal and retail customers, and to satisfy the municipal loads consistent with Federal law.

The Power Enterprise's portfolio consists of hydroelectric generation, on-site solar at SFPUC and other City facilities, generation using bio-methane produced at SFPUC Wastewater's treatment facilities, and third-party purchases.

For over 100 years this system—which utilizes the gravity flow of the City's water from source to tap—has operated without producing any carbon emissions nor any radioactive byproducts. Hetch Hetchy Power energizes vital San Francisco services as well as a growing number of residential and commercial customers. In all, we provide nearly 20% of San Francisco's total electricity.

Consistent with its commitment to the development of cleaner and greener power, and to address environmental concerns and community objectives, Power Enterprise continues to evaluate and expand its existing resource base to include additional renewables, distributed generation, demand management, and energy efficiency programs. As part of its mission and core functions, Power provides reliable energy services at reasonable cost to customers, with attention to environmental effects and community concern.

HETCH HETCHY WATER AND POWER CAPITAL BUDGET

In addition to the operating budget, the Hetch Hetchy Water and Power enterprise also prepares a two-year Capital budget and Ten-Year Capital Plan.

In FY 2020-21, the Hetch Hetchy Water and Power capital budget is $80.8 million, of which $76.8 million or 95.0 percent is funded by debt and $4.1 million or 5.0 percent is revenue funded. In FY 2021-22, the capital budget is $141.8 million of which $137.1 million or 96.7 percent is supported by debt and $4.7 million or 3.3 percent in revenue funding. Of the Debt funding, the majority is from power bonds, with the remainder met by water bonds. The majority of the revenue funding is from the Distributed Antenna System and Low Carbon Fuel Standards with the remainder being from power cap and trade revenue. The Hetch Hetchy Enterprise's annual programmatic project budget, which is funded in the operating budget but forms part of the capital program, is $18.6 million in FY 2020-21 and $15.0 million in FY 2021-22, with the majority being funded by revenues, Treasure Island and the Trans Cable Payment, and the remainder coming from Federal bond interest subsidies and recovery capital.

Mountain Tunnel repairs and improvements: repair with wire mesh and shotcrete the defects in the 11 miles of existing tunnel lining to fix deterioration.

The Hetch Hetchy Water and Power Enterprise is responsible for providing reliable, high quality water and electric energy to the City and other customers, operates and maintains facilities to a high standard of safety and reliability, and maximizes revenue opportunities within approved levels of risk.

Hetchy Water operates, maintains, and improves water and power facilities, smaller dams and reservoirs, water transmission systems, power generation facilities, and power transmission assets, including transmission lines to the Newark substation.

Power consists of hydroelectric generation, onsite solar at SFPUC and other City facilities, generation using bio-methane produced at SFPUC wastewater treatment facilities, and third-party purchases.

HETCH HETCHY WATER AND POWER TEN-YEAR CAPITAL PLAN

The SFPUC is required to develop a Ten-Year Capital Plan. Reliability and delivery of high quality water and renewable sources of power are the most critical objectives of Hetch Hetchy Water and Power. The purpose of the capital investment is to extend the useful life of the infrastructure and provide continued reliable operation of the system components. Therefore, understanding the long-term capital needs of the system and determining how to finance these capital needs are essential to the mission of the SFPUC.

The table shows the Hetch Hetchy Water and Power Ten-Year Capital Plan by program and project. The table also shows the different sources of revenue that are expected to finance the plan over these ten-years.

The $1.6 billion Ten-Year Capital Plan represents a consistent and growing investment over ten years with funds allocated to the Hetchy-Power totaling $542.0 million and Hetchy-Water totaling $1.0 billion.

There are two sections to the Ten-Year Capital Plan:

Power Enterprise Capital Program - The program undertakes projects both within San Francisco and up-country and is financed by operating revenues, Cap and Trade Carbon auction revenues, Low Carbon Fuel Standard and Power revenue bonds. Power includes the renewable generation and energy efficiency projects critical to attain greenhouse gas reductions and begin climate change mitigation and transmission and distribution projects consistent with the City's goal of establishing the SFPUC role as the exclusive electric service provider to existing and new City facilities, redevelopment and development projects.

HETCH HETCHY WATER AND POWER TEN-YEAR CAPITAL PLAN

$ Thousands Program/Project	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2026-30	PLAN TOTAL
SPENDING PLAN							
Hetch Hetchy Power							
Streetlights	0	0	3,815	3,815	3,815	19,075	30,520
Renewable/Generation	1,000	1,000	1,000	1,000	1,000	5,000	10,000
Energy Efficiency	1,000	1,000	1,000	1,000	1,000	5,000	10,000
Redevelopment	4,583	4,333	1,483	2,733	1,483	6,299	20,911
Distribution Services for Retail Customers	35,749	23,972	45,852	39,852	53,802	271,792	471,019
Total Hetchy Power	**42,332**	**30,304**	**53,150**	**48,400**	**61,100**	**307,165**	**542,451**
Hetchy Water							
Water Infrastructure	20,077	33,733	65,850	46,373	43,457	68,388	277,878
Power Infrastructure	0	10,560	49,425	23,836	18,535	49,905	152,261
Joint Projects - Water Infrastructure 45%	8,291	30,232	34,252	35,353	33,235	126,043	267,406
Joint Projects - Power Infrastructure 55%	10,134	36,950	41,864	43,209	40,621	154,053	326,830
Total Hetchy Water	**38,502**	**111,474**	**191,391**	**148,771**	**135,848**	**398,390**	**1,024,375**
Total Hetchy Power & Water	**80,834**	**141,779**	**244,541**	**197,171**	**196,947**	**705,555**	**1,566,826**
Sources							
Revenue	1,074	2,151	18,737	18,693	18,649	92,399	151,704
Power Bonds	48,397	73,128	123,423	94,430	99,240	406,049	844,667
Water Bonds	28,368	63,965	100,102	81,726	76,692	194,432	545,284
Low Carbon Fuel Standard	2,500	2,000	1,700	1,700	1,700	8,500	18,100
Cap and Trade Auction Revenue	495	535	578	622	666	4,176	7,071
Total Sources	**80,834**	**141,779**	**244,541**	**197,171**	**196,947**	**705,555**	**1,566,826**

The Hetchy Water Renewal and Replacement Program – This program is financed by Water revenue bonds, Power revenue bonds and Power revenue; the Hetchy Water Renewal and Replacement budget includes Water Infrastructure, Power Infrastructure and Joint, Water (45 percent)/Power (55 percent) projects that are located up-country and managed by Hetchy Water.

Power Capital Program

The $542.4 million per year capital program is comprised of the following:

Distribution Services Retail, $471.0 million

These projects are consistent with San Francisco Administrative Code Section 99.3 establishing the SFPUC's role as the exclusive electric service provider for existing and new City facilities, and redevelopment and development projects.

SFO Substation Improvements - Provides for the SFPUC to serve SFO's anticipated load increase. The project will plan, design, and construct needed upgrades at the substations to provide reliable and redundant service to the airport.

Distribution Interface Redevelopment Projects - This project provides for the design and construction of new electric distribution systems and facilities for the SFPUC to provide electric services to various new developments within San Francisco. The project will consider the use and implementation of proven, as well as, new and emerging technologies. Beneficial technologies will be identified, researched, and analyzed, prior to making a proposal for any implementation on the project, where ratepayer benefit is demonstrated.

Alice Griffith/Candlestick Point - This project provides for the second phase of development at Hunters

Point Shipyard, Candlestick Point, and the Alice Griffith Housing Complex. The Development Team comprised of the Office of Community Investment and Infrastructure and Developer will pay for the installation of the infrastructure and substructure required for the new 12-kV underground electrical distribution system. The SFPUC as the electric utility provider will install the conductors in the conduits, transformers, switches, and metering equipment required for the electric distribution system.

Streetlights, $30.5 million

Hetchy provides power to all of San Francisco's 44,528 streetlights, maintains the 25,509 streetlights owned by the City, and funds the maintenance of the 19,019 streetlights owned by Pacific Gas & Electric Company (PG&E). Street lighting area improvements, the conversion of high voltage series loop circuits into multiple standard voltage service and Lighting Emitting Diode (LED) lighting, holiday and festivity pole use, assessments to determine the severity of pole deterioration, streetlight pole rehabilitation, and replacement of poles are all funded through this program.

Treasure Island $20.9 million

The Cooperative Agreement discussed in the Wastewater Enterprise's Renewal Program also requires the SFPUC to provide utility operations and maintenance services at Treasure Island and Yerba Buena Island for the electrical and natural gas utility systems. The SFPUC has developed a work plan for creating a public power utility on each of the islands.

The SFPUC has developed a work plan for creating a public power utility serving both of the islands. The capital projects identified are required to support the future developments' electric load. Current planning shows that the existing electrical overhead poles, lines, and substation are adequate to serve the first phase of development. When the load approaches the design limit of the lines at approximately 10 megawatts, the lines will have to be upgraded and installed underground.

Renewable/Generation Power, $10.0 million

In accordance with City policies and directives to increase renewable energy and reduce greenhouse gases, Hetchy Power is continuously developing and implementing new renewable generation resources. A series is planned to include small municipal and energy development projects including solar photovoltaic, solar thermal, biogas fuel cells, wind projects, and other renewable energy projects. The power generated from the Renewable/Generation Power projects will offset on-site power need at each project location.

Calaveras Dam and Reservoir.

LED Conversion Project: Replacing the existing High Pressure Sodium (HPS) Street Light Units with LED Street Lights on The Embarcadero & Broadway. Joe Powers, Electrician.

Energy Efficiency, $10.0 million

Energy efficiency improvements reduce facility operating costs and electric bills for customers, improve system functionality, and reduce the environmental impact of energy use. This program funds energy efficiency investments in City facilities covering the planning, design, and construction of "direct install" projects, as well as technical assistance and project assistance for departments utilizing their own capital funds. Energy retrofits include lighting, heating and ventilation, retro-commissioning, and energy management systems projects. The SFPUC performs eight to 10 energy efficiency projects each year. The budget funds efficiency projects in municipal facilities for departments such as Police, Real Estate, Recreation and Parks, SFMTA, Yerba Buena Center, and Fine Arts. Planned funding for lighting and mechanical system efficiency upgrades is consistent with state policies that place emphasis on energy efficiency and that support greenhouse gas reduction.

Hetchy Water Renewal and Replacement (R&R) Program

The $1.0 billion Hetchy Water Renewal and Replacement Program is comprised of several programs. The proposed program costs will be financed with a combination of revenue bonds and power revenues.

Many Hetch Hetchy Water and Power facilities and system components are aging and/or have reached/exceeded their useful life. The condition of these facilities and equipment must be or has been assessed and proposed projects evaluated and prioritized based on risk (financial/criticality, safety and regulatory), efficiency of operations, and to provide a safe working environment for employees working in remote areas.

Water Infrastructure, $277.9 million

The Water Infrastructure Renewal and Replacement program will include concept, development, design, and upgrades for operating, managing, and maintaining the Hetchy Water Infrastructure. In general, this includes water facilities from Hetch Hetchy Reservoir to Alameda East. The new and upgraded systems will have increased coverage, capacity or reliability, or improve employee safety and/or operating efficiency. The Hetchy water renewal program includes continued rehabilitation to the San Joaquin Pipeline (SJPL) including evaluation and assessment of structural integrity, structural upgrade of the pipeline and other projects including pipeline cathodic protection, coating and lining. New projects in the plan include the SJPL Valve and Safety Improvement Project to extend the useful life and safety of Hetchy Water assets.

Mountain Tunnel Improvement Project includes funding the tunnel portion of the project for improvements to enhance SFPUC's ability to provide reliable, high-quality water to its customers. This portion of the project was reclassified from Joint to a Water only asset for this capital plan.

Power Infrastructure – $152.3 million

Many Hetchy Power systems, facilities, and equipment have reached their end of their life expectancy. Power generation will become less reliable if upgrades are not performed.

The Capital Plan provides funding for improvements at the Hetchy Powerhouses. Projects include upgrades to the Moccasin and Kirkwood powerhouses including protection, control and monitoring systems and equipment replacement and upgrades. The plan includes the Moccasin Powerhouse Generator Rewind and GSU Rehabilitation to fund assets at the powerhouse (breakers, generators, switchgears, valves, etc.) that have exceeded their useful life to avoid unplanned outages and increase operational efficiency.

The Capital Plan also includes rehabilitation of transmission lines and distribution systems. Transmission improvements consist of reliability projects to address regulatory requirements. Typical projects include replacement of insulators, switches, tower infrastructure, grounding and protection. Also included are regulatory projects to achieve clearance mitigation and resolve clearance discrepancies and meet regulatory requirements along with the power system impact mitigation project to mitigate impacts on the City's electric system caused by interconnections with private developments.

The plan also includes funding for Power Infrastructure Project Development

Joint Projects – Water & Power Infrastructure, $594.2 million

These projects included assets that are jointly funded by the Water (45 percent) and Power (55 percent) Enterprises.

Communications - Projects provide upgrades of the communication systems elements to maintain pace with the changes in technology, and to maintain overall system reliability. The project will help to increase communications within the Moccasin compound.

Dams and Reservoirs - Projects to upgrade the Dams and Reservoirs to meet the Water Enterprise Levels of Service and Power Operational Objectives. Funding is included for O'Shaughnessy Dam to address deficiencies of the existing outlet works system, including the drum gates and release system through to Canyon Tunnel and the Tuolumne River and Moccasin Dam to evaluate, design and construct long term solutions for Moccasin Dam and associated appurtenance so that the facilities can handle the updated design flood.

Mountain Tunnel – Improvements to enhance SFPUC's ability to provide reliable, high-quality water to its customers will be carried out through three projects, the Mountain Tunnel Adits & Access Improvements Project to provide access to the tunnel, Inspection and Repair Project to provide for tunnel inspection and updated condition assessment and the Improvement Project to implement the needed improvements to assure reliability of water delivery. The first two projects are already completed, and the construction contract has been awarded for the third, and largest, project.

Roads and Bridges – Project to replace bridges as recommended in the condition assessment reports and the road improvements program for upkeep of access to numerous Hetch Hetchy Water and Power facilities.

Utilities - Projects to maintain the power distribution system in a state of good repair consistent with utility best practices to ensure 24/7 power. This project will rehabilitate the HHWP power distribution system consistent with utility best practices to provide reliable electrical necessary to operations at Moccasin Camp and remote sites.

FY 2020-21 AND 2021-22 CAPITAL BUDGET

The FY 2020-21 and FY 2021-22 SFPUC Capital Budget is $260.4 million for projects and financing costs for Hetchy Water and Power. As a preliminary step to the Two–Year Capital budget development, a baseline review of all existing project appropriations was completed for potential closeout or repurposing to new capital needs. This important step reduced the amount of funding requested in the Two-Year Capital Budget resulting in a more efficient use of existing project appropriations, commercial paper and bond funding issuances.

The table below shows the Hetch Hetchy Water and Power capital budget for FY 2019-20, FY 2020-21 and FY 2021-22 by major programs.

FY 2020-21 Summary

The Hetchy Water and Power Capital budget for FY 2020-21 is $94.4 million and includes: $42.3 million for In-City Power projects $38.5 million for up-country Hetchy Water projects and $13.5 million for financing cost. The FY 2020-21 CIP is funded by $1.1 million in Hetch Hetchy Water and Power revenue, $56.9 million from the issuance of Power Enterprise revenue

HETCH HETCHY WATER AND POWER TWO-YEAR CAPITAL BUDGET

$ Millions Program/Project	FY 2019-20 Adopted Budget	FY 2020-21 Adopted Budget	FY 2021-22 Adopted Budget
HETCHY POWER COSTS			
Streetlights	6.0	0.0	0.0
Transmission/Distribution	65.5	35.7	24.0
Renewable/Generation	1.0	1.0	1.0
Energy Efficiency	1.0	1.0	1.0
Redevelopment	9.5	4.6	4.3
Total Hetchy Power	**83.0**	**42.3**	**30.3**
HETCHY WATER COSTS			
Water Infrastructure	49.3	20.1	33.7
Power Infrastructure	11.8	0.0	10.6
Joint Projects - Water Infrastructure 45%	23.5	8.3	30.2
Joint Projects - Power Infrastructure 55%	28.7	10.1	36.9
Total Hetchy Water	**113.3**	**38.5**	**111.5**
Financing Cost - Hetchy Water	10.8	5.0	11.3
Financing Cost - Hetchy Power	20.4	8.5	12.9
Total Financing Costs	**31.2**	**13.5**	**24.2**
Total Hetchy Power & Water	**227.5**	**94.4**	**166.0**
SOURCES			
Revenue	17.0	1.1	2.2
Power Bonds	126.0	56.9	86.0
Water Bonds	83.6	33.4	75.3
Low Carbon Fuel Standard	0.0	2.5	2.0
Cap and Trade Auction Revenue	1.0	0.5	0.5
Total Sources	**227.5**	**94.4**	**166.0**

bonds for projects considered Power or 55 percent of joint assets, $33.4 million from the issuance of Water Enterprise revenue bonds for projects considered Water or 45 percent of joint Water's assets, and $2.5 million from Low Carbon Fuel Standard and $0.5 million from Cap and Trade Auction revenue.

The budget represents continued investment in upgrading and improving infrastructure to ensure reliability of power generation and water delivery.

The budget grows the Power portfolio with continued investment in renewable sources and efficiency.

Power

Projects in the FY 2020-21 capital budget include:

$35.7 million for Transmission /Distribution Improvements to provide for the design and construction of transmission and distribution facilities to serve new retail customers, installation of Intervening Facilities required under the new Wholesale

Distribution Tariff and the development, administration, and incentive payments to new retail customers. Funding is also included for Distribution Interface - Redevelopment projects include Pier 70, Mission Rock, Candlestick Point, and India Basin which the electrical infrastructure being built to serve these projects will reduce the City's reliance on PG&E.

$1.0 million for Renewable/Generation projects such as small renewable (solar photovoltaic, solar thermal, wind, geothermal, fuel cells), small hydro (in-line turbines, turbines in existing pipelines, incremental hydro). Power generated from the Renewable/Generation projects will offset on-site power need at each project location.

$1.0 million for Energy Efficiency Projects for General Fund departments. This project involves retrofitting the City buildings and other facilities to significantly improve operation and energy efficiency and enhance indoor air quality and occupant/public experience.

$4.6 million for Redevelopment at Treasure Island - Install a new underground 12 kilovolt (kV) distribution system at Treasure and Yerba Buena Island. The developer will pay for the installation of the new underground 12-kV electric distribution system while the SFPUC, as the electric utility provider, will be responsible for installing the conduit wires, transformers, switches, and metering equipment and connecting the existing electrical distribution system with the new system.

Hetchy Water

Projects in the FY 2020-21 capital budget include:

$20.1 million for Water Infrastructure projects including $19.8 million to begin funding construction of the Mountain Tunnel Improvement Project (tunnel portion).

$18.4 million for Hetchy Water's joint funded projects, 45 percent Water, 55 percent Power, to fund the Mountain Tunnel and Moccasin Dam Improvement Projects.

FY 2021-22 Summary

Power

The Power FY 2021-22 capital budget is $30.3 million and includes $24.0 million for Transmission/Distribution enhancements and upgrades, $1.0 million for investments in renewable generation projects, $1.0 million for energy efficiency projects for General Fund and departments and $4.3 million in redevelopment for the Treasure Island.

Hetchy Water

The Hetchy Water FY 2021-22 capital budget is $111.5 million and includes $8.9 million for improvements to the San Joaquin Pipelines and $22.2 million for Mountain Tunnel Project, $10.6 million for Power Infrastructure projects including powerhouse projects and transmission line clearance mitigation, $67.2 million for rehabilitation of joint (power/water) infrastructure projects including road improvements, dams and reservoirs, bridge replacements and beginning construction on the Mountain Tunnel Improvement Project.

Warnerville Substation Rehabilitation Project: Installing a dogbone on Switch 6.

HETCH HETCHY WATER AND POWER PROGRAMMATIC PROJECTS

The table below shows Hetch Hetchy Water and Power Programmatic Projects, for FY 2020-21 to FY 2021-22, by major programs.

The Hetch Hetchy Water and Power Programmatic Projects budget increase $3.6 million from FY 2019-20 to FY 2020-21 mostly due to a one-time increase in the funding for Trans Bay Cable project and facilities maintenance. The FY 2020-21 budget is funding for the Facilities Maintenance project, WECC project, Treasure Island, Youth Employment Project, and 525 Golden Gate.

HETCH HETCHY WATER AND POWER PROGRAMMATIC PROJECTS

$ Millions Program/Project	FY 2019-20 Adopted Budget	FY 2020-21 Adopted Budget	FY 2021-22 Adopted Budget
HETCHY COSTS			
SF Electric Reliability - Trans Bay Cable Funding	2.0	3.1	0.0
Facilities Maintenance	2.6	6.0	6.3
WECC/NERC Compliance	3.7	3.1	2.5
WECC/NERC Transmission Line Clearance	0.2	0.0	0.0
Treasure Island Facilities Maintenance	3.6	3.8	4.0
Community Benefits - Water	0.3	0.0	0.0
Community Benefits - Power	0.4	0.0	0.0
Youth Employment Project	0.2	0.2	0.2
525 Golden Gate - Operations & Maintenance	0.8	1.3	0.8
525 Golden Gate - Lease Payments	1.2	1.2	1.2
Total Cost	**15.0**	**18.6**	**15.0**
SOURCES			
Infrastructure - Recovery Capital (O&M)	0.1	0.1	0.1
Infrastructure - Recovery Capital (Lease)	0.2	0.2	0.2
Federal Bond Interest Subsidy	0.3	0.3	0.3
Trans Bay Cable Payment	2.0	3.1	0
Revenue	12.4	14.9	14.4
Total Sources	**15.0**	**18.6**	**15.0**

CLEANPOWERSF

Empowering businesses and residents to choose a more sustainable future, CleanPowerSF is San Francisco's Community Choice Aggregation program. CleanPowerSF was created pursuant to state legislation that authorizes local governments to partner with their investor-owned utility (PG&E in San Francisco) to deliver cleaner energy to residents and businesses.

CleanPowerSF began serving customers in May 2016, giving residential and commercial electricity consumers in San Francisco the option to have more of their electricity supplied from clean, renewable sources—such as solar and wind—at competitive rates. When customers join CleanPowerSF's service, they reduce the carbon footprint associated with their electricity service, support the growth of local renewable energy projects, and combat global climate change.

CleanPowerSF supplies a cleaner electricity supply to customers, while PG&E continues to deliver that energy using its existing infrastructure. Currently, about 39% of the electricity delivered by PG&E is Renewable; the other 61% is from nuclear, natural gas, large hydroelectric, and other non-Renewable sources. CleanPowerSF offers two services with a higher percentage of the energy from cleaner sources, such as solar and wind: Green, which contains 48% Renewable energy, and SuperGreen, which contains 100% Renewable energy.

Customers are automatically enrolled in the Green service and may elect to opt up to receive the SuperGreen service at any time after enrollment. By law, CleanPowerSF is an opt-out program, meaning eligible customers are automatically enrolled in the program.

The SFPUC intends for CleanPowerSF to be a financially independent program, separate from Hetchy Power, with sufficient revenues to support its own operating and capital costs.

Continued on next page...

6

SAN PABLO RACEWAY SOLAR PROJECT: SPOWER, THE LARGEST PRIVATE OWNER OF OPERATING SOLAR ASSETS IN THE UNITED STATES, HAS SIGNED A 22-YEAR, 100 MW SOLAR POWER PURCHASE AGREEMENT WITH CLEANPOWERSF, A CALIFORNIA COMMUNITY CHOICE AGGREGATOR MANAGED BY SFPUC.

The May 2019 CleanPowerSF enrollment met the Commission's adopted goal of citywide implementation as of July 2019. As a result, more than 376,000 residents and businesses now receive renewable energy and high-quality service through CleanPowerSF.

CleanPowerSF is part of the Power enterprise.

CLEANPOWERSF CAPITAL BUDGET

In addition to the operating budget, CleanPowerSF also prepares a two-year Capital budget and 10-Year Capital Plan. This is the first capital budget for CleanPowerSF. The capital budget will be focused on owned generation and storage facilities as the program shifts from contracted power procurement. CleanPowerSF's capital budget is $1.9 million in FY 2020-21 and $2.4 million in FY 2021-22, and is entirely revenue funded.

A program of the San Francisco Public Utilities Commission, CleanPowerSF is a local solution to the climate crisis, offering renewable, affordable and accessible energy to our community. We empower residents and businesses to choose a more sustainable future. CleanPowerSF buys electricity from sources such as wind and solar, and that electricity is delivered to homes via PG&E's existing poles and wires.

Starr King Elementary School, solar panel installation. Electricians prepare to connect the solar string to the inverter. Electrican, Ian Anonuevo.

CLEANPOWERSF TEN-YEAR CAPITAL PLAN

Management of CleanPowerSF's financial business functions include developing and maintaining long-range capital and financial plans. The Capital Plan will evaluate opportunities for local renewable energy development in San Francisco city-owned and regional sites and other opportunities in and near San Francisco.

The CleanPowerSF Ten-Year Capital Plan for FY 2020-21 through FY 2029-30 is $75.8 million, all of which is funded by power revenues. CleanPowerSF does not expect to rely on debt to fund its Capital Improvement Program between FY 2020-21 and FY 2029-30. To pay for operations and capital investments, CleanPowerSF expects to increase rates 3 percent annually.

Local Renewable Energy Program - This program will fund the development of new renewable energy (solar photovoltaic) and battery storage projects on select SFPUC sites. The project is structured around six major phases, including: Planning, Request for Proposals, Construction and Commissioning, Power Purchase Agreement, Asset Management, and Project Buyout. The initial renewable energy facilities developed under this program would be structured as power purchase agreements (PPA) with third parties that would develop and operate the projects for an initial period of time. The PPAs would include a buy-out option for the City.

CleanPowerSF Customer Programs - This program funds the development and implementation of programs that incentivize customers to invest in new clean energy technologies that can reduce their energy costs and further San Francisco's decarbonization goals. Incentives will be available for residents and businesses investing in new clean and efficient equipment like solar power generating equipment, battery storage, electrical vehicle chargers and electric heat pump water heating.

CLEANPOWERSF ENTERPRISE TEN-YEAR CAPITAL PLAN

$ Thousands Program/Project	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2026-30	PLAN TOTAL
SPENDING PLAN							
CleanPowerSF Enterprise							
Local Renewable Energy Program	438	509	224	224	489	60,709	62,592
CleanPower SF Customer Program	1,461	1,924	1,249	1,199	1,149	6,245	13,227
Total CleanPowerSF	**1,898**	**2,433**	**1,473**	**1,423**	**1,638**	**66,954**	**75,819**
Total CleanPowerSF	1,898	2,433	1,473	1,423	1,638	66,954	75,819
SOURCES							
Revenue	1,898	2,433	1,473	1,423	1,638	66,954	75,819
Total Sources	**1,898**	**2,433**	**1,473**	**1,423**	**1,638**	**66,954**	**75,819**

FY 2020-21 AND 2021-22 CAPITAL PROJECT BUDGET

The FY 2020-21 & FY 2021-22 CleanpowerSF budget is $4.3 million for the Local Renewable Energy and Customer Programs. The Two-Year budget is revenue funded.

Local Renewable Energy Program

This project will fund the development of new renewable energy (solar photovoltaic) and battery storage projects on select SFPUC sites. Funding in FY 2020-21 and FY2021-22 will go towards planning and design. The two-year budget also includes funding for a Capital Master Plan for renewable energy projects component, that will identify/propose the best path forward for structuring the ownership/financing and operation of the facilities.

CleanPowerSF Customer Programs

This project will fund the development and implementation of new customer programs for CleanPowerSF, including programs supporting demand response, electric mobility, local renewable energy generation, and building decarbonization technologies. The two-year budget will fund the planning, development and operations of a select set of new customer programs to be developed during the next fiscal year and support additional program planning to scale and expand customer programs over the ten-year capital planning period.

CLEANPOWERSF ENTERPRISE CAPITAL BUDGET BY MAJOR PROGRAM

$ Millions Program/Project	FY 2020-21 Adopted Budget	FY 2021-22 Adopted Budget
CLEANPOWERSF COSTS		
Local Renewable Energy Program	0.4	0.5
CleanPower SF Customer Program	1.5	1.9
Total CleanPowerSF	**1.9**	**2.4**
Total CleanPowerSF	1.9	2.4
SOURCES		
Revenue	1.9	2.4
Total Sources	**1.9**	**2.4**

Page intentionally left blank

CAPITAL PLAN SUMMARY TABLES

SFPUC TEN-YEAR CAPITAL PLAN SUMMARY (CONTINUED ON NEXT PAGE...)

USES	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30
Water Enterprise	272,686,937	189,382,054	285,460,308	439,878,826	378,643,368	198,881,306	111,639,704	115,496,755	110,415,519	102,284,870
Wastewater Enterprise	162,292,881	364,404,373	550,338,137	690,944,975	712,963,530	678,990,924	485,112,366	531,676,351	493,762,887	456,381,802
Hetch Hetchy Enterprise	80,833,733	141,778,552	244,540,577	197,170,847	196,947,346	189,974,346	175,638,336	146,900,336	110,998,459	82,043,659
CleanPowerSF Enterprise	1,898,497	2,432,829	1,473,000	1,423,000	1,638,000	1,673,000	1,483,000	1,583,000	19,519,000	42,696,000
Total SFPUC USES	**517,712,048**	**697,997,808**	**1,081,812,022**	**1,329,417,648**	**1,290,192,244**	**1,069,519,576**	**773,873,406**	**795,656,442**	**734,695,865**	**683,406,331**

SOURCES										
Water Enterprise										
Debt										
Regional Bonds - Wholesale Only	-	-	-	-	-	-	-	-	-	
Regional Bonds	34,488,155	43,772,181	181,258,804	208,935,709	135,938,151	75,607,934	26,447,000	34,062,200	22,701,732	19,967,000
General Obligation Bonds - ESER 2020 & Beyond	153,000,000		-	-	-	-	-	-		
Local Bonds	36,044,782	88,432,194	35,581,504	157,323,117	164,085,217	39,653,372	20,067,704	24,790,555	15,426,735	18,998,947
Subtotal	**223,532,937**	**132,204,375**	**216,840,308**	**366,258,826**	**300,023,368**	**115,261,306**	**46,514,704**	**58,852,755**	**38,128,467**	**38,965,947**
Revenue										
Capacity Fee	**1,554,000**	1,520,000	1,520,000	1,520,000	1,520,000	1,520,000	1,580,000	1,644,000	1,644,000	1,634,000
Local Revenue	27,600,000	35,698,998	42,100,000	47,100,000	52,100,000	57,100,000	38,545,000	30,000,000	42,000,000	40,327,975
Regional Revenue	20,000,000	19,958,681	25,000,000	25,000,000	25,000,000	25,000,000	25,000,000	25,000,000	28,643,052	21,356,948
Subtotal	**49,154,000**	**57,177,679**	**68,620,000**	**73,620,000**	**78,620,000**	**83,620,000**	**65,125,000**	**56,644,000**	**72,287,052**	**63,318,923**
Total Water SOURCES	**272,686,937**	**189,382,054**	**285,460,308**	**439,878,826**	**378,643,368**	**198,881,306**	**111,639,704**	**115,496,755**	**110,415,519**	**102,284,870**

BAY CORRIDOR TRANSMISSION AND DISTRIBUTION, DAVIDSON AVENUE, EAST OF QUINT STREET (TOWARDS 3RD STREET). ATTACHMENT OF 36-INCH CASING TO THE AUGER BORING MACHINE IN THE LAUNCH OR JACKING PIT.

SFPUC TEN-YEAR CAPITAL PLAN SUMMARY (CONTINUED)

SOURCES	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30
Wastewater Enterprise										
Revenue Funding										
Revenue	107,894,500	110,252,390	122,657,438	125,110,586	127,612,798	130,165,054	132,768,355	135,423,722	138,132,197	140,894,841
Capacity Fee	5,800,000	5,319,000	5,695,000	5,695,000	5,695,000	5,695,000	5,695,000	5,695,000	5,695,000	5,695,000
Subtotal	**113,694,500**	**115,571,390**	**128,352,438**	**130,805,586**	**133,307,798**	**135,860,054**	**138,463,355**	**141,118,722**	**143,827,197**	**146,589,841**
Debt Funding										
Revenue Bonds	48,598,381	248,832,983	421,985,699	560,139,389	579,655,732	543,130,870	346,649,011	390,557,629	349,935,690	309,791,961
Subtotal	**48,598,381**	**248,832,983**	**421,985,699**	**560,139,389**	**579,655,732**	**543,130,870**	**346,649,011**	**390,557,629**	**349,935,690**	**309,791,961**
Total Wastewater SOURCES	**162,292,881**	**364,404,373**	**550,338,137**	**690,944,975**	**712,963,530**	**678,990,924**	**485,112,366**	**531,676,351**	**493,762,887**	**456,381,802**
Hetch Hetchy Enterprise										
Revenue										
Power Revenue	**-1,757,000**	-781,000	15,699,881	15,546,122	15,388,030	15,218,623	15,040,809	14,853,818	14,657,298	14,450,437
Distributed Antenna System	2,831,000	2,932,000	3,037,500	3,147,000	3,261,000	3,379,500	3,502,500	3,630,500	3,763,500	3,902,000
Power - Cap and Trade Auction Revenue	495,000	535,000	577,619	621,878	665,970	716,877	771,691	830,682	894,202	962,563
Low Carbon Fuel Standard	2,500,000	2,000,000	1,700,000	1,700,000	1,700,000	1,700,000	1,700,000	1,700,000	1,700,000	1,700,000
Subtotal	**4,069,000**	**4,686,000**	**21,015,000**	**21,015,000**	**21,015,000**	**21,015,000**	**21,015,000**	**21,015,000**	**21,015,000**	**21,015,000**
Debt										
Water Bonds	**28,368,149**	63,964,574	100,102,200	81,725,900	76,691,975	54,677,925	51,362,350	33,566,750	32,714,400	22,110,200
Power Bonds - Up-country	10,133,626	47,509,909	91,288,800	67,045,100	59,155,525	57,271,575	54,529,650	43,587,250	30,912,600	17,657,000
Power Bonds - Local	38,262,958	25,618,069	32,134,577	27,384,847	40,084,846	57,009,846	48,731,336	48,731,336	26,356,459	21,261,459
Subtotal	**76,764,733**	**137,092,552**	**223,525,577**	**176,155,847**	**175,932,346**	**168,959,346**	**154,623,336**	**125,885,336**	**89,983,459**	**61,028,659**
Total Hetch Hetchy SOURCES	**80,833,733**	**141,778,552**	**244,540,577**	**197,170,847**	**196,947,346**	**189,974,346**	**175,638,336**	**146,900,336**	**110,998,459**	**82,043,659**
CleanPowerSF Enterprise										
Revenues/Reserve	1,898,497	2,432,829	1,473,000	1,423,000	1,638,000	1,673,000	1,483,000	1,583,000	19,519,000	42,696,000
Total Wastewater SOURCES	**1,898,497**	**2,432,829**	**1,473,000**	**1,423,000**	**1,638,000**	**1,673,000**	**1,483,000**	**1,583,000**	**19,519,000**	**42,696,000**
Total SFPUC SOURCES	**517,712,048**	**697,997,808**	**1,081,812,022**	**1,329,417,648**	**1,290,192,244**	**1,069,519,576**	**773,873,406**	**795,656,442**	**734,695,865**	**683,406,331**

SFPUC TEN-YEAR PROGRAMMATIC PROJECT BUDGET

USES	FY 20-21 Approved	FY 21-22 Approved	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30
Water Enterprise	36,136,198	31,422,540	32,798,389	32,496,186	35,486,712	36,463,521	36,893,158	36,223,168	35,050,641	35,540,807
Wastewater Enterprise	7,358,108	6,570,344	6,655,917	6,685,551	6,665,330	6,644,655	6,623,405	6,601,462	6,615,790	6,631,242
Hetch Hetchy Enterprise	18,629,687	14,986,774	11,067,541	11,826,204	12,620,793	13,313,148	14,041,207	14,821,909	15,631,721	16,473,082
Total SSIP	**62,123,993**	**52,979,658**	**50,521,847**	**51,007,941**	**54,772,835**	**56,421,324**	**57,557,770**	**57,646,539**	**57,298,152**	**58,645,131**

SOURCES	FY 20-21 Approved	FY 21-22 Approved	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30
Water Enterprise										
Infrastructure - Recovery Capital (O&M)	1,142,000	1,176,000	1,211,000	1,248,000	1,248,000	1,248,000	1,285,000	1,324,000	1,324,000	1,324,000
Infrastructure - Recovery Capital (Lease)	2,650,000	2,650,000	2,650,000	2,650,000	2,650,000	2,650,000	2,650,000	2,650,000	2,650,000	2,650,000
Federal Bond Interest Subsidy	1,965,550	1,965,550	1,945,000	1,910,000	1,942,000	1,770,000	1,695,000	1,616,000	1,616,000	1,616,000
Subtotal	**5,757,550**	**5,791,550**	**5,806,000**	**5,808,000**	**5,840,000**	**5,668,000**	**5,630,000**	**5,590,000**	**5,590,000**	**5,590,000**
Revenue	**30,378,648**	**25,630,990**	**26,992,389**	**26,688,186**	**29,646,712**	**30,795,521**	**31,263,158**	**30,633,168**	**29,460,641**	**29,950,807**
Subtotal	**30,378,648**	**25,630,990**	**26,992,389**	**26,688,186**	**29,646,712**	**30,795,521**	**31,263,158**	**30,633,168**	**29,460,641**	**29,950,807**
Water Total	**36,136,198**	**31,422,540**	**32,798,389**	**32,496,186**	**35,486,712**	**36,463,521**	**36,893,158**	**36,223,168**	**35,050,641**	**35,540,807**
Wastewater Enterprise										
Infrastructure - Recovery Capital (O&M)	246,000	253,000	265,000	268,000	268,000	268,000	276,000	284,000	284,000	284,000
Infrastructure - Recovery Capital (Lease)	1,872,000	1,872,000	1,872,000	1,872,000	1,872,000	1,872,000	1,872,000	1,872,000	1,872,000	1,872,000
Federal Bond Interest Subsidy	519,724	519,724	514,000	505,000	487,000	468,000	448,000	427,000	427,000	427,000
Revenue	4,720,384	3,925,620	4,004,917	4,040,551	4,038,330	4,036,655	4,027,405	4,018,462	4,032,790	4,048,242
Wastewater Total	**7,358,108**	**6,570,344**	**6,655,917**	**6,685,551**	**6,665,330**	**6,644,655**	**6,623,405**	**6,601,462**	**6,615,790**	**6,631,242**
Hetch Hetchy Enterprise										
Infrastructure - Recovery Capital (O&M)	84,000	86,000	88,000	90,000	90,000	90,000	93,000	96,000	96,000	96,000
Infrastructure - Recovery Capital (Lease)	238,000	238,000	238,000	238,000	238,000	238,000	238,000	238,000	238,000	238,000
Federal Bond Interest Subsidy	267,589	267,589	265,000	265,000	260,000	251,000	241,000	230,000	230,000	230,000
Trans Bay Cable Payment	**3,100,000**		-	-	-	-	-	-		
Subtotal	**3,689,589**	**591,589**	**591,000**	**593,000**	**588,000**	**579,000**	**572,000**	**564,000**	**564,000**	**564,000**
Revenue										
Treasure Island	3,825,000	4,016,000	4,217,000	4,428,000	4,649,000	4,788,000	4,930,000	5,077,000	5,229,000	5,386,000
Revenue - Power	11,115,098	10,379,185	6,259,541	6,805,204	7,383,793	7,946,148	8,539,207	9,180,909	9,838,721	10,523,082
Subtotal	**14,940,098**	**14,395,185**	**10,476,541**	**11,233,204**	**12,032,793**	**12,734,148**	**13,469,207**	**14,257,909**	**15,067,721**	**15,909,082**
Hetch Hetchy Total	**18,629,687**	**14,986,774**	**11,067,541**	**11,826,204**	**12,620,793**	**13,313,148**	**14,041,207**	**14,821,909**	**15,631,721**	**16,473,082**
TOTAL SOURCES	**62,123,993**	**52,979,658**	**50,521,847**	**51,007,941**	**54,772,835**	**56,421,324**	**57,557,770**	**57,646,539**	**57,298,152**	**58,645,131**

SFPUC WATER ENTERPRISE FY 2021-2030 CAPITAL PLAN (CONTINUED ON NEXT PAGE...)

	USES	*Total Approved Project Budget	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	Total FY 21-30	After FY21-30 to Project Completion
	Regional Water													
	19056-UW Regional Water Treatment Program	**332,461,258**	**9,225,155**	**12,546,000**	**136,614,000**	**89,891,000**	**16,078,992**	**10,841,000**	**1,292,000**	**1,408,000**	**1,316,000**	**1,243,000**	**280,455,147**	**7,523,000**
	TBD-New Auth Level 2 for Regional Water Treatment RNR	**20,605,485**	865,000	865,000	865,000	910,000	911,000	911,000	915,000	965,000	979,000	980,000	9,166,000	7,523,000
1	CUW2720101-Tesla UV R&R	2,100,000	125,000	125,000	125,000	150,000	150,000	150,000	150,000	175,000	175,000	175,000	1,500,000	-
2	CUW2720202-East Bay Field R&R	3,053,000	195,000	195,000	195,000	195,000	196,000	196,000	200,000	200,000	214,000	215,000	2,001,000	-
3	CUW2720202-SVWTP R&R	8,790,000	255,000	255,000	255,000	265,000	265,000	265,000	265,000	270,000	270,000	270,000	2,635,000	5,103,000
4	CUW2720301-HTWTP R&R	4,535,000	145,000	145,000	145,000	150,000	150,000	150,000	150,000	160,000	160,000	160,000	1,515,000	2,420,000
5	CUW272031-West Bay Field R&R	2,127,485	145,000	145,000	145,000	150,000	150,000	150,000	150,000	160,000	160,000	160,000	1,515,000	-
	15479-UW Regional Water Treatment Pr	**5,582,977**	-	-	-	-	-	-	-	-	-	-	-	-
6	Multiple PW Projects	3,818,802	-	-	-	-	-	-	-	-	-	-	-	-
7	UW On-Line Water Quality Sampling	1,764,175	-	-	-	-	-	-	-	-	-	-	-	-
	15480-UW Tesla UV Facility	**4,487,108**	-	-	517,000	1,210,000	137,000	-	-	0	0	0	1,864,000	-
8	CUW2720101-Tesla Improvements	2,969,282	-	-	377,000	750,000	137,000	-	-	-	-	-	1,264,000	-
9	CUW2720101-Thomas Shaft	1,517,826	-	-	140,000	460,000	-	-	-	-	-	-	600,000	-
	15481-UW Sunol Valley Water Treatment	**248,704,688**	8,360,155	11,681,000	113,302,000	78,417,000	12,630,992	930,000	-	0	0	0	225,321,147	-
10	CUW2720210-SVWTP Ozone	165,130,000	4,500,000	7,481,000	80,000,000	58,100,000	8,900,000	630,000	-	-	-	-	159,611,000	-
11	CUW2720204-SVWTP Phase 3	59,648,688	860,155	1,000,000	25,000,000	18,540,000	2,677,992	300,000	-	-	-	-	48,378,147	-
12	CUW2720202-Pond F3East Pumps	825,000	-	-	135,000	690,000	-	-	-	-	-	-	825,000	-
13	CUW2720202-Sunol Valley Chloramination Facility	4,481,000			3,167,000	187,000	-	-	-	-	-	-	3,354,000	-
14	CUW2720202-SVWTP Phase 4	10,483,000	1,000,000	1,200,000	5,000,000	900,000	453,000	-	-	-	-	-	8,553,000	-
15	CUW2720202-Castlewood	600,000	-	-	-	-	600,000	-	-	-	-	-	600,000	-
16	CUW2720205-SVWTP Polymer Feed Facility	7,537,000	2,000,000	2,000,000	-	-	-	-	-	-	-	-	4,000,000	-
	15482-UW HTWTP & West Bay Fields	**14,481,000**	-	-	930,000	754,000	1,800,000	9,000,000	377,000	443,000	337,000	263,000	13,904,000	-
17	CUW2720301-HTWTP Improvements Capital	14,404,000	-	-	930,000	677,000	1,800,000	9,000,000	377,000	443,000	337,000	263,000	13,827,000	-
18	CUW2720301-Pulgas Dechlor Facility	77,000	-	-	-	77,000	-	-	-	-	-	-	77,000	-
	Reg Groundwater Treatment Improvements	**38,600,000**	-	-	**21,000,000**	**8,600,000**	**600,000**	-	-	-	-	-	30,200,000	-
19	CUW2720304-Reg. Groundwater Treatment Improvements	38,600,000	-	-	21,000,000	8,600,000	600,000	-	-	-	-	-	30,200,000	-
	19057-UW Water Transmission Program	**440,794,402**	-	-	**15,629,194**	**26,955,300**	**23,378,800**	**22,828,934**	**18,159,000**	**21,623,200**	**8,912,800**	**5,018,600**	**142,505,828**	**164,992,010**
	15483-UW Water Transmission Program	**9,495,000**	-	-	-	-	-	200,000	800,000	-	-	-	1,000,000	-
20	CUW2730401-Arc Flash Studies	2,700,000	-	-	-	-	-	200,000	800,000	-	-	-	1,000,000	-
21	CUW2730501-As-Needed Pipeline Repair	6,795,000	-	-	-	-	-	-	-	-	-	-	-	-
	15484-UW Corrosion Control	**24,900,000**	-	-	3,585,000	825,000	825,000	1,300,000	1,300,000	1,300,000	1,450,000	1,450,000	12,035,000	-
22	CUW2730101-Corrosion Control	24,900,000	-	-	3,585,000	825,000	825,000	1,300,000	1,300,000	1,300,000	1,450,000	1,450,000	12,035,000	-
	15485-UW Water Transmission Program	**26,126,233**	-	-	2,000,000	2,000,000	1,560,000	1,560,000	1,560,000	1,560,000	1,560,000	1,560,000	13,360,000	-
23	CUW2730200-Pipeline Inspection & Repair Project	26,126,233	-	-	2,000,000	2,000,000	1,560,000	1,560,000	1,560,000	1,560,000	1,560,000	1,560,000	13,360,000	-
	15487-UW Pump Station Upgrades	**60,770,000**	-	-	7,418,000	5,872,000	2,320,000	4,220,000	12,020,000	6,370,000	2,600,000	-	40,820,000	12,253,000
24	CUW2730401-Calaveras Substation Upgrades	30,500,000	-	-	-	-	-	600,000	10,000,000	5,000,000	2,600,000	-	18,200,000	11,700,000
25	CUW2730401-Crystal Springs Pump Station Upgrades	5,000,000	-	-	600,000	3,850,000	-	-	-	-	-	-	4,450,000	-
26	CUW2730401-Pulgas Pump Station Upgrades	3,665,000	-	-	575,000	835,000	1,805,000	-	-	-	-	-	3,215,000	-
27	CUW2730401-Baden Pump Station Upgrades	850,000	-	-	213,000	187,000	-	-	-	-	-	-	400,000	-
28	CUW2730401-San Antonio Pump Station MCC Upgrades	12,500,000	-	-	6,000,000	300,000	300,000	-	-	-	-	-	6,600,000	553,000
29	CUW2730401-San Antonio Pump Station Upgrades	8,255,000	-	-	30,000	700,000	215,000	3,620,000	2,020,000	1,370,000	-	-	7,955,000	-
	15488-UW Pipeline Improvements	**282,453,690**	-	-	100,000	15,300,000	16,000,000	12,988,934	800,000	10,700,000	1,600,000	300,000	57,788,934	142,040,000
30	CUW2730501-Sunol Valley Pipelines Seismic Upgrades	15,300,000	-	-	-	-	1,000,000	900,000	800,000	10,700,000	1,600,000	300,000	15,300,000	-
31	CUW2730501-Regional Water System Tunnels Inspection	4,340,000	-	-	-	-	-	-	-	-	-	-	-	2,340,000
32	CUW2730504-San Andreas Pipeline No. 2 Replacement	40,654,307	-	-	-	-	-	-	-	-	-	-	-	-
33	CUW2730506-BDPL4-B Lining Repair	9,350,000	-	-	-	-	-	-	-	-	-	-	-	2,450,000
34	CUW2730507-PCCP Repair	54,750,000	-	-	-	-	-	-	-	-	-	-	-	49,250,000
35	CUW2730510-CSPL2 Reach 5 Lining Replacement	13,031,084	-	-	-	11,000,000	-	-	-	-	-	-	11,000,000	0
36	CUW2730515-Palo Alto Pipeline Replacement	90,000,000	-	-	-	-	-	-	-	-	-	-	-	88,000,000
37	CSPL2 Reaches 2 and 3 Rehabilitation	55,028,299	-	-	100,000	4,300,000	15,000,000	12,088,934	-	-	-	-	31,488,934	-
	15489-UW Valve Replacement	**14,553,000**	-	-	1,276,194	1,658,300	1,210,800	1,000,000	105,000	110,200	115,800	121,600	5,597,894	3,463,057
38	CUW2730601-Regional WQ Cross Connection Program	14,553,000	-	-	1,276,194	1,658,300	1,210,800	1,000,000	105,000	110,200	115,800	121,600	5,597,894	3,463,057
	New Authority Level 2 - WTR Transmission R&R	**22,496,479**	-	-	1,250,000	1,300,000	1,463,000	1,560,000	1,574,000	1,583,000	1,587,000	1,587,000	11,904,000	7,235,953
39	CUW2730601-Valve Replacement RNR	3,307,479	-	-	200,000	200,000	300,000	350,000	350,000	350,000	350,000	350,000	2,450,000	-
40	CUW2730401-Pump Station Upgrades RNR	8,110,000	-	-	300,000	300,000	250,000	250,000	250,000	250,000	250,000	250,000	2,100,000	4,910,000
41	CUW2730901-Metering Upgrades RNR	2,542,000	-	-	150,000	150,000	206,000	220,000	224,000	226,000	230,000	230,000	1,636,000	606,000
42	CUW2730701-Vault Upgrades RNR	8,537,000	-	-	600,000	650,000	707,000	740,000	750,000	757,000	757,000	757,000	5,718,000	1,719,953
	19058-UW Water Supply and Storage	**385,225,590**	-	**29,842,000**	**35,280,000**	**35,710,000**	**56,371,242**	**60,280,000**	**25,280,000**	**28,280,000**	**34,300,984**	**28,187,348**	**333,531,574**	**7,403,074**
	15493-UW Dam Structural Upgrades	**92,984,348**	-	-	3,780,000	5,680,000	16,371,242	5,280,000	5,280,000	8,280,000	14,300,984	8,187,348	67,159,574	7,403,074
43	CUW2740102-Pilarcitos Dam Improvements	30,087,348	-	-	1,000,000	1,000,000	4,000,000	2,000,000	2,000,000	5,000,000	5,000,000	3,407,348	23,407,348	-
44	CUW2740103-San Andreas Dam Facility Improvements	32,195,000	-	-	1,000,000	1,000,000	8,000,000	2,000,000	2,000,000	2,000,000	7,520,984	3,000,000	26,520,984	530,016
45	CUW2740104-Turner Dam and Reservoir Improvements (Interim)	7,500,000	-	-	1,000,000	1,000,000	500,000	500,000	500,000	500,000	1,000,000	1,000,000	6,000,000	-
46	CUW2740106-Dam Condition Assessments and Related Studies	11,120,000	-	-	780,000	780,000	780,000	780,000	780,000	780,000	780,000	780,000	6,240,000	3,132,300
47	CUW2740501-Merced Manor Reservoir Facilities Repairs	12,082,000	-	-	-	1,900,000	3,091,242	-	-	-	-	-	4,991,242	3,740,758
	15497-UW Calaveras Dam And Reservoir	**2,071,242**	-	-	1,500,000	30,000	-	-	-	-	-	-	1,530,000	-
48	CUW2740500-Calaveras Dam HOS	2,071,242	-	-	1,500,000	30,000	-	-	-	-	-	-	1,530,000	-
	15498-UW Bay Area Regional Reliability	**2,170,000**	-	-	-	-	-	-	-	-	-	-	-	-
49	UW Bay Area Regional Reliability	2,170,000			-	-	-	-	-				-	-
	TBD- New Auth Level 2 for Purified Water & Other Supplies	**288,000,000**	-	29,842,000	30,000,000	30,000,000	40,000,000	55,000,000	20,000,000	20,000,000	20,000,000	20,000,000	264,842,000	-
50	CUW2740301-Purified Water & Other Supplies	171,500,000	-	10,000,000	20,000,000	20,000,000	20,000,000	20,000,000	20,000,000	20,000,000	20,000,000	20,000,000	170,000,000	-
51	CUW2740301-Daly City Recycled Water Expansion Project	85,000,000	-	5,500,000	10,000,000	10,000,000	20,000,000	35,000,000	-	-	-	-	80,500,000	-
52	CUW-TBD-Crystal Springs Purified Water Project	4,500,000	-	2,000,000	-	-	-	-	-	-	-	-	2,000,000	-

*The total includes funds appropriated in prior years not shown in this 10 year plan.

SFPUC WATER ENTERPRISE FY 2021-2030 CAPITAL PLAN (CONTINUED)

	USES	*Total Approved Project Budget	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	Total FY 21-30	After FY21-30 to Project Completion
53	CUW-TBD-SFPUC-ACWD-USD Purified Water Partnership	5,000,000	-	1,500,000	-	-	-	-	-	-	-	-	1,500,000	-
54	CUW-TBD-Bay Area Brackish Water Desalination (Regional)	5,000,000	-	2,500,000	-	-	-	-	-				2,500,000	-
55	CUW-TBD-Los Vaqueros Reservoir Expansion Project	10,500,000	-	6,500,000	-	-	-	-	-	-	-	-	6,500,000	-
56	CUW-TBD-Conveyance Alternatives	3,000,000	-	1,000,000	-	-	-	-	-	-	-	-	1,000,000	-
57	CUW-TBD-Calaveras Reservoir Expansion Project	3,500,000	-	842,000	-	-	-	-	-	-	-	-	842,000	-
	19059-UW Watersheds and Land Management	**92,804,502**	**37,720,000**	**14,861,000**	**2,812,000**	**2,350,000**	**2,350,000**	**2,355,000**	**2,355,000**	**2,355,000**	**2,360,000**	**2,360,000**	**71,878,000**	**2,000,000**
	15499-UW Watershed & Land Management	**3,035,000**	-	-	100,000	100,000	100,000	105,000	105,000	105,000	110,000	110,000	835,000	2,000,000
58	CUW27502-Bay Area Watershed and ROW Protection Program	3,035,000	-	-	100,000	100,000	100,000	105,000	105,000	105,000	110,000	110,000	835,000	2,000,000
	15503-UW Bay Area Watershed and ROW Protection Pr	**44,698,042**	21,200,000	6,300,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	43,500,000	-
59	Sneath Lane Gate/North San Andreas	6,698,042	1,200,000	4,300,000	-	-	-	-	-	-	-	-	5,500,000	-
60	CUW2751401-Watershed and ROW Protection - Land Acquisition	38,000,000	20,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	38,000,000	-
	15505-UW Ebrpd Water System	**5,376,000**	300,000	300,000	-	-	-	-	-	-	-	-	600,000	
61	EBRPD Water System	5,376,000	300,000	300,000	-	-	-	-	-	-	-	-	600,000	-
	15507-UW Row Gaps Project	**3,600,000**	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	2,500,000	
62	Row Gaps Project	3,600,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	2,500,000	-
	15508-UW Skyline Ridge Trail	**21,805,437**	15,170,000	205,000	-	-	-	-	-	-	-	-	15,375,000	-
63	CUW275N0203-So. Skyline Blvd. Ridge Trail Ext. (approx 5 mi.)	21,805,437	15,170,000	205,000	-	-	-	-	-	-	-	-	15,375,000	-
	15511-UW Native Plant Nursery	**4,722,243**	-	-	462,000	-	-	-	-	-	-	-	462,000	
64	Native Plant Nursery	4,722,243			462,000	-	-	-	-				462,000	-
	15512-Sa-1 Service Road-Ingoing Road	**9,567,779**	800,000	7,806,000	-	-	-	-	-	-	-	-	8,606,000	
65	UW Sa-1 Service Road/Ingoing Road	9,567,779	800,000	7,806,000	-	-	-	-	-				8,606,000	-
	19060-UW Communication and Monitoring Program	**25,359,712**	**500,000**	**481,862**	**500,000**	**725,409**	**1,515,000**	**565,000**	**565,000**	**1,570,000**	**580,000**	**580,000**	**7,582,271**	**-**
	15514-UW Microwave Backbone Upgrade	**18,897,850**	-	-	-	210,409	1,000,000	50,000	50,000	1,050,000	50,000	50,000	2,460,409	-
66	CUW2760101-Microwave Backbone System	1,835,468	-	-	-	-	-	-	-	1,000,000	-	-	1,000,000	-
67	CUW2760101-Tesla/Thomas Shaft Microwave to SVCF & Radio Rplmt	5,750,000	-	-	-	210,409	1,000,000	50,000	50,000	50,000	50,000	50,000	1,460,409	-
68	Radio Communication	11,312,382			-	-	-	-	-				-	-
	15515-UW Security System	**6,461,862**	500,000	481,862	500,000	515,000	515,000	515,000	515,000	520,000	530,000	530,000	5,121,862	-
69	CUW2760201-WST Security System	6,461,862	500,000	481,862	500,000	515,000	515,000	515,000	515,000	520,000	530,000	530,000	5,121,862	-
	19061-UW Buildings and Grounds - Regional	**317,288,799**	**3,000,000**	**2,000,000**	**11,966,610**	**74,930,000**	**59,462,117**	**2,200,000**	**2,200,000**	**2,205,000**	**2,210,000**	**2,225,000**	**162,398,727**	**20,707,895**
	15517-UW Sunol Long Term Improvement	**100,414,000**	-	-	-	-	-	-	-	-	-	-	-	-
70	CUW2770101-Sunol Long Term (Watershed Center and Yard Improvement	100,414,000	-	-	-	-	-	-	-	-	-	-	-	-
	15518-UW Sunol Yard Upgrades	**3,863,000**	-	-	322,000	333,000	335,000	335,000	335,000	335,000	335,000	335,000	2,665,000	158,000
71	CUW2770202-Sunol Yard Interim Improvements	3,863,000	-	-	322,000	333,000	335,000	335,000	335,000	335,000	335,000	335,000	2,665,000	158,000
	15519-UW Millbrae Yard Upgrade	**193,346,799**	3,000,000	2,000,000	9,894,610	72,847,000	57,827,117	515,000	515,000	520,000	520,000	530,000	148,168,727	15,949,895
72	MILLBRAE YARD SECURITY UPGRADE	2,790,000			-	-	-	-	-				-	-
73	CUW2770301-Millbrae Warehouse Settlement & Admin. Bldg. HVAC	5,500,000	-	-	430,000	125,000	-	-	-	-	-	-	555,000	-
74	CUW2770304-Millbrae Yard Lab & Shops	169,563,000	-	2,000,000	8,964,610	72,222,000	57,312,117	-	-	-	-	-	140,498,727	14,910,883
75	CUW2770302-Millbrae Yard Interim Improvements	6,950,000	-	-	500,000	500,000	515,000	515,000	515,000	520,000	520,000	530,000	4,115,000	687,012
76	CUW2770301-Rollins Road Building Renovation	5,191,799	3,000,000	-	-	-	-	-	-	-	-	-	3,000,000	-
77	CUW2770301-SVWTP WQD Trailer	3,352,000	-	-	-	-	-	-	-	-	-	-	-	352,000
	TBD - WTR Buildings and Grounds R&R	**19,665,000**	-	-	1,750,000	1,750,000	1,300,000	1,350,000	1,350,000	1,350,000	1,355,000	1,360,000	11,565,000	4,600,000
78	CUW2770501-Rollins Road Building RNR	4,665,000	-	-	250,000	250,000	300,000	350,000	350,000	350,000	355,000	360,000	2,565,000	1,600,000
79	CUW2770601-Buildings & Grounds All Locations RNR	15,000,000	-	-	1,500,000	1,500,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	9,000,000	3,000,000
	19069-UW Long Term Monitoring & Perm	**92,075,840**	**4,043,000**	**4,000,000**	**3,457,000**	**3,374,000**	**1,782,000**	**1,538,000**	**1,596,000**	**1,621,000**	**1,665,000**	**1,710,000**	**24,786,000**	**9,577,866**
	15549-UW Long Term Monitoring & Perm	72,853,408	4,043,000	4,000,000	3,457,000	3,374,000	1,782,000	1,538,000	1,596,000	1,621,000	1,665,000	1,710,000	24,786,000	9,577,866
80	CUW28600-Long Term Monitoring & Permit Program (Capital)	46,383,000	4,043,000	4,000,000	3,457,000	3,374,000	1,782,000	1,538,000	1,596,000	1,621,000	1,665,000	1,710,000	24,786,000	9,577,866
81	Alameda Watershed Monitoring	26,470,408			-	-	-	-	-				-	0
	15551-UW Peninsula Watershed Monitor	**19,222,432**	-	-	-	-	-	-	-	-	-	-	-	
82	Peninsula Watershed Monitoring	19,222,432			-	-	-	-	-				-	-
	19157-UW Facilities Maintenance - WSTD	**-**	-	-	-	-	-	-	-	-	-	-	**-**	**-**
	Base Funded by WSIP												-	-
	Base Funded by WSIP (Multiple Projects)	-	-	-	-	-	-	-	-	-	-	-	-	-
	REGIONAL WATER TOTAL	**1,686,010,103**	**54,488,155**	**63,730,862**	**206,258,804**	**233,935,709**	**160,938,151**	**100,607,934**	**51,447,000**	**59,062,200**	**51,344,784**	**41,323,948**	**1,023,137,547**	**212,203,845**

*The total includes funds appropriated in prior years not shown in this 10 year plan.

SFPUC WATER ENTERPRISE FY 2021-2030 CAPITAL PLAN (CONTINUED)

	USES	*Total Approved Project Budget	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	Total FY 21-30	After FY21-30 to Project Completion
	Local Water													
	80119-Water Supply Projects	**15,902,000**	**2,702,000**	**6,700,000**	**500,000**	**500,000**	**-**	**-**	**-**	**-**	**-**	**-**	**10,402,000**	**-**
	20711-Water Diversification Projects	**15,902,000**	2,702,000	6,700,000	500,000	500,000	-	-	-	-	-	-	10,402,000	-
83	CUW278N04-Groundwater - Irrigation Well Decommission	700,000	700,000	-	-	-	-	-	-	-	-	-	700,000	-
84	CUW-TBD-Sunset Boulevard Recycled Water Irrigation Project	1,802,000	602,000	1,200,000	-	-	-	-	-	-	-	-	1,802,000	-
85	CUW-TBD-San Francisco Zoo Recycled Water Pipeline Project	3,100,000	600,000	2,500,000	-	-	-	-	-	-	-	-	3,100,000	-
86	CUW-TBD-SF Eastside Satellite Recycled Water Project	4,800,000	800,000	3,000,000	500,000	500,000	-	-	-	-	-	-	4,800,000	-
87	Water Supply Projects	5,500,000	-	-	-	-	-	-	-	-	-	-	-	-
	19054-UW Treasure Island Capital Imp	**1,764,175**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	15465-UW Trasure Island Capital Impr	**9,751,189**	-	-	-	-	-	-	-	-	-	-	-	-
88	Treasure Island Capital Improv	9,751,189											-	-
	19062-UW Local Water Supply-other Re	**5,726,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	15522-UW Local Water Supply-other Re	**5,726,000**	-	-	-	-	-	-	-	-	-	-	-	-
89	Local Water Supply/Other Recyc	5,726,000											-	-
	19063-UW Local Water Conveyance-dist	**1,037,476,615**	**34,575,000**	**71,350,998**	**57,405,200**	**82,116,216**	**77,875,162**	**56,908,157**	**56,605,322**	**51,822,000**	**51,958,000**	**52,098,000**	**592,714,055**	**-**
	15527-UW New Services	**122,704,612**	10,000,000	10,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	84,000,000	-
90	UW New Services	122,704,612	10,000,000	10,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	84,000,000	-
	15528-UW Renew Services	**100,112,376**	6,050,000	6,670,000	8,418,000	9,994,000	8,614,000	7,811,000	7,364,000	7,494,000	7,629,000	7,768,000	77,812,000	-
91	UW Renew Services	52,300,376	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	30,000,000	-
92	CUW-TBD-GIS Program	7,658,000	600,000	875,000	695,000	716,000	738,000	760,000	783,000	806,000	830,000	855,000	7,658,000	-
93	CUW-TBD-Local Water - Lead Component Services Program	31,340,000	1,500,000	1,545,000	3,183,000	3,278,000	3,376,000	3,477,000	3,581,000	3,688,000	3,799,000	3,913,000	31,340,000	-
94	CUW-TBD-Local Water - Water Loss Reduction Program	6,114,000	750,000	750,000	540,000	2,000,000	1,500,000	574,000	-	-	-	-	6,114,000	-
95	CUW-XXX-TBD-Water Quality Distribution System	2,700,000	200,000	500,000	1,000,000	1,000,000	-	-	-	-	-	-	2,700,000	-
	15526-UW Local Water Conveyance-dist	**12,741,206**	-	-	-	-	-	-	-	-	-	-	-	-
96	UW Local Water Conveyance-dist	12,741,206	-	-	-	-	-	-	-	-	-	-	-	-
	15531-UW Pipeline Replacement	**792,839,421**	18,000,000	53,125,998	40,649,200	63,780,216	60,915,162	41,054,157	41,197,322	36,282,000	36,282,000	36,282,000	427,568,055	-
97	CUW280-Local Water Conveyance / Distribution System	677,693,364	-	34,165,998	36,282,000	36,282,000	36,282,000	36,282,000	36,282,000	36,282,000	36,282,000	36,282,000	324,421,998	-
98	CUW28002-Local Water Conveyance Better Market Street	31,426,057	4,000,000	4,240,000	4,367,200	4,498,216	4,633,162	4,772,157	4,915,322	-	-	-	31,426,057	-
99	CUW28003-Local Water Conveyance Joint Transit Project	24,720,000	12,000,000	12,720,000	-	-	-	-	-	-	-	-	24,720,000	-
100	CUW280-05-Van Ness BRT Project	4,000,000	2,000,000	2,000,000	-	-	-	-	-	-	-	-	4,000,000	-
101	CWWSP-Potable Emergency Firefighting Water System	55,000,000	-	-	-	23,000,000	20,000,000	-	-	-	-	-	43,000,000	-
	20504-New Services Connection Program	**4,079,000**	-	480,000	338,000	342,000	346,000	43,000	44,000	46,000	47,000	48,000	1,734,000	-
102	CUWXXX-CDD Asset Management Platform	4,079,000	-	480,000	338,000	342,000	346,000	43,000	44,000	46,000	47,000	48,000	1,734,000	-
	20505-Town of Sunol Pipeline	**5,000,000**	525,000	1,075,000	-	-	-	-	-	-	-	-	1,600,000	-
103	CUW26308-Town of Sunol Pipeline	5,000,000	525,000	1,075,000	-	-	-	-	-	-	-	-	1,600,000	-
	19064-UW Pacific Rod & Gun Club Remediation	**5,777,166**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	15532-UW Pacific Rod & Gun Club Remediation	**3,336,166**	-	-	-	-	-	-	-	-	-	-	-	-
104	CUW281-520 John Muir Drive - Site Rehabilitation	3,336,166	-	-	-	-	-	-	-	-	-	-	-	-
	20503-520 John Muir Dr Site Rehab	**2,441,000**			-	-	-	-	-	-	-	-	-	-
105	520 John Muir Drive - Site Reh	2,441,000	-	-	-	-	-	-	-	-	-	-	-	-
	19065-UW Systems Monitoring & Control	**7,619,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	15534-UW Systems Monitoring & Control	**2,957,918**	-	-	-	-	-	-	-	-	-	-	-	-
106	CUW28201-Security	2,957,918	-	-	-	-	-	-	-	-	-	-	-	-
	15536-UW Commnication	**3,616,223**	-	-	-	-	-	-	-	-	-	-	-	-
107	CUW28202-Communications	3,616,223	-	-	-	-	-	-	-	-	-	-	-	-
	15537-UW Controls	**1,044,859**	-	-	-	-	-	-	-	-	-	-	-	-
108	CUW28203-Controls	1,044,859	-	-	-	-	-	-	-	-	-	-	-	-
	19066-UW Local Reservoir Tank Improv	**37,823,145**	**3,475,000**	**5,265,000**	**350,000**	**350,000**	**350,000**	**350,000**	**575,000**	**1,600,000**	**4,100,000**	**5,850,000**	**22,265,000**	**-**
	15538-UW Local Reservoir - Budget	**15,950,000**	325,000	2,000,000	350,000	350,000	350,000	350,000	575,000	1,600,000	4,100,000	5,850,000	15,850,000	-
109	Sunset South Basin	8,000,000		-	-	-	-	-	-		2,500,000	5,500,000	8,000,000	-
110	Summit Reservoir	225,000	125,000										125,000	-
111	Stanford Height Reservior	225,000							225,000				225,000	-
112	U Mound South Basin Improvements	2,500,000								1,250,000	1,250,000		2,500,000	-
113	CUW283-06-Reservoir Roof and Tank Coatings	5,000,000	200,000	2,000,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	5,000,000	-
	15539-UW College Hill Reservoir	**19,283,145**	3,000,000	1,000,000	-	-	-	-	-	-	-	-	4,000,000	-
114	CUW28301-College Hill Reservoir	19,283,145	3,000,000	1,000,000	-	-	-	-	-	-	-	-	4,000,000	-
	21006-UW Local Reservoir - Budget	**2,590,000**	150,000	2,265,000	-	-	-	-	-	-	-	-	2,415,000	-
115	CUW-N03-Lombard Geotechnical Improvements	2,590,000	150,000	2,265,000	-	-	-	-	-	-	-	-	2,415,000	-
	19067-UW Pump Station Improvements	**9,186,629**	**-**	**200,000**	**-**	**500,000**	**1,500,000**	**450,000**	**-**	**-**	**-**	**-**	**2,650,000**	**-**
	15543-Pump Station Improvements	**2,450,000**	-	-	-	500,000	1,500,000	450,000	-	-	-	-	2,450,000	-
116	CUW284_N06-LMPS and APS Suction Valve Automation	2,450,000	-	-	-	500,000	1,500,000	450,000	-	-	-	-	2,450,000	-
	15546-UW Bay Bridge West Pump Station	**209,489**	-	200,000	-	-	-	-	-	-	-	-	200,000	-
117	CUW28403-Bay Bridge West PS	209,489	-	200,000	-	-	-	-	-	-	-	-	200,000	-
	15547-UW Harding Park Pump Station	**6,527,140**	-	-	-	-	-	-	-	-	-	-	-	-
118	CUW28404-Harding Park PS	6,527,140	-	-	-	-	-	-	-	-	-	-	-	-
	19072-UW Recycled Water Project	**213,316,323**	**5,057,144**	**4,664,854**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**9,721,998**	**-**
	15558-UW Reycled Water Project	**213,316,323**	5,057,144	4,664,854	-	-	-	-	-	-	-	-	9,721,998	-
119	CUW30201-San Francisco Westside Recycled Water	213,316,323	5,057,144	4,664,854	-	-	-	-	-	-	-	-	9,721,998	-

*The total includes funds appropriated in prior years not shown in this 10 year plan.

SFPUC WATER ENTERPRISE FY 2021-2030 CAPITAL PLAN

	USES	*Total Approved Project Budget	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	Total FY 21-30	After FY21-30 to Project Completion
	19112-UW Automated Meter Reading System	**102,050,914**	**4,239,638**	**2,970,340**	**3,222,304**	**3,011,901**	**3,162,055**	**3,162,215**	**3,012,382**	**3,012,555**	**3,012,735**	**3,012,922**	**31,819,047**	**-**
	15612-UW Automated Meter Reading Sys	**102,050,914**	4,239,638	2,970,340	3,222,304	3,011,901	3,162,055	3,162,215	3,012,382	3,012,555	3,012,735	3,012,922	31,819,047	-
120	AWMP Completion (FY21) and Replacement Planning (FY 2-26)	71,336,479	804,612				150,000	150,000					1,104,612	-
121	AWMP Renewal and Meters	17,713,336	1,543,664	1,635,576	1,816,762	1,816,762	1,816,762	1,816,762	1,816,762	1,816,762	1,816,762	1,816,762	17,713,336	-
122	Large Meter Renewals	12,020,288	1,364,046	1,125,914	1,191,291	1,191,291	1,191,291	1,191,291	1,191,291	1,191,291	1,191,291	1,191,291	12,020,288	-
123	BCC Meter Program	980,811	527,316	208,850	214,251	3,848	4,002	4,162	4,329	4,502	4,682	4,869	980,811	-
	19114-UW Buildings & Grounds Improvements - Local	**364,825,168**	**15,150,000**	**34,500,000**	**17,724,000**	**119,465,000**	**134,818,000**	**37,403,000**	**-**	**-**	**-**	**-**	**359,060,000**	**-**
	15617-UW Buildings & Grounds Improvements - Local	**14,633,168**	-	4,350,000	2,224,000	1,294,000	347,000	653,000	-	-	-	-	8,868,000	-
124	CUW688-Buildings & Grounds Improvement - Local	1,150,000	-	-	-	-	-	-	-	-	-	-	-	-
125	CUW688-12-Additional Newcomb Yard Improvements - NEW	13,483,168	-	4,350,000	2,224,000	1,294,000	347,000	653,000	-	-	-	-	8,868,000	-
	New Auth Level 2 - TBD	**350,192,000**	15,150,000	30,150,000	15,500,000	118,171,000	134,471,000	36,750,000	-	-	-	-	350,192,000	-
126	CUW688-N02-New CDD Headquarters	350,192,000	15,150,000	30,150,000	15,500,000	118,171,000	134,471,000	36,750,000	-	-	-	-	350,192,000	-
	19115-UW Pacifica Recycled Water Program	**5,950,089**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	15629-UW Pacifica Recycled Water Project	**5,950,089**	-	-	-	-	-	-	-	-	-	-	-	-
127	Pacifica Recycled Water Project	5,950,089	-	-	-	-	-	-	-	-	-	-	-	-
	19124-Auxiliary Water Supply System	**153,000,000**	**153,000,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**153,000,000**	**-**
	15670-UW Auxilliary Water Supply System	**153,000,000**	153,000,000	-	-	-	-	-	-	-	-	-	153,000,000	-
128	CUWAW3-ESER 2020	153,000,000	153,000,000	-	-	-	-	-	-	-	-	-	153,000,000	-
129	**LOCAL WATER TOTAL**	**1,960,417,224**	**218,198,782**	**125,651,192**	**79,201,504**	**205,943,117**	**217,705,217**	**98,273,372**	**60,192,704**	**56,434,555**	**59,070,735**	**60,960,922**	**1,181,632,100**	**-**
130														
131	**Total USES**	**3,646,427,327**	**272,686,937**	**189,382,054**	**285,460,308**	**439,878,826**	**378,643,368**	**198,881,306**	**111,639,704**	**115,496,755**	**110,415,519**	**102,284,870**	**2,204,769,647**	**212,203,845**
132														

133	SOURCES	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	FY 21-30
134	**Debt**											
135	Regional Bonds - Wholesale Only	-	-	-	-	-	-	-	-	-		-
136	Regional Bonds	34,488,155	43,772,181	181,258,804	208,935,709	135,938,151	75,607,934	26,447,000	34,062,200	22,701,732	19,967,000	783,178,866
137	General Obligation Bonds - ESER 2020 & Beyond	153,000,000		-	-	-	-	-	-			153,000,000
138	Local Bonds	36,044,782	88,432,194	35,581,504	157,323,117	164,085,217	39,653,372	20,067,704	24,790,555	15,426,735	18,998,947	600,404,127
139	**Subtotal**	**223,532,937**	**132,204,375**	**216,840,308**	**366,258,826**	**300,023,368**	**115,261,306**	**46,514,704**	**58,852,755**	**38,128,467**	**38,965,947**	**1,536,582,993**
140	**Revenue**											
141	Capacity Fee	1,554,000	1,520,000	1,520,000	1,520,000	1,520,000	1,520,000	1,580,000	1,644,000	1,644,000	1,634,000	15,656,000
142	Local Revenue	27,600,000	35,698,998	42,100,000	47,100,000	52,100,000	57,100,000	38,545,000	30,000,000	42,000,000	40,327,975	412,571,973
143	Regional Revenue	20,000,000	19,958,681	25,000,000	25,000,000	25,000,000	25,000,000	25,000,000	25,000,000	28,643,052	21,356,948	239,958,681
144	**Subtotal**	**49,154,000**	**57,177,679**	**68,620,000**	**73,620,000**	**78,620,000**	**83,620,000**	**65,125,000**	**56,644,000**	**72,287,052**	**63,318,923**	**668,186,654**
145												
146	**Total SOURCES**	**272,686,937**	**189,382,054**	**285,460,308**	**439,878,826**	**378,643,368**	**198,881,306**	**111,639,704**	**115,496,755**	**110,415,519**	**102,284,870**	**2,204,769,647**
147	Surplus / (Shortfall)	-	-	-	-	-	-	-	-	-	-	-

*The total includes funds appropriated in prior years not shown in this 10 year plan.

SFPUC WATER ENTERPRISE FY 2021-2030 PROGRAMMATIC PROJECT BUDGET

	USES	FY 20-21 Requested	FY 21-22 Requested	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	Total FY 21-30
1	Natural Resources Planning	1,050,000	996,490	1,162,000	723,000	571,000	586,000	602,000	619,000	635,000	653,000	7,597,490
2	Landscape Conservation Program	1,000,000	-	-	-	500,000	1,000,000	1,000,000	-			3,500,000
3	Long-term Monitoring and Permitting	9,219,000	7,758,969	9,440,000	10,426,000	12,967,000	13,330,000	13,643,000	13,834,000	14,235,000	14,645,000	119,497,969
4	Watershed Structures Upgrades -Cottages	486,000	486,000	486,000	503,000	503,000	503,000	503,000	514,000	514,000	514,000	5,012,000
5	Watershed & ROW Infrastructure	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	30,000,000
6	AWSS Maintenance	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	15,000,000
7	Water Resource Planning and Development	500,000	500,000	500,000	-	-	-	-	-			1,500,000
8	Treasure Island Facilities Maintenance	1,350,000	1,390,500	1,431,000	1,474,000	1,518,000	1,560,000	1,600,000	1,650,000			11,973,500
9	Retrofit Grant Program	700,000	481,862	500,000	-	-	-	-	-			1,681,862
10	Youth Employment Project	1,290,000	1,290,000	1,290,000	1,290,000	1,290,000	1,290,000	1,290,000	1,290,000	1,290,000	1,290,000	12,900,000
	Subtotal	**20,095,000**	**17,403,821**	**19,309,000**	**18,916,000**	**21,849,000**	**22,769,000**	**23,138,000**	**22,407,000**	**21,174,000**	**21,602,000**	**208,662,821**
	525 Golden Gate											
11	525 Golden Gate - Operations and Maintenance	6,874,055	4,186,000	4,311,000	4,441,000	4,575,000	4,710,000	4,851,000	4,995,000	5,145,000	5,300,000	49,388,055
12	525 Golden Gate - Lease Payment	9,167,143	9,832,719	9,178,389	9,139,186	9,062,712	8,984,521	8,904,158	8,821,168	8,731,641	8,638,807	90,460,444
	Subtotal	**16,041,198**	**14,018,719**	**13,489,389**	**13,580,186**	**13,637,712**	**13,694,521**	**13,755,158**	**13,816,168**	**13,876,641**	**13,938,807**	**139,848,499**
	Total USES	**36,136,198**	**31,422,540**	**32,798,389**	**32,496,186**	**35,486,712**	**36,463,521**	**36,893,158**	**36,223,168**	**35,050,641**	**35,540,807**	**348,511,320**

	SOURCES	FY 20-21 Requested	FY 21-22 Requested	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	FY 21-30
	Other											
13	Infrastructure - Recovery Capital (O&M)	1,142,000	1,176,000	1,211,000	1,248,000	1,248,000	1,248,000	1,285,000	1,324,000	1,324,000	1,324,000	12,530,000
14	Infrastructure - Recovery Capital (Lease)	2,650,000	2,650,000	2,650,000	2,650,000	2,650,000	2,650,000	2,650,000	2,650,000	2,650,000	2,650,000	26,500,000
15	Federal Bond Interest Subsidy	1,965,550	1,965,550	1,945,000	1,910,000	1,942,000	1,770,000	1,695,000	1,616,000	1,616,000	1,616,000	18,041,100
	Subtotal	**5,757,550**	**5,791,550**	**5,806,000**	**5,808,000**	**5,840,000**	**5,668,000**	**5,630,000**	**5,590,000**	**5,590,000**	**5,590,000**	**57,071,100**
	Revenue											
16	Revenue	30,378,648	25,630,990	26,992,389	26,688,186	29,646,712	30,795,521	31,263,158	30,633,168	29,460,641	29,950,807	291,440,220
	Subtotal	**30,378,648**	**25,630,990**	**26,992,389**	**26,688,186**	**29,646,712**	**30,795,521**	**31,263,158**	**30,633,168**	**29,460,641**	**29,950,807**	**291,440,220**
	Total SOURCES	**36,136,198**	**31,422,540**	**32,798,389**	**32,496,186**	**35,486,712**	**36,463,521**	**36,893,158**	**36,223,168**	**35,050,641**	**35,540,807**	**348,511,320**
	Surplus / (Shortfall)	-	-	-	-	-	-	-	-	-	-	-

SFPUC WASTEWATER ENTERPRISE FY 2021-2030 CAPITAL PLAN (CONTINUED ON NEXT PAGE...)

	Project	*Total Approved Project Budget	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY27-28	FY 28-29	FY29-30	Total FY 21-30	After FY21-30 to Project Completion
	19142 - WW Sewer System Improvement Program													
	Program Management													
	15733-WW Ssip Program-wide Management													
	Program Management	**320,000,000**	**-**	**-**	**7,000,000**	**10,000,000**	**9,143,143**	**14,000,000**	**14,000,000**	**13,000,000**	**12,000,000**	**10,000,000**	**89,143,143**	**79,018,000**
1	Phase 1 Program Management	175,000,000	-	-	7,000,000	10,000,000	6,161,143	-	-	-	-	-	23,161,143	-
2	Other SSIP Program Management	145,000,000	-	-	-	-	2,982,000	14,000,000	14,000,000	13,000,000	12,000,000	10,000,000	65,982,000	79,018,000
	Land Reuse	**90,100,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
3	LAND REUSE 1800 JERROLD	85,000,000	-	-	-	-	-	-	-	-	-	-	-	-
4	LAND REUSE OF 1801 JERROLD	5,100,000	-	-	-	-	-	-	-	-	-	-	-	-
	Biofuel/Alternative Energy Studies	**1,857,887**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
5	Biofuel/Alternative Energy Studies	1,857,887	-	-	-	-	-	-	-	-	-	-	-	-
	Subtotal	**411,957,887**	-	-	7,000,000	10,000,000	9,143,143	14,000,000	14,000,000	13,000,000	12,000,000	10,000,000	**89,143,143**	**79,018,000**
	Treatment Facilities													
	15728-WW SSIP Biosolids-Digester Project													
	Biosolids/Digester Project	**1,316,447,000**	**-**	**81,744,663**	**100,000,000**	**140,000,000**	**200,000,000**	**200,000,000**	**35,000,000**	**20,000,000**	**14,744,975**	**-**	**791,489,638**	**-**
6	Biosolids/Digester Project	1,316,447,000	-	81,744,663	100,000,000	140,000,000	200,000,000	200,000,000	35,000,000	20,000,000	14,744,975	-	791,489,638	-
	Subtotal	**1,316,447,000**	**-**	**81,744,663**	**100,000,000**	**140,000,000**	**200,000,000**	**200,000,000**	**35,000,000**	**20,000,000**	**14,744,975**	**-**	**791,489,638**	**-**
	15735-WW Treatment Plant Improvement												-	-
	SEP New Headworks (Grit) Replacement	**618,834,566**	**-**	**-**	**5,396,882**	**21,000,000**	**6,000,000**	**-**	**-**	**-**	**-**	**-**	**32,396,882**	**-**
7	SEP New Headworks (Grit) Replacement	618,834,566	-	-	5,396,882	21,000,000	6,000,000	-	-	-	-	-	32,396,882	-
	Southeast Plant (SEP) Improvements	**812,534,756**	**4,356,803**	**14,033,381**	**21,725,843**	**33,083,620**	**28,265,004**	**15,585,877**	**14,466,273**	**14,639,193**	**8,474,110**	**16,985,577**	**171,615,681**	**303,156,882**
8	SEP Oxygen Generation Plant	11,135,740	-	-	-	-	-	-	-	-	-	-	-	-
9	SEP Existing Digester Roof Repairs	15,423,647	-	-	-	-	-	-	-	-	-	-	-	-
10	SEP Primary and Secondary Clarifier Upgrades	32,890,358	-	-	-	-	-	-	-	-	-	-	-	-
11	SEP 521/522 and Disinfection Upgr (SEP Bld Replac)	44,705,488	-	-	-	-	-	-	-	-	-	-	-	-
12	SEP Primary Sludge Handling Improvements	2,064,253	-	-	-	-	-	-	-	-	-	-	-	-
13	SEP Facility-wide DCS Control Upgrades	62,987,772	-	-	-	-	-	-	-	-	-	-	-	-
14	SEP Seismic Reliability and Condition Assessment I	44,152,197	-	-	-	-	-	-	-	-	-	-	-	-
15	SEP Existing Digester Gas Handling Improvements	19,347,342	-	-	-	-	-	-	-	-	-	-	-	-
16	SEP Power Feed and Primary Switchgear Upgrades	95,875,000					-	-	-	-	-	-	-	-
17	SEP Oxygen Generation Plant 01	9,180,396	-	-	-	-	-	-	-	-	-	-	-	-
18	SEP 550 Booster PS Condition Inspection & Interim	9,893,028	523,000	697,210	2,189,000	4,205,818	2,278,000	-	-	-	-	-	9,893,028	-
19	SEP, Booster PS, & BFS Security Enhancements	14,320,000		1,305,000	1,305,000	5,855,000	5,855,000	-	-	-	-	-	14,320,000	-
20	Oxygen Generation (SEP 275) Reliability Upgrades	12,288,109	650,000	866,003	2,718,838	5,225,192	2,828,076	-	-	-	-	-	12,288,109	-
21	SEP Facilities Interim H&S Imp (SEP 850 & 930)	5,000,000	223,716	3,240,600	1,535,684	-	-	-	-	-	-	-	5,000,000	-
22	Primary Treatment (SEP 040/041) H&S Improvements	27,382,164	1,013,209	2,000,000	3,640,845	11,195,710	9,532,400	-	-	-	-	-	27,382,164	-
23	Secondary Clarifiers (SEP 230) Rehabilitation	21,300,000	-	-	1,161,533	1,361,532	4,801,528	9,264,506	4,710,901	-	-	-	21,300,000	-
24	Replacement of SEP Building 850	156,165,405	-	-	-	-	-	-	-	-	-	-	-	156,165,405
25	SEP Condition Improvement Projects - Part 1	13,200,000	-	-	-	710,000	2,970,000	4,520,000	2,150,000	2,850,000	-	-	13,200,000	-
26	Pipe Gallery (SEP 960) Rehab	15,771,353	-	-	-	-	-	1,801,371	3,910,458	6,706,349	3,353,175	-	15,771,353	-
27	Aeration Tanks (SEP 200) Rehabilitation	62,698,378	-	-	-	-	-	-	3,694,914	3,694,914	3,733,005	12,097,021	23,219,854	39,478,524
28	SEP Condition Improvement Projects - Part 2	11,901,081	-	-	-	-	-	-	-	838,727	838,727	4,339,353	6,016,807	5,884,274
29	Treatment Plants DCS Support & Upgrades Project	2,746,018	-	-	-	-	-	-	-	549,203	549,203	549,203	1,647,609	1,098,409
30	SEP-13-Maintenance Building (SEP 940) Interim Improvem	21,576,757	1,946,878	5,924,568	9,174,943	4,530,368	-	-	-	-	-	-	21,576,757	-
31	Retrofit SEP940 & Upgrade 930 (Scope 1)	100,530,270	-	-	-	-	-	-	-	-	-	-	-	100,530,270
	Subtotal	**1,431,369,322**	**4,356,803**	**14,033,381**	**27,122,725**	**54,083,620**	**34,265,004**	**15,585,877**	**14,466,273**	**14,639,193**	**8,474,110**	**16,985,577**	**204,012,563**	**303,156,882**
	15736-WW Treatment Plant Improvement													-
	North Point Facility (NPF) Improvements	**283,381,573**	**885,007**	**10,209,884**	**11,128,935**	**14,207,909**	**18,453,392**	**16,870,711**	**20,428,793**	**40,926,855**	**11,340,501**	**1,789,731**	**146,241,718**	**63,956,216**
32	NPF Outfall System Rehabilitation	18,183,639	-	-	-	-	-	-	-	-	-	-	-	-
33	North Shore Wet Weather Pump Station Imp. And Disinfect	55,000,000	-	-	-	-	-	-	-	-	-	-	-	-
34	Sedimentation (NPF 040/041) Tanks Condition Improv	52,248,649	-	3,682,216	3,682,216	6,858,366	10,681,419	11,108,675	10,681,419	5,554,338	-	-	52,248,649	-
35	Admin Bldg (NPF 930) Evaluation & Interim H&S Impr	7,934,054	680,007	3,459,458	3,794,589	-	-	-	-	-	-	-	7,934,054	-
36	Dechlorination Process (NPF 500) Evaluation & Inte	3,870,271	205,000	272,757	856,676	1,645,729	890,109	-	-	-	-	-	3,870,271	-
37	NPF & NSS Security Enhancements	8,804,863		802,398	802,399	3,600,033	3,600,033	-	-	-	-	-	8,804,863	-
38	NPF DCS Upgrades (Construction)	11,072,530	-	1,993,055	1,993,055	2,103,781	1,993,055	1,993,055	996,529	-	-	-	11,072,530	-
39	NPF Future Facilities (Design, Demolition & Constr	63,956,216	-	-	-	-	-	-	-	-	-	-	-	63,956,216
40	North Shore PS (WW) Improvements	18,287,027	-	-	-	-	1,288,776	1,288,776	4,045,366	7,776,073	3,888,036	-	18,287,027	-
41	North Point Outfall Diffuser Rehab	26,124,324	-	-	-	-	-	2,380,743	2,380,743	21,362,838	-	-	26,124,324	-
42	NPF Condition Improvement Projects	9,482,162	-	-	-	-	-	99,462	1,363,268	4,146,429	3,873,003	-	9,482,162	-
43	Sedimentation Tanks (NPF 040/041) Flushing System	8,417,838	-	-	-	-	-	-	961,468	2,087,177	3,579,462	1,789,731	8,417,838	-
	Westside Pump Station Improvements	**88,526,517**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
44	Westside Pump Station Reliability Improvements	87,799,543	-	-	-	-	-	-	-	-	-	-	-	-
45	Westside Pump Statin Redundant Force Main Improvemen	726,974	-	-	-	-	-	-	-	-	-	-	-	-
	Oceanside Plant (OSP) Improvements	**447,065,042**	**1,650,000**	**13,363,824**	**30,880,295**	**39,850,880**	**38,504,099**	**43,061,215**	**38,996,694**	**62,190,005**	**16,235,987**	**7,086,936**	**291,819,935**	**52,865,579**
46	OSP Fine Screen and Grit Removal Enhancements	510,275	-	-	-	-	-	-	-	-	-	-	-	-
47	OSP Digester Gas Utilization Upgrade	54,387,969	-	-	-	-	-	-	-	-	-	-	-	-
48	OSP Condition Assessment Repairs	13,848,737	-	-	-	-	-	-	-	-	-	-	-	-
49	OSP Odor Control Optimization	1,574,941	-	-	-	-	-	-	-	-	-	-	-	-
50	Westside FM Reliability Project	27,575,676	-	-	1,390,530	1,424,037	1,373,777	3,318,132	5,637,415	5,862,912	5,637,415	2,931,458	27,575,676	-
51	Solids Thickening (OSP 011) Process Upgrade	20,222,162	1,068,000	1,425,154	4,473,447	8,598,938	4,656,623	-	-	-	-	-	20,222,162	-
52	OSP Plant-wide Ventilation (HVAC) Upgrades	7,353,514	389,000	518,238	1,626,709	3,126,886	1,692,681	-	-	-	-	-	7,353,514	-
53	OSP Condition Improvement Projects - Phase 2	105,100,000	-	-	10,000,000	6,000,000	6,000,000	6,000,000	8,000,000	6,000,000	4,442,394	-	46,442,394	26,600,000
54	OSP Odor Control Upgrades	19,254,595		1,356,965	1,356,965	4,259,406	8,187,506	4,093,753	-	-	-	-	19,254,595	-
55	OSP Communication & Safety Monitoring Upgrades	12,288,110	-	-	866,003	866,003	1,500,000	3,000,000	6,056,104	-	-	-	12,288,110	-
56	Admin Bldg (OSP 930) Health & Safety Improvements	5,708,648	193,000	520,236	1,431,422	2,334,088	1,229,902	-	-	-	-	-	5,708,648	-

*The total includes funds appropriated in prior years not shown in this 10 year plan.

SFPUC WASTEWATER ENTERPRISE FY 2021-2030 CAPITAL PLAN (CONTINUED)

	Project	*Total Approved Project Budget	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY27-28	FY 28-29	FY29-30	Total FY 21-30	After FY21-30 to Project Completion
57	OSP DCS Upgrade (Construction)	44,942,038	-	8,089,567	8,089,567	8,538,987	8,089,567	8,089,567	4,044,783	-	-	-	44,942,038	-
58	OSP & WSPS Security Enhancements	7,160,000	-	652,500	652,500	2,927,500	2,927,500	-	-	-	-	-	7,160,000	-
59	OSP Condition Improvement Projects - Part 3	64,440,000	-	-	-	-	-	4,541,400	4,541,400	49,355,100	4,001,400	2,000,700	64,440,000	-
60	Gaseous Oxygen System (OSP 011) Upgrades	22,350,810	-	801,164	556,741	1,086,324	1,629,486	9,504,089	8,773,006	-	-	-	22,350,810	-
61	Grit Removal (OSP 011) Upgrades	6,192,432	-	-	436,411	436,411	964,757	1,772,324	1,721,686	860,843	-	-	6,192,432	-
62	Biosolids Cake Hopper (OSP 011) Reliability Upgrad	3,580,000	-	-	-	252,300	252,300	2,741,950	222,300	111,150	-	-	3,580,000	-
63	Admin Bldg (OSP 930) Seismic Retrofit	6,676,216	-	-	-	-	-	-	-	-	470,505	470,505	941,010	5,735,206
64	Pretreat. & Solids Bldg (OSP 011) Struct. & Seismi	11,707,568	-	-	-	-	-	-	-	-	825,089	825,089	1,650,178	10,057,390
65	Primary Clarifier (OSP 042) Structural & Seismic R	12,191,351	-	-	-	-	-	-	-	-	859,184	859,184	1,718,368	10,472,983
	Subtotal	**818,973,132**	**2,535,007**	**23,573,708**	**42,009,230**	**54,058,789**	**56,957,491**	**59,931,926**	**59,425,487**	**103,116,860**	**27,576,488**	**8,876,667**	**438,061,653**	**116,821,795**
	Sewer/Collection System													
	15727-WW Central Bayside System Impr													
	Central Bayside System Improvement	**548,400,000**	**-**	**-**	**-**	**5,000,000**	**10,000,000**	**18,000,000**	**28,900,000**	**125,000,000**	**154,496,000**	**143,004,000**	**484,400,000**	**-**
66	Central Bayside System Improvement Project (CBSIP)	64,000,000	-	-	-	-	-	-	-	-	-	-	-	-
67	Channel FM Reliability Project	484,400,000	-	-	-	5,000,000	10,000,000	18,000,000	28,900,000	125,000,000	154,496,000	143,004,000	484,400,000	-
	Subtotal	**548,400,000**	**-**	**-**	**-**	**5,000,000**	**10,000,000**	**18,000,000**	**28,900,000**	**125,000,000**	**154,496,000**	**143,004,000**	**484,400,000**	**-**
	15726-WW Collection System Improvement													
	Transport/Storage & Combined Sewer Discharge Structures	**27,039,500**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
68	Richmond Transport/Storage Tunnel Rehabilitation	733,000	-	-	-	-	-	-	-	-	-	-	-	-
69	Baker/Laguna/Pierce CSD & Outfall	8,536	-	-	-	-	-	-	-	-	-	-	-	-
70	Beach and Sansome Street CSD Rehabilitation	4,200,000	-	-	-	-	-	-	-	-	-	-	-	-
71	CSD Backflow Prevention and Monitoring	16,707,604	-	-	-	-	-	-	-	-	-	-	-	-
72	5th, North 6th and Division Street CSD Rehabilitat	5,390,360	-	-	-	-	-	-	-	-	-	-	-	-
	Collection System - Interceptors/Tunnels/Odor Control	**443,580,254**	**423,216**	**12,710,141**	**26,232,227**	**30,733,005**	**50,400,259**	**57,197,544**	**37,953,901**	**12,154,831**	**1,305,471**	**5,586,087**	**234,696,682**	**16,165,217**
73	SSIP Sewer Improvements Projects	10,989,600	-	-	-	-	-	-	-	-	-	-	-	-
74	Geary BRT Sewer Improvements Phase 2	2,000,000	-	-	-	-	-	-	-	-	-	-	-	-
75	Richmond Transport Modeling	86,883	-	-	-	-	-	-	-	-	-	-	-	-
76	Collection System Condition Assessment	4,933,000	-	-	-	-	-	-	-	-	-	-	-	-
77	Kansas and Marin Streets Sewer Improvements	30,000,000			-	-	-	-	-	-	-	-	-	-
78	Van Ness BRT Sewer Improvements	25,000,000	-	-	-	-	-	-	-	-	-	-	-	-
79	Better Market Street Sewer Improvements	15,000,000	-	-	-	-	-	-	-	-	-	-	-	-
80	Geary BRT Sewer Improvements Phase 1	12,900,000	-	-	-	-	-	-	-	-	-	-	-	-
81	Central Subway Sewer Improvements	3,956,000	-	-	-	-	-	-	-	-	-	-	-	-
82	Mission Bay Loop Sewer Improvement	718,200	-	-	-	-	-	-	-	-	-	-	-	-
83	Drumm and Jackson Streets Sewer System Improvement	6,455,172	-	-	-	-	-	-	-	-	-	-	-	-
84	Masonic Avenue Sewer Improvements	3,921,000	-	-	-	-	-	-	-	-	-	-	-	-
85	Cargo Way Sewer Box Odor Reduction	7,122,500	-	-	-	-	-	-	-	-	-	-	-	-
86	Rutland Sewer Improvements	1,500,000	-	-	-	-	-	-	-	-	-	-	-	-
87	Taraval Sewer Improvements	33,136,000	-	-	-	-	-	-	-	-	-	-	-	-
88	Large Diameter Sewer Initial Projects	96,520,000	-	11,421,600	20,000,000	17,084,600	10,975,800	2,038,000	-	-	-	-	61,520,000	-
89	Judah Street Twin Sewer Construction Project	69,955,135	-	-	-	6,375,102	6,375,100	23,454,022	24,026,072	9,724,839	-	-	69,955,135	-
90	Geary BRT Sewer Improvements - Phase 2	32,114,600	-	-	-	-	16,378,446	15,736,154	-	-	-	-	32,114,600	-
91	T/S Box Seismic Evaluation	2,610,000	-	-	1,161,000	642,600	541,800	264,600	-	-	-	-	2,610,000	-
92	T/S Box Improvements (Initial Allowance)	7,934,054	-	-	-	-	-	-	-	-	404,903	404,902	809,805	7,124,249
93	Brannan (019) CSD Gate & Baffle Rehab	4,934,595	336,797	449,696	2,663,233	1,484,869	-	-	-	-	-	-	4,934,595	-
94	Baker (009) Baffle Improvements	1,257,838	86,419	114,628	1,056,791	-	-	-	-	-	-	-	1,257,838	-
95	System-wide CSD & T/S Monitoring Equipment Assessm	9,288,649	-	654,617	654,616	2,054,790	3,949,751	1,974,875	-	-	-	-	9,288,649	-
96	CSD Structure Rehab & Upgrades - Part 1	36,380,541	-	69,600	696,587	2,436,427	11,524,746	11,675,103	9,978,078	-	-	-	36,380,541	-
97	Islais Creek (031A) CSD Rehab & Backflow Preventio	9,288,649	-	-	-	654,617	654,616	2,054,790	3,949,751	1,974,875	-	-	9,288,649	-
98	CSD Structure Rehab & Upgrades - Part 2	15,577,838	-	-	-	-	-	-	-	455,117	900,568	5,181,185	6,536,870	9,040,968
	Pump Stations/Force Main Improvements	**235,420,135**	**1,366,676**	**2,337,536**	**7,261,348**	**9,226,116**	**13,323,011**	**12,489,292**	**9,654,052**	**4,676,734**	**14,846,141**	**5,881,784**	**81,062,690**	**73,361,091**
99	North Shore to Channel Force Main Drainage Improvement	17,300,000	-	-	-	-	-	-	-	-	-	-	-	-
100	Hudson Ave Pump Station and Outfall Improvements	281,500	-	-	-	-	-	-	-	-	-	-	-	-
101	Force Main Rehab at Embarcadero and Jackson Street	9,909,047	-	-	-	-	-	-	-	-	-	-	-	-
102	Mariposa Dry-Weather Pump Station & Force Main Imp	31,940,000	-	-	-	-	-	-	-	-	-	-	-	-
103	Cesar Chavez Pump Station	179,728	-	-	-	-	-	-	-	-	-	-	-	-
104	Marin Street Sewer Replacement	5,959,422	-	-	-	-	-	-	-	-	-	-	-	-
105	Griffith Pump Station Improvements	15,426,657	-	-	-	-	-	-	-	-	-	-	-	-
106	Seacliff No. 1 PS & FM Upgrade	13,062,162	386,000	515,827	523,764	523,764	1,796,960	3,738,497	3,631,682	1,945,668	-	-	13,062,162	-
107	Seacliff No. 2 PS & FM Upgrade	16,835,676	637,000	869,413	838,727	2,851,837	5,782,208	5,856,491	-	-	-	-	16,835,676	-
108	Sunnydale PS Safety Improvements	5,031,351	343,676	458,512	4,229,163	-	-	-	-	-	-	-	5,031,351	-
109	Pump Station Security Upgrades (Cesar Chavez, GFS,	4,354,054	-	396,791	396,791	1,780,236	1,780,236	-	-	-	-	-	4,354,054	-
110	Geary Underpass PS Safe Access Enhancements	1,064,324	-	96,993	96,993	574,423	295,915	-	-	-	-	-	1,064,324	-
111	Griffith DW FM Rehab	3,192,972	-	-	364,694	1,392,221	1,436,057	-	-	-	-	-	3,192,972	-
112	PS & FM Seismic Evaluation	4,450,811	-	-	811,216	1,455,838	1,455,838	727,919	-	-	-	-	4,450,811	-
113	Cesar Chavez PS & FM Improvements	9,191,891	-	-	-	647,797	647,797	2,033,385	3,908,608	1,954,304	-	-	9,191,891	-
114	Tennessee PS & FM Improvements	4,450,810	-	-	-	-	128,000	133,000	1,429,000	72,000	-	-	1,762,000	2,688,810
115	Rankin WW PS Improvements	5,805,405	-	-	-	-	-	-	80,000	83,000	1,464,000	90,000	1,717,000	4,088,405
116	Berry St PS Improvements	11,514,054	-	-	-	-	-	-	427,000	444,000	7,787,000	480,000	9,138,000	2,376,054
117	Davidson PS & FM Improvements	2,031,892	-	-	-	-	-	-	177,762	177,762	1,028,362	648,006	2,031,892	-
118	Sunnydale PS & FM Improvements	16,835,676	-	-	-	-	-	-	-	-	1,617,000	1,682,000	3,299,000	13,536,676
119	Channel PS Improvements	30,575,135	-	-	-	-	-	-	-	-	2,154,779	2,154,778	4,309,557	26,265,578
120	Zoo WW PS & FM Improvements	26,027,568	-	-	-	-	-	-	-	-	795,000	827,000	1,622,000	24,405,568
	Subtotal	**706,039,889**	**1,789,892**	**15,047,677**	**33,493,575**	**39,959,121**	**63,723,270**	**69,686,836**	**47,607,953**	**16,831,565**	**16,151,612**	**11,467,871**	**315,759,372**	**89,526,308**

*The total includes funds appropriated in prior years not shown in this 10 year plan.

SFPUC WASTEWATER ENTERPRISE FY 2021-2030 CAPITAL PLAN (CONTINUED)

	Project	*Total Approved Project Budget	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY27-28	FY 28-29	FY29-30	Total FY 21-30	After FY21-30 to Project Completion
	Stormwater Management/Flood Control													
	15729-WW Stormwater Management													
	Drainage Basin/Early Implementation Projects	**3,799,151**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
121	Cesar Chavez Green Infrastructure	1,374,143	-	-	-	-	-	-	-	-	-	-	-	-
122	Islais Creek Green Infrastructure	2,425,008	-	-	-	-	-	-	-	-	-	-	-	-
	Low Impact Design Program	**58,144,339**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
123	Sunset Green Infrastructure	9,026,871	-	-	-	-	-	-	-	-	-	-	-	-
124	North Shore Green Infrastructure	2,470,485	-	-	-	-	-	-	-	-	-	-	-	-
125	Lake Merced Green Infrastructure	6,347,254	-	-	-	-	-	-	-	-	-	-	-	-
126	Sunnydale Green Infrastructure	5,065,477	-	-	-	-	-	-	-	-	-	-	-	-
127	Richmond Green Infrastructure	13,008,390	-	-	-	-	-	-	-	-	-	-	-	-
128	Yosemite Green Infrastructure	17,101,223						-	-	-	-	-	-	-
129	Channel Green Infrastructure	2,227,221	-	-	-	-	-	-	-	-	-	-	-	-
130	Islais Creek Green Infrastructure (SPLIT)	2,897,418	-	-	-	-	-	-	-	-	-	-	-	-
	Green Infrastructure Projects	**212,769,729**	**772,000**	**1,544,368**	**4,931,551**	**11,454,678**	**8,316,949**	**8,911,837**	**17,092,859**	**13,747,201**	**15,027,060**	**10,432,260**	**92,230,763**	**111,538,966**
131	Balboa High School Regional Runoff Reduction Proje	14,707,027	518,000	1,036,476	3,253,416	6,253,773	3,645,362	-	-	-	-	-	14,707,027	-
132	Regional School/Park: Giannini Middle School	6,966,486	254,000	507,892	1,678,135	2,848,378	1,678,081	-	-	-	-	-	6,966,486	-
133	Regional School/Park: Lowell High School	25,834,053	-	-	-	1,820,651	1,820,651	5,714,882	10,985,246	5,492,623	-	-	25,834,053	-
134	Balboa Park GI Project	1,741,622	-	-	-	122,741	122,741	385,273	740,578	370,289	-	-	1,741,622	-
135	Ocean Storm Area GI: Aptos School and Playground	5,805,405	-	-	-	409,135	409,135	1,284,244	2,468,594	1,234,297	-	-	5,805,405	-
136	SFPUC Parcel: Merced Manor Reservoir	1,451,352	-	-	-	-	102,284	102,284	321,060	617,149	308,575	-	1,451,352	-
137	Upper Channel Storm Area GI: DMV Runoff Reduction	1,257,838	-	-	-	-	88,646	88,646	278,253	534,862	267,431	-	1,257,838	-
138	SFPUC Parcel: Sunset Reservoir	6,385,947	-	-	-	-	450,049	450,049	1,412,668	2,715,454	1,357,727	-	6,385,947	-
139	Upper Channel Storm Area GI: Hamilton Playground	4,160,540	-	-	-	-	-	293,213	293,214	920,374	1,769,160	884,579	4,160,540	-
140	Regional School/Park: Lincoln High School	8,417,838	-	-	-	-	-	593,246	593,246	1,862,153	3,579,462	1,789,731	8,417,838	-
141	Streetscape Synergy Projects: Bayside	46,346,486	-	-	-	-	-	-	-	-	2,337,067	2,393,381	4,730,448	41,616,038
142	Streetscape Synergy Projects: Westside	13,932,973	-	-	-	-	-	-	-	-	702,584	659,514	1,362,098	12,570,875
143	Twin Peaks: Sutro Reservoir Stormwater Space	23,124,865	-	-	-	-	-	-	-	-	1,629,721	1,629,722	3,259,443	19,865,422
144	Twin Peaks: Add'l Drainage Area Stormwater Space	6,385,946	-	-	-	-	-	-	-	-	450,049	450,049	900,098	5,485,848
145	Brotherhood Way Creek Stormwater Space	37,251,351	-	-	-	-	-	-	-	-	2,625,284	2,625,284	5,250,568	32,000,783
146	Wawona St and 15th Ave Stormwater Detention Project (RI	-	-	-	-	-	-	-	-	-	-	-	-	-
147	Watershed Stormwater Management (Planning Only)	9,000,000	-	-	-	-	-	-	-	-	-	-	-	-
	GI for Stormwater Management (Grant)	**25,000,000**	**-**	**-**	**1,000,000**	**2,000,000**	**2,000,000**	**2,000,000**	**2,000,000**	**2,000,000**	**2,000,000**	**-**	**13,000,000**	**-**
148	GI For Stormwater Management (Grant)	25,000,000		-	1,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	-	13,000,000	-
	Advanced Rainfall Predictions System	**9,327,499**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
149	Advanced Rainfall Prediction - Part 1	1,639,278	-	-	-	-	-	-	-	-	-	-	-	-
150	Operational Decision System Phase 1	967,572	-	-	-	-	-	-	-	-	-	-	-	-
151	Operational Decision System Phase 2	6,720,649	-	-	-	-	-	-	-	-	-	-	-	-
	Subtotal	**309,040,718**	**772,000**	**1,544,368**	**5,931,551**	**13,454,678**	**10,316,949**	**10,911,837**	**19,092,859**	**15,747,201**	**17,027,060**	**10,432,260**	**105,230,763**	**111,538,966**
	15730-WW Flood Resilience-hydraulic													
	Flood Resilience	**841,220,436**	**-**	**45,000,000**	**81,331,186**	**93,529,517**	**116,890,251**	**80,000,000**	**60,606,884**	**10,606,884**	**8,007,892**	**9,764,682**	**505,737,296**	**186,815,280**
152	17th and Folsom Wet Weather Storage	898,622	-	-	-	-	-	-	-	-	-	-	-	-
153	Flood Resilience analysis (Planning Phase Only)	2,176,246	-	-	-	-	-	-	-	-	-	-	-	-
154	Flood Resilience - Early Projects (Planning Phase Only)	3,206,463	-	-	-	-	-	-	-	-	-	-	-	-
155	Wawona St and 15th Ave Stormwater Detention Project	45,000,000	-	-	-	-	-	-	-	-	-	-	-	-
156	Cayuga Ave Stormwater Detention Project	428,078	-	-	-	-	-	-	-	-	-	-	-	-
157	Folsom Area Stormwater improvement Project	38,410,859	-	-	-	-	-	-	-	-	-	-	-	-
158	17th and Folsom Permanent Barriers	176,151	-	-	-	-	-	-	-	-	-	-	-	-
159	Hydraulic and Drainage Sewer Improvements	4,934,696	-	-	-	-	-	-	-	-	-	-	-	-
160	Lower Alemany Area Stormwater Improvement Project	286,460,000	-	-	-	13,023,255	70,000,000	80,000,000	60,000,000	10,000,000	-	-	233,023,255	-
161	Folsom Area Stormwater Imp. Project Phase 2	252,566,617	-	45,000,000	81,198,569	80,000,000	46,368,048	-	-	-	-	-	252,566,617	-
162	Southeast Area Stormwater Improvement Project	55,731,892	-	-	-	-	-	-	-	-	-	-	-	55,731,892
163	Noriega Corridor Connection	1,161,082	-	-	132,617	506,262	522,203	-	-	-	-	-	1,161,082	-
164	Ocean and Urbano Pipe Enhancement	42,089,190	-	-	-	-	-	-	-	-	2,966,230	2,966,230	5,932,460	36,156,730
165	Alemany Pipe Isolation and Rankin WW PS Expansion	23,124,865	-	-	-	-	-	-	-	-	1,629,721	1,629,722	3,259,443	19,865,422
166	Berry Pipe Enhancement	54,861,081	-	-	-	-	-	-	-	-	-	-	-	54,861,081
167	Brannan Pipe Enhancement	6,192,432	-	-	-	-	-	-	436,411	436,411	1,369,859	2,633,168	4,875,849	1,316,583
168	SOMA Stormwater Corridor	2,418,919	-	-	-	-	-	-	170,473	170,473	535,101	1,028,581	1,904,628	514,291
169	Gough Pipe Enhancement	21,383,243	-	-	-	-	-	-	-	-	1,506,981	1,506,981	3,013,962	18,369,281
170	Kearny Sealed Manholes		-	-	-	-	-	-	-	-	-	-	-	-
	Watershed Assessment	**17,409,222**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
171	Watershed Assessment	17,409,222	-	-	-	-	-	-	-	-	-	-	-	-
	Subtotal	**858,629,658**	**-**	**45,000,000**	**81,331,186**	**93,529,517**	**116,890,251**	**80,000,000**	**60,606,884**	**10,606,884**	**8,007,892**	**9,764,682**	**505,737,296**	**186,815,280**
	SSIP TOTAL	**6,400,857,606**	**9,453,702**	**180,943,797**	**296,888,267**	**410,085,725**	**501,296,108**	**468,116,476**	**279,099,456**	**318,941,703**	**258,478,137**	**210,531,057**	**2,933,834,428**	**886,877,231**

*The total includes funds appropriated in prior years not shown in this 10 year plan.

SFPUC WASTEWATER ENTERPRISE FY 2021-2030 CAPITAL PLAN

	Project	*Total Approved Project Budget	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY27-28	FY 28-29	FY29-30	Total FY 21-30	After FY21-30 to Project Completion
	WWE Non-SSIP													
	19141-WW Wwe Repair And Replacement													
	15722-WW Wwe Rnr Collection System	**1,656,579,817**	**107,135,000**	**115,703,000**	**114,732,000**	**147,805,000**	**141,671,500**	**161,997,500**	**167,616,000**	**174,244,000**	**174,161,000**	**181,129,000**	**1,486,194,000**	**163,374,514**
172	Collection System - Sewer Improvements - Salt Water Intru	8,681,000	-	-	-	-	-	-	-	-	-	-	-	8,681,000
173	Collection System - Sewer Improvements - Small Dia	869,705,000	76,344,000	81,228,000	75,076,000	78,079,000	81,198,000	84,521,000	87,898,000	91,415,000	95,073,000	98,873,000	849,705,000	20,000,000
174	Collection System - Condition Assessment - Small Dia	34,870,000	3,748,000	3,940,000	4,098,000	4,262,000	4,433,000	4,610,000	4,794,000	4,985,000	-	-	34,870,000	-
175	Collection System - Sewer Improvements - Spot Sewer	220,601,000	25,079,000	26,476,000	27,532,000	28,636,000	17,019,000	17,698,000	18,406,000	19,142,000	19,908,000	20,705,000	220,601,000	-
176	Collection System - Condition Assessment - Large Dia	36,956,000	375,000	2,450,000	2,750,000	3,974,000	4,132,000	4,297,000	4,469,000	4,647,000	4,834,000	5,028,000	36,956,000	-
177	Collection System - Condition Assessment - Sewer Lateral	6,005,000	500,000	520,000	541,000	563,000	586,000	609,000	633,000	658,000	684,000	711,000	6,005,000	-
178	Collection System - Sewer Improvements - Large Dia	453,287,000	-	-	2,550,000	29,402,000	31,959,000	47,709,000	49,616,000	51,597,000	53,662,000	55,812,000	322,307,000	130,980,000
179	T/S Box Tier 1 (Desktop) Condition Assessment	4,950,000	1,089,000	1,089,000	385,000	1,089,000	544,500	753,500	-	-	-	-	4,950,000	-
180	T/S Box Tier 2 (Field) Condition Assessment	14,513,514	-	-	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	-	-	10,800,000	3,713,514
181	WW Outfall Inspection - Receiving	7,011,303											-	-
	15724-WW Wwe Rnr Treatment Facilities	**318,943,908**	**25,357,500**	**26,625,375**	**27,956,644**	**29,354,476**	**30,822,200**	**32,363,309**	**33,981,476**	**35,680,548**	**37,464,575**	**39,337,805**	**318,943,908**	-
182	Treatment Plant Improvements	318,943,908	25,357,500	26,625,375	27,956,644	29,354,476	30,822,200	32,363,309	33,981,476	35,680,548	37,464,575	39,337,805	318,943,908	
	Subtotal	**1,975,523,725**	**132,492,500**	**142,328,375**	**142,688,644**	**177,159,476**	**172,493,700**	**194,360,809**	**201,597,476**	**209,924,548**	**211,625,575**	**220,466,805**	**1,805,137,908**	**163,374,514**
	19134-WW Treasure Island Capital Imp													
	15707-WW Treasure Island Capital Imp													
183	Treasure Island New WWTP and RWF	202,208,000	-	35,000,000	60,000,000	52,810,000	-	-	-	-	-	-	147,810,000	-
	Subtotal	**202,208,000**	**-**	**35,000,000**	**60,000,000**	**52,810,000**	**-**	**-**	**-**	**-**	**-**	**-**	**147,810,000**	**-**
	19139-WW Facilities & Infrastructure													
	19139-WW Facilities & Infrastructure													
184	SWOO Condition Assessment & Rehab	30,600,000	-	-	-	-	1,313,112	1,313,113	1,331,100	1,331,100	11,729,310	12,589,832	29,607,567	992,433
	15714-WW Ocean Beach Project													
185	Ocean Beach Climate Change Adaptation Project	169,922,563	-	2,416,702	45,000,000	47,000,000	33,523,328	13,232,959	1,605,334	-	-	-	142,778,323	3,232,959
	15715-WW Collection Division Consoli													
186	WWE Facilities Plan	49,000,000	-	-	-	-	-	-	-	-	-	-	-	-
	15716-WW Southeast Community Center													
187	Southeast Community Center Improvements	109,500,000	4,500,000	-	-	-	-	-	-	-	-	-	4,500,000	-
	15717-WW Islais Creek Outfall													
188	Islais Creek Outfall Crossing	67,600,000	15,846,679	3,715,499	5,761,226	3,889,774	2,878,268	508,554	-	-	-	-	32,600,000	-
	20507-SE Outfall Assessment & Rehab													
189	Southeast Outfall Condition Assessment and Rehab	33,775,280	-	-	-	-	1,459,014	1,459,013	1,479,000	1,479,000	11,929,865	12,794,108	30,600,000	1,020,474
	Subtotal	**460,397,843**	**20,346,679**	**6,132,201**	**50,761,226**	**50,889,774**	**39,173,722**	**16,513,639**	**4,415,434**	**2,810,100**	**23,659,175**	**25,383,940**	**240,085,890**	**5,245,866**
	Non-SSIP WWE Total	**2,638,129,568**	**152,839,179**	**183,460,576**	**253,449,870**	**280,859,250**	**211,667,422**	**210,874,448**	**206,012,910**	**212,734,648**	**235,284,750**	**245,850,745**	**2,193,033,798**	**168,620,380**
	Total USES	**9,038,987,174**	**162,292,881**	**364,404,373**	**550,338,137**	**690,944,975**	**712,963,530**	**678,990,924**	**485,112,366**	**531,676,351**	**493,762,887**	**456,381,802**	**5,126,868,226**	**1,055,497,611**

	SOURCES	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY27-28	FY 28-29	FY29-30	FY 21-30	
	Revenue Funding												
190	Revenue	107,894,500	110,252,390	122,657,438	125,110,586	127,612,798	130,165,054	132,768,355	135,423,722	138,132,197	140,894,841	1,270,911,881	-
191	Capacity Fee	5,800,000	5,319,000	5,695,000	5,695,000	5,695,000	5,695,000	5,695,000	5,695,000	5,695,000	5,695,000	56,679,000	-
	Total Revenue Sources	**113,694,500**	**115,571,390**	**128,352,438**	**130,805,586**	**133,307,798**	**135,860,054**	**138,463,355**	**141,118,722**	**143,827,197**	**146,589,841**	**1,327,590,881**	**-**
	Debt Funding												
192	Revenue Bonds	48,598,381	248,832,983	421,985,699	560,139,389	579,655,732	543,130,870	346,649,011	390,557,629	349,935,690	309,791,961	3,799,277,345	-
	Total Debt Sources	**48,598,381**	**248,832,983**	**421,985,699**	**560,139,389**	**579,655,732**	**543,130,870**	**346,649,011**	**390,557,629**	**349,935,690**	**309,791,961**	**3,799,277,345**	**-**
	Total SOURCES	**162,292,881**	**364,404,373**	**550,338,137**	**690,944,975**	**712,963,530**	**678,990,924**	**485,112,366**	**531,676,351**	**493,762,887**	**456,381,802**	**5,126,868,226**	**-**
	Surplus / Shortfall	-	-	-	-	-	-	-	-	-	-	-	

*The total includes funds appropriated in prior years not shown in this 10 year plan.

SFPUC WASTEWATER ENTERPRISE FY 2021-2030 PROGRAMMATIC PROJECT BUDGET

	USES	FY 20-21 Requested	FY 21-22 Requested	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	Total FY 21-30
1	Treasure Island Facilities Maintenance	1,432,000	1,475,000	1,519,000	1,519,000	1,519,000	1,519,000	1,519,000	1,519,000	1,519,000	1,519,000	15,059,000
2	Low Impact Development	681,000	681,000	681,000	681,000	681,000	681,000	681,000	681,000	681,000	681,000	6,810,000
3	Youth Employment Project	697,000	697,000	697,000	697,000	697,000	697,000	697,000	697,000	697,000	697,000	6,970,000
	Subtotal	**2,810,000**	**2,853,000**	**2,897,000**	**2,897,000**	**2,897,000**	**2,897,000**	**2,897,000**	**2,897,000**	**2,897,000**	**2,897,000**	**28,839,000**
4	525 Golden Gate - Operations & Maintenance	2,124,165	1,293,000	1,332,000	1,372,000	1,372,000	1,372,000	1,372,000	1,372,000	1,410,000	1,450,000	14,469,165
5	525 Golden Gate - Lease Payments	2,423,943	2,424,344	2,426,917	2,416,551	2,396,330	2,375,655	2,354,405	2,332,462	2,308,790	2,284,242	23,743,639
	Subtotal	**4,548,108**	**3,717,344**	**3,758,917**	**3,788,551**	**3,768,330**	**3,747,655**	**3,726,405**	**3,704,462**	**3,718,790**	**3,734,242**	**38,212,804**
	Total USES	**7,358,108**	**6,570,344**	**6,655,917**	**6,685,551**	**6,665,330**	**6,644,655**	**6,623,405**	**6,601,462**	**6,615,790**	**6,631,242**	**67,051,804**

	SOURCES	FY 20-21 Requested	FY 21-22 Requested	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	FY 21-30
6	Infrastructure - Recovery Capital (O&M)	246,000	253,000	265,000	268,000	268,000	268,000	276,000	284,000	284,000	284,000	2,696,000
7	Infrastructure - Recovery Capital (Lease)	1,872,000	1,872,000	1,872,000	1,872,000	1,872,000	1,872,000	1,872,000	1,872,000	1,872,000	1,872,000	18,720,000
8	Federal Bond Interest Subsidy	519,724	519,724	514,000	505,000	487,000	468,000	448,000	427,000	427,000	427,000	4,742,448
9	Revenue	4,720,384	3,925,620	4,004,917	4,040,551	4,038,330	4,036,655	4,027,405	4,018,462	4,032,790	4,048,242	40,893,356
	Total SOURCES	**7,358,108**	**6,570,344**	**6,655,917**	**6,685,551**	**6,665,330**	**6,644,655**	**6,623,405**	**6,601,462**	**6,615,790**	**6,631,242**	**67,051,804**
	Surplus / (Shortfall)	-	-	-	-	-	-	-	-	-	-	-

SFPUC HETCH HETCHY ENTERPRISE FY 2021-2030 CAPITAL PLAN (CONTINUED ON NEXT PAGE...)

	USES	*Total Approved Project Budget	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	Total FY 21-30	After FY21-30 to Project Completion
	Hetch Hetchy Water													
	15363-UH Hetchy Water - Water Only													
	15363-UH Hetchy Water - Water Only	**372,104,741**	**20,077,000**	**33,733,000**	**65,850,000**	**46,373,000**	**43,457,000**	**18,657,000**	**12,670,000**	**12,014,000**	**12,333,000**	**12,714,200**	**277,878,200**	**-**
1	HHW - R&R SJPL Life Extension Program	117,306,538	-	8,944,000	10,979,000	10,118,000	11,360,000	11,709,000	12,070,000	11,393,000	11,693,000	12,055,000	100,321,000	-
2	HHW - SJPL Tesla Valves Replacement	7,380,000	-	-	-	-	-	-	-	-	-	-	-	-
3	HHW - SJPL Valve and Safe Entry Improvement	95,284,000	-	2,175,000	34,102,000	26,567,000	25,904,000	-	-	-	-	-	88,748,000	-
4	HHW- R&R Priest Moccasin Water Transmission Line AAR	1,000,000	-	-	-	-	-	-	-	-	-	-	-	-
5	HHW - Moccasin Reservoir Perimeter Security Fence	5,308,000	-										-	-
6	HHW- Water Project Development - CUH100-PD	6,869,203	258,000	505,000	523,000	541,000	560,000	580,000	600,000	621,000	640,000	659,200	5,487,200	-
7	HHW - Mountain Tunnel Improvement Project (Tunnel)	105,752,000	19,819,000	22,109,000	20,246,000	9,147,000	5,633,000	6,368,000	-	-	-	-	83,322,000	-
8	Lower Cherry Aquaduct	14,000,000											-	-
9	2018 Mocc Storm Event Wtr Proj	19,205,000											-	-
	15364-UH Hetchy Water - Power Infrastructure													
	15364-UH Hetchy Water - Power Infrastructure	**280,578,092**	**-**	**10,560,207**	**49,425,000**	**23,836,000**	**18,535,000**	**13,246,000**	**7,239,000**	**17,245,000**	**6,002,000**	**6,173,000**	**152,261,207**	**8,400,000**
10	HHW - Moccasin Switchyard Rehabilitation	9,739,000	-	-	1,242,000	646,000	646,000	6,686,000	519,000	-	-	-	9,739,000	-
11	HHW - Moccasin Penstock Condition Assessment & AAR												-	-
12	HHW - R&R Priest Dam Cond Assmt & Monitoring	2,000,000	-	-	-	-	-	-	-	-	-	-	-	-
13	HHW - R&R Priest Reservoir Landslide	1,000,000	-	-	-	-	-	-	-	-	-	-	-	-
14	HHW - Kirkwood Powerhouse Bypass Upgrades	16,157,000	-	-	-	-	1,968,000	1,024,000	1,024,000	11,386,000	-	-	15,402,000	-
15	HHW - Moccasin Powerhouse Bypass Upgrade	15,007,000	-	1,822,000	947,000	947,000	10,536,000	-	-	-	-	-	14,252,000	-
16	HHW-R&R Power Transmission Life Extension Program	11,017,632	-	500,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	8,500,000	-
17	HHW - Transmission Lines 7/8 Upgrades	37,969,000	-	-	23,141,000	2,006,000	-	-	-	-	-	-	25,147,000	8,400,000
18	HHW - R&R Powerhouses	32,873,469	-	1,119,000	1,158,000	1,198,000	1,239,000	1,282,000	1,327,000	1,373,000	1,415,000	1,464,000	11,575,000	-
19	HHW- Moccasin Powerhouse and GSU Rehabilitation	66,713,635	-	4,282,207	15,000,000	15,000,000	-	-	-	-	-	-	34,282,207	-
20	HHW - R&R Transmission Lines Clearance Mitigation	33,710,760	-	2,013,000	2,085,000	2,157,000	2,233,000	2,309,000	2,391,000	2,474,000	2,545,000	2,636,000	20,843,000	-
21	HHW - EI Switchyard Slope Hazard Mit	2,619,988											-	-
22	HHW- Power Project Development	11,086,541	-	824,000	852,000	882,000	913,000	945,000	978,000	1,012,000	1,042,000	1,073,000	8,521,000	-
23	Warnerville Substation Rehabil	34,248,428		-	4,000,000								4,000,000	-
24	Kirkwood Penstock	4,704,026											-	-
25	Kirkwood Powerhouse Bypass Val	1,731,613											-	-
	15365-UH Hetchy Water - Joint Project													
	15365-UH Hetchy Water - Joint Project	**1,038,144,182**	**18,424,775**	**67,181,276**	**76,116,000**	**78,562,000**	**73,855,500**	**80,046,500**	**85,983,000**	**47,895,000**	**45,292,000**	**20,880,000**	**594,236,051**	**253,041,710**
26	HHW-Early Intake Dam Interim Improvement	4,683,000		3,528,000									3,528,000	-
27	HHW-Early intake Dam-Long term	95,075,000									2,916,000	5,948,000	8,864,000	86,211,000
28	HHW - R&R Hetch Hetchy Facilities	42,098,371	-	1,563,000	2,174,000	2,250,000	2,330,000	2,412,000	2,496,000	3,229,000	3,342,000	3,458,000	23,254,000	-
29	HHW - R&R Dam Condition Assessment and Rehab	15,886,958	-	1,118,000	1,155,000	1,196,000	1,239,000	1,281,000	1,326,000	1,372,000	1,413,000	1,462,000	11,562,000	-
30	HHW - R&R Roads and Bridges	30,402,107	-	2,017,000	2,088,000	2,161,000	2,484,000	3,216,000	3,327,000	1,515,000	1,560,000	1,614,000	19,982,000	-
31	HHW - R&R Facilities Security Project	11,956,529	-	521,000	541,000	1,457,000	1,508,000	1,422,000	2,659,000	643,000	666,000	688,000	10,105,000	-
32	HHW - R&R Communications Systems	11,523,650	-	335,000	347,000	359,000	6,204,000	386,000	399,000	411,000	423,000	438,000	9,302,000	-
33	HHW - Canyon Tunnel Rehabilitation	8,428,813	-	-	-	-	-	-	-	-	-	-	-	114,273
34	HHW - Moccasin Wastewater Treatment Plant	8,794,549	-	1,102,000	1,146,000	6,127,000	-	-	-	-	-	-	8,375,000	-
35	HHW - Mountain Tunnel Improvement Project (Flow Control)	132,466,951	16,882,000	18,833,000	17,247,000	7,792,000	4,799,000	5,424,000	-	-	-	-	70,977,000	296,437
36	HHW- Cherry Dam Spillway - Short Term Improvements	11,860,965	-	1,616,000	8,044,000	624,000	-	-	-	-	-	-	10,284,000	-
37	HHW- Joint Project Development	26,344,767	-	2,196,000	2,273,000	2,352,000	2,435,000	2,520,000	2,608,000	2,700,000	1,781,000	1,834,000	20,699,000	-
38	HHW - Eleanor Dam Rehabilitation	33,608,555	-	-	-	4,480,000	4,480,000	12,309,000	12,309,000	-	-	-	33,578,000	-
39	HHW - R&R Power Distribution	18,766,588	-	1,230,000	1,230,000	1,230,000	1,230,000	1,230,000	1,230,000	1,230,000	1,230,000	1,100,000	10,940,000	5,287,000
40	HHW - Bridge Replacement (4 Bridges)	44,287,000	-	-	-	4,100,000	4,700,000	7,400,000	-	-	-	-	16,200,000	18,745,000
41	HHW - O'Shaughnessy Dam Outlet Works Phase II	112,223,000	-	-	-	14,460,000	7,446,500	7,446,500	27,624,000	27,623,000	27,623,000	-	112,223,000	-
42	HHW - R&R Moccasin Old Powerhouse Hazard Mitigation	10,422,000	-	1,428,000	7,640,000	-	-	-	-	-	-	-	9,068,000	-
43	HHW - Cherry Dam Spillway and Intake Tower Rehab	87,874,000	-	-	-	-	-	-	2,005,000	4,172,000	4,338,000	4,338,000	14,853,000	73,021,000
44	HHW - Moccasin Penstock Rehabilitation	47,251,363	-	13,683,000	13,757,000	13,834,000	-	-	-	-	-	-	41,274,000	-
45	HHW - Moccasin Dam Long Term Imprve	199,018,231	1,542,775	4,659,000	8,140,000	8,140,000	35,000,000	35,000,000	30,000,000	5,000,000	-	-	127,481,775	69,367,000
46	HHW - R&R Power Distrib Line High Risk Fire Reduct	22,765,000	-	2,979,000	8,807,000	8,000,000	-	-	-	-	-	-	19,786,000	-
47	HHW- R&R HH Reservoir Boat Ramp & Access Improve	2,069,000	-	271,000	1,527,000	-	-	-	-	-	-	-	1,798,000	-
48	HHW - O'Shaughnessy Dam Outlet Works Phase I	21,206,000		10,102,276									10,102,276	-
49	Mountain Tunnel Access/Adit Im	10,500,000											-	-
50	Mountain Tunnel Inspection And	23,500,000											-	-
51	UH O'sh Dam Access & Drainage	3,952,211											-	-
52	Joint Projects - Power Bonds	1,179,575											-	-
	HETCHY WATER TOTAL	**1,690,827,016**	**38,501,775**	**111,474,483**	**191,391,000**	**148,771,000**	**135,847,500**	**111,949,500**	**105,892,000**	**77,154,000**	**63,627,000**	**39,767,200**	**1,024,375,458**	**261,441,710**
	Hetch Hetchy Power													
	10279-UH Sustainable Energy Account													
	10279-UH Sustainable Energy Account	**34,065,396**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
53	Solar Energy Incentive Fund	34,065,396												-
	15371-UH Alice Griffith-candlestick													
	15371-UH Alice Griffith-candlestick	**21,038,363**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
54	HHP-HP Phase 2 - Alice Griffith/Candlestick Point	21,038,363											-	-
	15372-UH Distribution Services Retail													
	15372-UH Distribution Services Retail	**690,253,960**	**35,749,415**	**23,971,526**	**45,852,034**	**39,852,304**	**53,802,303**	**70,727,303**	**62,727,302**	**62,727,302**	**40,352,425**	**35,257,425**	**471,019,339**	**61,333,802**
55	Mission Rock	1,500,000												-
56	Sunnydale – HopeSF	1,533,237												-
57	Better Market Street	1,500,000												-

*The total includes funds appropriated in prior years not shown in this 10 year plan.

SFPUC HETCH HETCHY ENTERPRISE FY 2021-2030 CAPITAL PLAN

	USES	*Total Approved Project Budget	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	Total FY 21-30	After FY21-30 to Project Completion
58	Pier 70	1,500,000												-
59	SFO Substation Improvements	150,000,000	-	-	-	-	10,950,000	29,875,000	29,875,000	29,875,000	11,950,000	6,855,000	119,380,000	20,000,000
60	HHP-EE Programs for New Retail Customers	34,862,000	2,069,000	2,686,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	32,755,000	-
61	Distribution Interface - Redevelopment Projects	232,896,869	23,327,415	21,285,526	30,785,256	24,785,526	27,785,525	25,785,525	17,785,524	17,785,524	17,785,524	17,785,524	224,896,869	-
62	HHP-Intervening Facilities	105,000,000	-	-	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	48,000,000	39,100,000
63	HHP-HP Phase 2 - Alice Griffith/Candlestick Point	37,868,272	-	-	5,566,778	5,566,778	5,566,778	5,566,778	5,566,778	5,566,778	1,116,901	1,116,901	35,634,470	2,233,802
64	Bay Corridor Transmission Distribution (BCTD)	123,593,582	10,353,000	-	-	-	-	-	-	-	-		10,353,000	-
	15377-UH Streetlight Replacement													
	15377-UH Streetlight Replacement	**70,384,733**	**-**	**-**	**3,815,000**	**3,815,000**	**3,815,000**	**3,815,000**	**3,815,000**	**3,815,000**	**3,815,000**	**3,815,000**	**30,520,000**	**2,880,000**
65	LED Conversion Project	7,100,000												-
66	Van Ness - Bus Rapid Transit	15,521,000												-
67	Various Streetlighting Replacement & Repairs	5,782,734			550,000	550,000	550,000	550,000	550,000	550,000	550,000	550,000	4,400,000	-
68	Various Streetlighting Area Improvements	10,556,676			1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	8,000,000	-
69	High Voltage 5 kV Series Loop Conversion	3,076,598			-	-	-	-	-	-	-	-	-	-
70	HHP-Pedestrian Lighting Project	8,530,200			500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	4,000,000	3,680,000
71	HHP-Holiday and Festivity Pole Use	2,020,001			300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	2,400,000	(800,000)
72	HHP-Street and Pedestrian Light Pole Assessment	4,500,000			500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	4,000,000	-
73	HHP-Streetlights Pole Rehabilitation	8,701,788			500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	4,000,000	-
74	Distributed Antenna Services	4,595,737			465,000	465,000	465,000	465,000	465,000	465,000	465,000	465,000	3,720,000	-
	15383-UH Alternative Transmission				**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**		
	15383-UH Alternative Transmission	**29,440,308**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**16,760,960**
75	Power Asset Acquisition Analysis	29,440,308	-	-									-	16,760,960
	15384-UH Load Meter Program													
	15384-UH Load Meter Program	**4,750,000**												
76	Load Meter Program	4,750,000												-
	15390-UH Hunters Point Municipal													
	15390-UH Hunters Point Municipal	**10,434,785**												
77	Hunters Point Municipal Power	10,434,785												
	15391-UH Treasure Island Capital Imp													
	15391-UH Treasure Island Capital Imp	**43,663,303**	**4,582,543**	**4,332,543**	**1,482,543**	**2,732,543**	**1,482,543**	**1,482,543**	**1,204,034**	**1,204,034**	**1,204,034**	**1,204,034**	**20,911,394**	**-**
78	New Underground 12 kV Distribution System - TI&YBI	36,463,303	1,482,543	1,482,543	1,482,543	1,482,543	1,482,543	1,482,543	1,204,034	1,204,034	1,204,034	1,204,034	13,711,394	-
79	Treasure Island Utility Cost Setup	1,250,000				1,250,000							1,250,000	-
80	New Underground 12 kV Distribution System - Oakland	5,950,000	3,100,000	2,850,000									5,950,000	-
	15394-UH Transbay Transit Center													
	15394-UH Transbay Transit Center	**13,908,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
81	Transbay Transit Center	13,908,000											-	-
	15400-UH Renewable-generation - Small													
	15400-UH Renewable-generation - Small	**16,773,509**	**1,000,000**	**1,000,000**	**1,000,000**	**1,000,000**	**1,000,000**	**1,000,000**	**1,000,000**	**1,000,000**	**1,000,000**	**1,000,000**	**10,000,000**	**-**
82	Marina Middle School Solar	1,920,050												-
83	Moscone West	3,051,312												-
84	Renewable/Generation - Small Renewables	11,802,147	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	10,000,000	-
	15404-UH Hetchy Cap And Trade Allowance													
	15404-UH Hetchy Cap and Trade Allowance	**17,681,675**	**1,000,000**	**1,000,000**	**1,000,000**	**1,000,000**	**1,000,000**	**1,000,000**	**1,000,000**	**1,000,000**	**1,000,000**	**1,000,000**	**10,000,000**	**-**
85	Energy Efficiency General Fund	17,681,675	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	10,000,000	-
	20815-ERAF PUC Utility Acq Assessment													
	20815-ERAF PUC Utility Acq Assessment	**4,500,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	
86	Power Asset Acquisition Analysis	4,500,000	-	-		-	-	-	-	-	-	-	-	-
	HETCHY POWER TOTAL	**956,894,032**	**42,331,958**	**30,304,069**	**53,149,577**	**48,399,847**	**61,099,846**	**78,024,846**	**69,746,336**	**69,746,336**	**47,371,459**	**42,276,459**	**542,450,733**	**80,974,762**
	Total USES	**2,647,721,047**	**80,833,733**	**141,778,552**	**244,540,577**	**197,170,847**	**196,947,346**	**189,974,346**	**175,638,336**	**146,900,336**	**110,998,459**	**82,043,659**	**1,566,826,191**	**342,416,472**

	SOURCES	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY29-30	FY 21-30	After FY21-30 to Project Completion
87	Revenue												
88	Power Revenue	(1,757,000)	(781,000)	15,699,881	15,546,122	15,388,030	15,218,623	15,040,809	14,853,818	14,657,298	14,450,437	118,317,018	
89	Distributed Antenna System	2,831,000	2,932,000	3,037,500	3,147,000	3,261,000	3,379,500	3,502,500	3,630,500	3,763,500	3,902,000	33,386,500	
90	Power - Cap and Trade Auction Revenue	495,000	535,000	577,619	621,878	665,970	716,877	771,691	830,682	894,202	962,563	7,071,482	
91	Low Carbon Fuel Standard	2,500,000	2,000,000	1,700,000	1,700,000	1,700,000	1,700,000	1,700,000	1,700,000	1,700,000	1,700,000	18,100,000	
92	**Subtotal**	**4,069,000**	**4,686,000**	**21,015,000**	**21,015,000**	**21,015,000**	**21,015,000**	**21,015,000**	**21,015,000**	**21,015,000**	**21,015,000**	**176,875,000**	
93	Debt												
94	Water Bonds	28,368,149	63,964,574	100,102,200	81,725,900	76,691,975	54,677,925	51,362,350	33,566,750	32,714,400	22,110,200	545,284,423	
95	Power Bonds - Up-country	10,133,626	47,509,909	91,288,800	67,045,100	59,155,525	57,271,575	54,529,650	43,587,250	30,912,600	17,657,000	479,091,035	
96	Power Bonds - Local	38,262,958	25,618,069	32,134,577	27,384,847	40,084,846	57,009,846	48,731,336	48,731,336	26,356,459	21,261,459	365,575,733	
97	**Subtotal**	**76,764,733**	**137,092,552**	**223,525,577**	**176,155,847**	**175,932,346**	**168,959,346**	**154,623,336**	**125,885,336**	**89,983,459**	**61,028,659**	**1,389,951,191**	
98													
99	**Total SOURCES**	**80,833,733**	**141,778,552**	**244,540,577**	**197,170,847**	**196,947,346**	**189,974,346**	**175,638,336**	**146,900,336**	**110,998,459**	**82,043,659**	**1,566,826,191**	
100	**Surplus/ (Shortfall)**	-	-	-	-	-	-	-	-	-	-	-	

*The total includes funds appropriated in prior years not shown in this 10 year plan.

SFPUC HETCH HETCHY ENTERPRISE FY 2021-2030 PROGRAMMATIC PROJECT BUDGET

	USES	FY 20-21 Requested	FY 21-22 Requested	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	Total FY 21-30
	Program - Project											
1	SF Electric Reliability-Trans Bay Cable Funding	3,100,000	0	0	0	0	0	0	0			3,100,000
2	Facilities Maintenance	5,960,000	6,334,000	1,224,000	1,449,000	1,693,000	1,927,000	2,180,000	2,443,000	2,717,000	3,001,000	28,928,000
3	HHW-WECC/NERC Compliance	3,069,402	2,459,557	3,193,000	3,488,000	3,795,000	4,115,000	4,448,000	4,794,000	5,154,000	5,528,000	40,043,959
4	HHW-WECC/NERC Transmission Line Clearance	0	0	232,000	241,000	250,000	260,000	271,000	282,000	293,000	305,000	2,134,000
5	Treasure Island Facilities Maintenance	3,825,000	4,016,000	4,217,000	4,428,000	4,649,000	4,788,000	4,930,000	5,077,000	5,229,000	5,386,000	46,545,000
6	Youth Employment Project	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	1,500,000
	Subtotal	**16,104,402**	**12,959,557**	**9,016,000**	**9,756,000**	**10,537,000**	**11,240,000**	**11,979,000**	**12,746,000**	**13,543,000**	**14,370,000**	**122,250,959**
7	525 Golden Gate - Operations & Maintenance	1,277,275	779,000	802,000	826,000	850,000	850,000	850,000	875,000	900,000	927,000	8,936,275
8	526 Golden Gate - Lease Payments	1,248,010	1,248,217	1,249,541	1,244,204	1,233,793	1,223,148	1,212,207	1,200,909	1,188,721	1,176,082	12,224,832
	Subtotal	**2,525,285**	**2,027,217**	**2,051,541**	**2,070,204**	**2,083,793**	**2,073,148**	**2,062,207**	**2,075,909**	**2,088,721**	**2,103,082**	**21,161,107**
	Total USES	**18,629,687**	**14,986,774**	**11,067,541**	**11,826,204**	**12,620,793**	**13,313,148**	**14,041,207**	**14,821,909**	**15,631,721**	**16,473,082**	**143,412,066**

	SOURCES	FY 20-21 Requested	FY 21-22 Requested	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	FY 21-30
	Other											
9	Infrastructure - Recovery Capital (O&M)	84,000	86,000	88,000	90,000	90,000	90,000	93,000	96,000	96,000	96,000	909,000
10	Infrastructure - Recovery Capital (Lease)	238,000	238,000	238,000	238,000	238,000	238,000	238,000	238,000	238,000	238,000	2,380,000
11	Federal Bond Interest Subsidy	267,589	267,589	265,000	265,000	260,000	251,000	241,000	230,000	230,000	230,000	2,507,178
12	Trans Bay Cable Payment	3,100,000		-	-	-	-	-	-			3,100,000
	Subtotal	**3,689,589**	**591,589**	**591,000**	**593,000**	**588,000**	**579,000**	**572,000**	**564,000**	**564,000**	**564,000**	**8,896,178**
	Revenue											
13	Treasure Island	3,825,000	4,016,000	4,217,000	4,428,000	4,649,000	4,788,000	4,930,000	5,077,000	5,229,000	5,386,000	46,545,000
14	Revenue - Power	11,115,098	10,379,185	6,259,541	6,805,204	7,383,793	7,946,148	8,539,207	9,180,909	9,838,721	10,523,082	87,970,888
	Subtotal	**14,940,098**	**14,395,185**	**10,476,541**	**11,233,204**	**12,032,793**	**12,734,148**	**13,469,207**	**14,257,909**	**15,067,721**	**15,909,082**	**134,515,888**
	Total SOURCES	**18,629,687**	**14,986,774**	**11,067,541**	**11,826,204**	**12,620,793**	**13,313,148**	**14,041,207**	**14,821,909**	**15,631,721**	**16,473,082**	**143,412,066**
	Surplus / (Shortfall)	-	-	-	-	-	-	-	-	-	-	-

SFPUC CLEANPOWERSF FY 2021-2030 CAPITAL PLAN

	USES	*Total Approved Project Budget	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	Total FY 21-30	After FY21-30 to Project Completion
	CleanPower SF													
	TBD-New Authority Level 1													
	TBD-New Authority Level 2													
1	Local Renewable Energy Program	62,592,000	437,500	508,500	224,000	224,000	489,000	349,000	234,000	384,000	18,370,000	41,372,000	62,592,000	
2	CleanPower SF Customer Program	13,227,326	1,460,997	1,924,329	1,249,000	1,199,000	1,149,000	1,324,000	1,249,000	1,199,000	1,149,000	1,324,000	13,227,326	
3														
4	**Total Uses**	**75,819,326**	**1,898,497**	**2,432,829**	**1,473,000**	**1,423,000**	**1,638,000**	**1,673,000**	**1,483,000**	**1,583,000**	**19,519,000**	**42,696,000**	**75,819,326**	

	USES	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	FY 21-30
5	Revenues/Reserve	1,898,497	2,432,829	1,473,000	1,423,000	1,638,000	1,673,000	1,483,000	1,583,000	19,519,000	42,696,000	75,819,326
6												

*The total includes funds appropriated in prior years not shown in this 10 year plan.

Page intentionally left blank

CAPITAL BUDGET SOURCES

SFPUC's capital program is mostly supported by debt financing. In fact, as a result of this, The SFPUC's single biggest operating cost driver is debt service.

In FY 2020-21, SFPUC's $517.7 million capital budget is funded by $358.9 million of debt, or 67 percent, and $168.8 million in cash (revenue funding), or 33 percent. In FY 2021-22, the $698.0 million capital budget is supported by $518.1 million in debt, or 74 percent and $179.9 million in cash, or 26 percent. Of the Debt funding, in the majority is ESER GO bonds, with the remainder met by local and regional revenue bonds. Revenue funding includes general sales revenues as well as specific sources in Power such as Cap and Trade and Distributed Antenna revenues. The approximately $62 million annual programmatic project budget is majority cash funded, with about 19 percent coming from other operating sources including Federal bond interest subsidies and recovery capital.

Debt

Debt is a major component of SFPUC's budget, with debt service comprising around 28 percent of total operating costs. In FY 2020-21 debt service costs $394.7 million, rising to $418.1 million in FY 2021-22. This debt supports about two-thirds of SFPUC's capital budget over the next two years. In the longer term, the Ten-Year Capital and Financial Plans assume significant debt financing of capital needs. The plans assume a financing strategy that utilizes short-term financing via the existing Commercial Paper (CP) program to calibrate financing needs with project spending. Long-term (30-year) 5 percent fixed rate debt issuance is assumed to periodically refund the CP program. The CP program facilitates short-term financing typically at lower interest rates than longer term debt, which minimizes costs.

The following table to the top right details the of budgeted principal and interest payments for each year, in aggregate and by enterprise. This table also includes allocated charges from Certificates of Participation (COPs).

Policies Governing SFPUC's Debt

SFPUC's debt management mission is to serve, within the financial objectives and parameters established by the Commission, the capital financing needs of the respective enterprises in a cost effective, low risk and flexible manner, through the implementation of sound financial decision making and the use of appropriate financing tools.

The Debt Policy of the City and County of San Francisco, established by the Mayor's Office of Public

Continued on next page...

VISITACION VALLEY MIDDLE SCHOOL: INSTALLATION OF SOLAR PANEL ON ROOF. CHRIS PARAS, A UTILITY SPECIALIST.

BUDGETED PRINCIPAL AND INTEREST PAYMENTS

$ millions	FY 2020-21 Adopted Budget	FY 2021-22 Adopted Budget
Water		
Interest	216.5	210.9
Principal	**96.9**	116.0
Allocated Charges (COPs)	(9.2)	(9.2)
Subtotal	**304.2**	**317.7**
Wastewater		
Interest	61.2	71.4
Principal	26.3	26.1
Allocated Charges (COPs)	(2.4)	(2.4)
Subtotal	**85.0**	**95.2**
Hetch Hetchy Water & Power		
Interest	3.1	2.9
Principal	2.6	2.6
Allocated Charges (COPs)	(1.2)	(1.2)
Subtotal	**4.4**	**4.3**
CleanPowerSF		
Interest	-	-
Principal	1.0	1.0
Allocated Charges (COPs)	-	-
Subtotal	**1.0**	**1.0**
SFPUC Aggregate		
Interest	280.8	285.2
Principal	126.7	145.7
Total	**394.7**	**418.1**

Total outstanding debt as of June 30, 2020 is as follows:

	Water	Wastewater	Power
Revenue Bonds	$4.4B	$1.5B	$37.3M
SRF & WIFIA Loans (Executed/ Drawn)	$171M/$0	$1.5B/$89M	-
Tax Credit Bonds	**-**	**-**	**$8.8M**
Commercial Paper (Authorized/ Drawn)	$500M/$362M	$750M/$208M	$250M/$64M

Finance and Business Affairs, summarizes the City's existing debt polices and formally establishes them for all future debt. From time to time, the Mayor's Office of Public Finance and Business Affairs may deviate from policies herein. The following policies are relevant and can be found on SFPUC's website.

- San Francisco Public Utilities Commission Debt Management Policy and Procedures issued in November 2019
- Fund Balance Reserve Policy
- City and County of San Francisco Debt Policy - May 2017
- Debt Service Coverage Policy - March 2017
- Capital Financing Policy - March 2017

Current legal debt limit and authorizations (as of June 30, 2020) are as follows:

Water:

Pursuant to the Charter Section 8B.124, the Enterprise can incur indebtedness upon two-thirds vote of the Board of Supervisors, as approved by voters in Proposition E in November 2002. As of June 30, 2020, the Board of Supervisors has authorized the issuance of $4.3 billion in revenue bonds under Proposition E, with $3.5 billion issued against this authorization. The Enterprise can also incur indebtedness of up to $1.6 billion for improvements to the water system pursuant to Proposition A that was approved by the voters in November 2002. As of June 30, 2020, $1.3 billion of the $1.6 billion Proposition A authorized bonds were issued. The Enterprise is also authorized to issue up to $500 million in commercial paper with $362.4 million outstanding as of June 30, 2020.

Wastewater:

Pursuant to the Charter Section 8B.124, the Enterprise can incur indebtedness upon two-thirds vote of the Board of Supervisors. As of June 30, 2020, the Enterprise had $3.4 billion in combined debt issuance authorization from the Board of Supervisors under Proposition E, with $2.7 billion issued against this authorization. The Enterprise has a $750 million authorized commercial paper program, with $208.0 million in tax-exempt commercial paper outstanding as of June 30, 2020.

Power Enterprise:

Pursuant to Charter Section 9.107(6), the Power Enterprise can incur indebtedness upon three-fourths vote of the Board of Supervisors, for the purpose of the reconstruction or replacement of existing water facilities and electric power facilities, or combinations thereof, under the jurisdiction of the Public Utilities Commission. Pursuant to Charter Section 9.107(8), the Power Enterprise can issue revenue bonds, without voter approval, upon an affirmative vote of the Board

of Supervisors, for the purpose of the acquisition, construction, installation, equipping, improvement, or rehabilitation of equipment or facilities for renewable energy and energy conservation. Pursuant to Proposition A, approved by the San Francisco voters on June 5, 2018, City Charter Section 8B.124 is amended to authorize the Power Enterprise to enter into indebtedness, including revenue bonds, notes, commercial paper or other forms of indebtedness, when authorized by ordinance approved by a two-thirds vote of the Board of Supervisors to reconstruct, replace, expand, repair, improve or construct new power facilities under the jurisdiction of SFPUC or for any other purpose of the Power Enterprise, and in compliance with City Charter Section 8B.124. Proposition A expressly prohibits the SFPUC from issuing bonds to finance the construction of power plants that generate electricity using fossil fuels or nuclear energy. As of June 30, 2020, $39.5 million of Hetchy Power revenue bonds were issued against existing authorization of $392.7 million. The Enterprise is also authorized to issue up to $250 million in commercial paper with $63.5 million outstanding as of June 30, 2020.

Debt Service Coverage Policy

In addition to debt limits, SFPUC also imposes policy limits on debt service coverage. Pursuant to SFPUC bond covenants entered into with bondholders, enterprise revenues pledged for the repayment of debt service must meet the following financial ratios.

- Indenture Coverage: Net Revenues must equal a minimum of 1.25 x annual debt service
- Current Coverage: Annual Revenues must equal a minimum of 1.00 x annual debt service

To ensure that the SFPUC maintains access to low-cost capital and retains financial flexibility for contingencies, it is important to adopt and implement financial policies that impose higher standards than the minimum indenture requirements. Therefore, for each enterprise, the SFPUC adopt budgets, rates and financial plans that generate revenues such that:

- Indenture Coverage shall be at least 1.35x
- Current Coverage shall be at least 1.10x

To monitor compliance with this policy, SFPUC presents this information as part of the budget process and the 10-year financial plan. SFPUC is forecast to meet these policy minimums in the FY 2020-21 and FY 2021-22 budget and throughout the 10-year Financial Plan period.

Debt to be issued during the budget period

In the FY 2020-21 and FY 2021-22 period, the SFPUC anticipates issuing the following debt[1]:

Description	Approximate Transaction Size	Estimated Closing
Water - Drinking Water SRF Loan for Mountain Tunnel Project	$140M - $240M	3/2021
Wastewater - Revenue Notes	$250M - $350M	6/2021
Power – Power Debt Transaction	**To be determined**	**6/2021**
Water & Wastewater - Approve renewal or replacement of bank credit facilities for interim funding programs	$75M-Wastewater $100M-Water $150M-Wastewater $100M-Water	1/2021 1/2021 3/2021 5/2021

[1] Note: Dates and amounts are approximate and subject to change. FY2022 Debt Issuances currently under development.

Page intentionally left blank

DATA SHEETS

9

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

Water Enterprise

Fiscal Years 2021-2030

Ten Year CIP

June 22, 2020

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19056-UW Regional Water Treatment Pr
Authority Level 2:	TBD - WTR R&R
Project ID/FSP ID	CUW2720101 / (N/A)
Project Title:	Tesla UV R&R
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Treatment Program
Type:	Capital
Description:	Expenditures in this project consist of minor upgrades to the Tesla UV Facility to achieve a higher level of performance. Projects include upgrades of chemical dosage, flow monitoring, small valve and pump replacement, chemical handling upgrades, and building ventilation.
Justification:	Many of the projects are identified at the startup of the UV facility and by Operations staff observations. The project will result in more reliable performance. Water LOS Goal(s) Supported: Water Quality
Operating Impact:	None.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 50	$ 0	$ 0	$ 0	$ 5	$ 5	$ 40
Environmental Review	$ 50	$ 0	$ 0	$ 0	$ 5	$ 5	$ 40
Design	$ 250	$ 25	$ 25	$ 25	$ 25	$ 25	$ 125
Construction Management	$ 150	$ 0	$ 0	$ 0	$ 15	$ 15	$ 120
Construction	$ 1,000	$ 100	$ 100	$ 100	$ 100	$ 100	$ 500
Total	$ 1,500	$ 125	$ 125	$ 125	$ 150	$ 150	$ 825

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19056-UW Regional Water Treatment Pr
Authority Level 2:	TBD - WTR R&R
Project ID/FSP ID	CUW2720202 / (N/A)
Project Title:	East Bay Field R&R
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Transmission Program
Type:	Capital
Description:	The budget for this project includes the expected maintenance and replacement of worn components such as chemical piping, chemical feed pumps, chemical tanks, HVAC control system, and all field facility upgrades.
Justification:	Many of the projects are identified through condition assessments, operations staff observations, review of level of service, subsequent feasibility studies, and alternative analyses at each major plant. The project will result in more reliable performance from East Bay Fields Facilities. Water LOS Goal(s) Supported: Water Quality and Regional Delivery Reliability
Operating Impact:	This project ensures better reliability from East Bay Field Facilities.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 28	$ 0	$ 0	$ 0	$ 0	$ 0	$ 28
Construction Management	$ 223	$ 20	$ 20	$ 20	$ 20	$ 21	$ 122
Construction	$ 1,750	$ 175	$ 175	$ 175	$ 175	$ 175	$ 875
Total	$ 2,001	$ 195	$ 195	$ 195	$ 195	$ 196	$ 1,025

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19056-UW Regional Water Treatment Pr
Authority Level 2:	TBD - WTR R&R
Project ID/FSP ID	CUW2720202 / (N/A)
Project Title:	SVWTP R&R
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Treatment Program
Type:	Capital
Description:	Expenditures in this project consist of minor upgrades to Sunol Valley Water Treatment Plant (SVWTP) to achieve a higher level of performance. The budget includes the expected replacement of worn plant components.
Justification:	Many of the projects are identified through condition assessments, operations staff observations, review of level of service and feasibility studies. The project will result in more reliable performance. Water LOS Goal(s) Supported: Water Quality
Operating Impact:	This project ensures better reliability and overall treatment efficiency of the SVWTP.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 90	$ 9	$ 9	$ 9	$ 9	$ 9	$ 45
Environmental Review	$ 74	$ 1	$ 1	$ 1	$ 11	$ 11	$ 49
Design	$ 440	$ 44	$ 44	$ 44	$ 44	$ 44	$ 220
Construction Management	$ 260	$ 26	$ 26	$ 26	$ 26	$ 26	$ 130
Construction	$ 1,771	$ 175	$ 175	$ 175	$ 175	$ 175	$ 896
Total	$ 2,635	$ 255	$ 255	$ 255	$ 265	$ 265	$ 1,340

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19056-UW Regional Water Treatment Pr
Authority Level 2:	TBD - WTR R&R
Project ID/FSP ID	CUW2720301 / (N/A)
Project Title:	HTWTP R&R
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Transmission Program
Type:	Capital
Description:	Expenditures in this project consist of minor upgrades to the Harry Tracy Water Treatment Plant (HTWTP) to achieve a higher level of performance. The budget includes the expected replacement of worn plant components.
Justification:	Many of the projects are identified through condition assessments, operations staff observations, review of level of service and feasibility studies. The project will result in more reliable performance. Water LOS Goal(s) Supported: Water Quality
Operating Impact:	None.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 50	$ 5	$ 5	$ 5	$ 5	$ 5	$ 25
Environmental Review	$ 35	$ 0	$ 0	$ 0	$ 5	$ 5	$ 25
Design	$ 250	$ 25	$ 25	$ 25	$ 25	$ 25	$ 125
Construction Management	$ 180	$ 15	$ 15	$ 15	$ 15	$ 15	$ 105
Construction	$ 1,000	$ 100	$ 100	$ 100	$ 100	$ 100	$ 500
Total	$ 1,515	$ 145	$ 145	$ 145	$ 150	$ 150	$ 780

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19056-UW Regional Water Treatment Pr
Authority Level 2:	TBD - WTR R&R
Project ID/FSP ID	CUW272031 / (N/A)
Project Title:	West Bay Field R&R
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Transmission Program
Type:	Capital
Description:	The budget for this project includes the expected maintenance and replacement of worn components for all West Bay Field facilities Improvements, and Water Quality sample stations in the West Bay. Projects include upgrades of chemical dosage, flow monitoring, valve and pump replacement, and chemical handling upgrades. The Regional Groundwater Storage and Recovery Project is provided in response to the Water Supply LOS goal. The purpose of the project is to develop a Regional Water System groundwater supply in the South Westside Basin for use during dry years. In normal and wet years, the SFPUC will supply supplemental surface water to Daly City, San Bruno, and Cal Water to be used in place of their typical groundwater pumping. The reduced pumping during normal and wet years will thereby increase the volume of groundwater in storage that can be pumped as supplemental water in dry years. The wells are in the South Westside Groundwater Basin (Daly City, Colma, South San Francisco, San Bruno, and Millbrae) and will be used to supply supplemental water during dry years. There are a total of 15 wells in the area extending from the Millbrae Yard to the Lake Merced Golf Club. Nominal costs for fixing these wells at $50K per year is included in this fund.
Justification:	Many of the projects are identified through condition assessments, operations staff observations, and review of level of service. The project will result in more reliable performance. Water LOS Goal(s) Supported: Water Quality
Operating Impact:	This project ensures reliability and overall treatment efficiency of the West Bay Field Facilities.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 50	$ 5	$ 5	$ 5	$ 5	$ 5	$ 25
Environmental Review	$ 35	$ 0	$ 0	$ 0	$ 5	$ 5	$ 25
Design	$ 250	$ 25	$ 25	$ 25	$ 25	$ 25	$ 125
Construction Management	$ 180	$ 15	$ 15	$ 15	$ 15	$ 15	$ 105
Construction	$ 1,000	$ 100	$ 100	$ 100	$ 100	$ 100	$ 500
Total	$ 1,515	$ 145	$ 145	$ 145	$ 150	$ 150	$ 780

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19056-UW Regional Water Treatment Pr
Authority Level 2:	15479-UW Regional Water Treatment Pr
Project ID/FSP ID	NEW / (N/A)
Project Title:	Multiple PW Projects
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	
Facility Category:	Water Transmission Program
Type:	Capital
Description:	Expenditures in this project consist of upgrades to chemical piping throughout the Regional Water System. All chemical piping has an approximate useable life of ten (10) years. Depending on workmanship (especially at the joints, bends, and connection with pumps), the usable life may even be shorter. While WSTD has skilled staff to perform such work, there is so much of it that capital improvements of chemical piping needs additional dedicated staff. PW house plumbers have been recruited to perform this work. Completed projects have included improvements at Sunol Valley Water Treatment Plant, Sunol Valley Chloramination Facility, Pulgas Dechlor Facility. The work is phased such that construction does not affect the operation of the facility. Another 2-3 years of full time work is still needed at these facilities, with additional work needed at Harry Tracy Water Treatment Plant and Tesla UV Facility.
Justification:	These improvements are needed for a functioning facility. Without them, there can be leaks that compromise the facility, health and safety problems, as well as regulatory violations.
Operating Impact:	This project provides water treatment reliability for the Regional Water System.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19056-UW Regional Water Treatment Pr
Authority Level 2:	15479-UW Regional Water Treatment Pr
Project ID/FSP ID	CUW2720301 / 10027758
Project Title:	UW On-Line Water Quality Sampling
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This project is in response to Directive No.6, of Citation No. 02_04_15C_005 issued to SFPUC by the State's Division of Drinking Water in connection with the events of March 3rd and 4th of 2015, when untreated water from the San Antonio Reservoir entered the Regional Water System (RWS). Directive No.6 requires that the SFPUC shall evaluate the benefits of additional on-line data sampling locations throughout the RWS. Two locations, Stanford Tunnel East and Ravenswood Valve Lot, were selected with considerations of accessibility, connectivity, reliability and water conservation and other operational aspects.
Justification:	If SFPUC failed to show progress to provide two new sampling stations, SFPUC is in violation of the State's Division of Drinking Water Directive No.6, and additional citations and fines could be imposed on SFPUC. Water LOS Goal(s) Supported: Water Quality
Operating Impact:	None until another incident involving raw water occurs

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19056-UW Regional Water Treatment Pr
Authority Level 2:	15480-UW Tesla Uv Facility
Project ID/FSP ID	CUW2720101 / 10015057
Project Title:	Tesla Improvements
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Transmission Program
Type:	Capital
Description:	Expenditures in this project consist of minor upgrades to the Tesla UV Facility to achieve a higher level of performance. 1. Install booster pump for sample analyzers 2. Install secondary containment for oil from transformer 3. Install containment for mercury discharges 4. Replace 5 seepex pumps with diaphragm pumps 5. Replumb diesel piping system aboveground 6. Replace chemical lines 7. Installing canopy/cover for C02 system and carrier water pumps 8. Install pump for domestic water system
Justification:	Many of the projects were identified at the startup of the UV facility and by Operations staff observations. The project will result in more reliable performance. Water LOS Goal(s) Supported: Water Quality
Operating Impact:	This project better ensures better reliability and overall treatment efficiency of the Tesla UV Facility.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 43	$ 0	$ 0	$ 13	$ 25	$ 5	$ 0
Environmental Review	$ 43	$ 0	$ 0	$ 13	$ 25	$ 5	$ 0
Design	$ 211	$ 0	$ 0	$ 63	$ 125	$ 23	$ 0
Construction Management	$ 127	$ 0	$ 0	$ 38	$ 75	$ 14	$ 0
Construction	$ 840	$ 0	$ 0	$ 250	$ 500	$ 90	$ 0
Total	$ 1,264	$ 0	$ 0	$ 377	$ 750	$ 137	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19056-UW Regional Water Treatment Pr
Authority Level 2:	15480-UW Tesla Uv Facility
Project ID/FSP ID	CUW2720101 / 10015058
Project Title:	Thomas Shaft
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Transmission Program
Type:	Capital
Description:	Expenditures in this project consist of minor upgrades to Thomas Shaft(back-up to Tesla Treatment Facility) to achieve a higher level of performance. The budget includes: 1. Replace all chemical piping 2. Repair sample pumps 1 and 2
Justification:	Many of the projects are identified by Operations staff observations. The project will result in more reliable performance. Water LOS Goal(s) Supported: Water Quality
Operating Impact:	This project better ensures better reliability and overall treatment efficiency of Thomas Shaft.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 20	$ 0	$ 0	$ 20	$ 0	$ 0	$ 0
Environmental Review	$ 20	$ 0	$ 0	$ 20	$ 0	$ 0	$ 0
Design	$ 100	$ 0	$ 0	$ 100	$ 0	$ 0	$ 0
Construction Management	$ 60	$ 0	$ 0	$ 0	$ 60	$ 0	$ 0
Construction	$ 400	$ 0	$ 0	$ 0	$ 400	$ 0	$ 0
Total	$ 600	$ 0	$ 0	$ 140	$ 460	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19056-UW Regional Water Treatment Pr
Authority Level 2:	15481-UW Sunol Valley Water Treatment
Project ID/FSP ID	CUW2720210 / 10033123
Project Title:	SVWTP Ozone
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Bryan Dessaure
Facility Category:	Water Treatment Program
Type:	Capital
Description:	The scope of this project is to install a raw water ozonation system at SVWTP for both the San Antonio and Calaveras Reservoir sources including cryogenic oxygen tanks, liquid oxygen vaporizers, ozone generators, ozone injectors, an ozone contactor, an ozone building, an ozone destruct system, associated piping/appurtenances, associated automatic controls, related facilities, and offset power generation consisting of solar panels atop the Treated Water Reservoir.
Justification:	This project resulted from taste and odor outbreaks associated with algal blooms in San Antonio and Calaveras Reservoirs. Water LOS Goal(s) Supported: Water Quality
Operating Impact:	This project will improve the water quality especially during warm months and during Hetch Hetchy shutdowns.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 3,000	$ 3,000	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 8,981	$ 1,500	$ 7,481	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 67,630	$ 0	$ 0	$ 0	$ 58,100	$ 8,900	$ 630
Construction	$ 80,000	$ 0	$ 0	$ 80,000	$ 0	$ 0	$ 0
Total	$ 159,611	$ 4,500	$ 7,481	$ 80,000	$ 58,100	$ 8,900	$ 630

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19056-UW Regional Water Treatment Pr
Authority Level 2:	15481-UW Sunol Valley Water Treatment
Project ID/FSP ID	CUW2720204 / 10015064
Project Title:	SVWTP Phase 3
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Bryan Dessaure
Facility Category:	Water Transmission Program
Type:	Capital
Description:	The funds for this project will address various plant needs, such as building and structural deficiencies, various electrical and mechanical upgrades, health & safety improvements, roadway improvements, and environmental remediation that have been identified by WSTD staff and external consultants. Building and structural improvements include roofing work within the Administration Building, addressing structural deficiencies within the aqua ammonia system, replacing concrete joints near the settled water conduit, and concrete spalling repair in the sedimentation basins. Electrical upgrades include replacement of the obsolete flocculator VFDs for the flocculation basins. Mechanical repairs and upgrades include replacement of leaking washwater drain valves, replacement of corroded air scour piping, HVAC upgrades of the Administration Building, installing new flowmeters for the washwater backwash system and the chlorine contact tank piping, and implementing a fixed washdown system for the plate settlers in the sedimentation basin. Health & safety improvements include lighting upgrades in the basement and tunnel areas of the plant, upgrades to the plant intercom and paging system, mold removal and remodeling of the existing Administration Building lab facility. Roadway improvements include road widening at the chemical tank area to allow for vehicles to pass during chemical deliveries. Environmental remediation work includes cleanup of contaminated soil under an existing 3000 gallon diesel fuel tank.
Justification:	Many of the projects are identified through condition assessments, operations staff observations, review of level of service, subsequent feasibility studies, and alternative analyses. Water LOS Goal(s) Supported: Water Quality and Regional Delivery Reliability
Operating Impact:	This project ensures better reliability of the SVWTP.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,860	$ 860	$ 1,000	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 21,518	$ 0	$ 0	$ 0	$ 18,540	$ 2,678	$ 300
Construction	$ 25,000	$ 0	$ 0	$ 25,000	$ 0	$ 0	$ 0
Total	$ 48,378	$ 860	$ 1,000	$ 25,000	$ 18,540	$ 2,678	$ 300

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19056-UW Regional Water Treatment Pr
Authority Level 2:	15481-UW Sunol Valley Water Treatment
Project ID/FSP ID	CUW2720202 / (N/A)
Project Title:	Pond F3 East Pumps
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Transmission Program
Type:	Capital
Description:	The pumps at Pond F3 East in the East Bay Fields pump from the pond to the San Antonio Reservoir. These are submersible pumps embedded inside a casing and the pumps are inaccessible unless they are pulled using a crane. The terrain and design make maintaining these pumps difficult and sometimes dangerous in adverse weather.
Justification:	Redesign is necessary to maintain and access these pumps. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	This project better ensures better reliability from East Bay Field Facilities.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 30	$ 0	$ 0	$ 30	$ 0	$ 0	$ 0
Environmental Review	$ 30	$ 0	$ 0	$ 30	$ 0	$ 0	$ 0
Design	$ 75	$ 0	$ 0	$ 75	$ 0	$ 0	$ 0
Construction Management	$ 90	$ 0	$ 0	$ 0	$ 90	$ 0	$ 0
Construction	$ 600	$ 0	$ 0	$ 0	$ 600	$ 0	$ 0
Total	$ 825	$ 0	$ 0	$ 135	$ 690	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19056-UW Regional Water Treatment Pr
Authority Level 2:	15481-UW Sunol Valley Water Treatment
Project ID/FSP ID	CUW2720202 / (N/A)
Project Title:	Sunol Valley Chloramination Facility
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Transmission Program
Type:	Capital
Description:	The budget for this project includes the expected maintenance and replacement at the Sunol Valley Chloramination Facility of worn components such as chemical piping, chemical feed pumps, chemical tanks, HVAC control system, and all field facility upgrades. These include: 1. Replace chemical flowmeters 2. Remove tank liners to prevent liner failures. Upgrade the chemical injection system and chemical pump replacements. Upgrade seismic supports for chemical tanks. Repair and replace the FRP grating over the chemical tanks farm at SVCF to address excessive flexing and gap in panels. Replacement of chemical tank seismic anchors to meet current codes and replacement of all aged chemical piping 3. Fluoride piping replacement
Justification:	Many of the projects are identified through condition assessments, operations staff observations, review of level of service, subsequent feasibility studies, and alternative analyses at each major plant. The project will result in more reliable performance from East Bay Fields Facilities. Water LOS Goal(s) Supported: Water Quality
Operating Impact:	This project ensures better reliability from East Bay Field Facilities.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 112	$ 0	$ 0	$ 106	$ 6	$ 0	$ 0
Environmental Review	$ 112	$ 0	$ 0	$ 106	$ 6	$ 0	$ 0
Design	$ 559	$ 0	$ 0	$ 528	$ 31	$ 0	$ 0
Construction Management	$ 336	$ 0	$ 0	$ 317	$ 19	$ 0	$ 0
Construction	$ 2,235	$ 0	$ 0	$ 2,110	$ 125	$ 0	$ 0
Total	$ 3,354	$ 0	$ 0	$ 3,167	$ 187	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19056-UW Regional Water Treatment Pr
Authority Level 2:	15481-UW Sunol Valley Water Treatment
Project ID/FSP ID	CUW2720202 / (N/A)
Project Title:	SVWTP Phase 4
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Transmission Program
Type:	Capital
Description:	Expenditures in this project consist of major upgrades to Sunol Valley Water Treatment Plant (SVWTP) to achieve a higher level of performance. The budget for this project includes: 1. Emergency Eyewash station installation at CCT 2. Repair bird netting deficiencies at Floc/Sed. Basins and filters. Install new netting for fluoride storage and chemical delivery dock 3. Replace main switchboards 1 and 2, remove ATS-1, ATS-2 and ATS-3 and incorporate functionality into new switchgear. Add redundant 2MW standby generator with active particulate filters. Replace existing 2MW standby generator filters with active particulate filters 4. Replace all GE Power Circuit Breakers (not all are ARC flash rated) 5. SWVTP Inspection and repair of chemical fill and storage stations for structural deficiencies identified by Structus as part of the risk management plans for Sunol Valley Water Treatment Plant and Sunol Valley Chloramination Facility 6. Wash water pump soft starter 7. Repair concrete pad and coating at Caustic Tank farm 8. Air monitors for aqua ammonia tanks 9. Cat-C re-design 10. Replace 40 feet of sidewalk in front of Operation's building
Justification:	Many of the projects are identified through condition assessments, operations staff observations, review of level of service, subsequent feasibility studies, and alternative analyses at each major plant. The project will result in more reliable performance. Water LOS Goal(s) Supported: Water Quality and Regional Delivery Reliability
Operating Impact:	This project better ensures better reliability and overall treatment efficiency of the SVWTP.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,005	$ 1,000	$ 0	$ 5	$ 0	$ 0	$ 0
Environmental Review	$ 1,205	$ 0	$ 1,200	$ 5	$ 0	$ 0	$ 0
Design	$ 878	$ 0	$ 0	$ 25	$ 600	$ 253	$ 0
Construction Management	$ 515	$ 0	$ 0	$ 15	$ 300	$ 200	$ 0
Construction	$ 4,950	$ 0	$ 0	$ 4,950	$ 0	$ 0	$ 0
Total	$ 8,553	$ 1,000	$ 1,200	$ 5,000	$ 900	$ 453	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19056-UW Regional Water Treatment Pr
Authority Level 2:	15481-UW Sunol Valley Water Treatment
Project ID/FSP ID	CUW2720202 / (N/A)
Project Title:	Castlewood
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Transmission Program
Type:	Capital
Description:	Castlewood Reservoir equipment is old and dilapitated. UPS, injection system and other components in the electrical room need upgrading.
Justification:	Reservoir system to be maintained in order to keep level of service for the East Bay.
Operating Impact:	This project better ensures better reliability from East Bay Field Facilities.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 18	$ 0	$ 0	$ 0	$ 0	$ 18	$ 0
Environmental Review	$ 18	$ 0	$ 0	$ 0	$ 0	$ 18	$ 0
Design	$ 88	$ 0	$ 0	$ 0	$ 0	$ 88	$ 0
Construction Management	$ 56	$ 0	$ 0	$ 0	$ 0	$ 56	$ 0
Construction	$ 420	$ 0	$ 0	$ 0	$ 0	$ 420	$ 0
Total	$ 600	$ 0	$ 0	$ 0	$ 0	$ 600	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19056-UW Regional Water Treatment Pr
Authority Level 2:	15481-UW Sunol Valley Water Treatment
Project ID/FSP ID	CUW2720205 / (N/A)
Project Title:	SVWTP Polymer Feed Facility
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Bryan Dessaure
Facility Category:	Water Transmission Program
Type:	Capital
Description:	The scope of this project includes installation of a new polymer feed facility for SVWTP Basins 1 through 5. The flocculant aid polymer system will consist of the following components: • Polymer totes and tote storage area; • Polymer blending units; • Batch tanks; • Tank and tote mixers; • Batch tanks polymer transfer pump; and • Polymer feed pumps. WSTD is funding costs beyond $2.198M provided by WSIP. The WSIP funding for this project is lumped together with other Sunol Valley closeout projects and will complete the Planning, Environmental review, and some of the Design phases.
Justification:	A flocculant aid polymer system is required to achieve a settled water turbidity below 2 NTU in each sedimentation basin when operating at the maximum basin flow rate of 40 mgd. Water LOS Goal(s) Supported: Water Quality and Regional Delivery Reliability
Operating Impact:	This project ensures reliability and overall treatment efficiency of the SVWTP.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 4,000	$ 2,000	$ 2,000	$ 0	$ 0	$ 0	$ 0
Total	$ 4,000	$ 2,000	$ 2,000	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19056-UW Regional Water Treatment Pr
Authority Level 2:	15482-UW Htwtp & West Bay Fields
Project ID/FSP ID	CUW2720301 / (N/A)
Project Title:	HTWTP Improvements Capital
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Transmission Program
Type:	Capital
Description:	Expenditures in this project consists of upgrades to Harry Tracy Water Treatment Plant (HTWTP) to achieve a higher level of performance. Several of the major projects are as follows: 1. Replace ammonia piping and supports at the tank farm to address hazard review recommendations from the HTWTP ammonia system RMP 2. Replace all GE Power Circuit Breakers not ARC Flash Rated 3. Add emergency eyewash station at Ammonia injection building 4. Replace both diesel fuel polishing units – units are old and rusted 5. Add redundant stainless steel welded line to ammonia piping 6. Replace two air compressors 7. Replace ceiling and window storefronts that are leaking at the ozone building. 8. Replace or add soft starters for the washdown pumps 9. Add pump control valves, check valves, variable speed drive on utility water pumps/singer 10. Replace load interrupter switches 11. Sandblast and epoxy inside of clarifier tanks 12. Replace obsolete GE Power Break I Circuit Breakers CB-20 and CB-21 downstream of substations S6 and S7 transformers with their direct replacement GE Power Break II Circuit Breakers and replace load interrupter switches DS-06 and DS-07 on primary side of substation transformers S6 and S7 with Seco Breakmaster V vacuum circuit breakers and implement differential circuit protection across the substation transformers to decrease the incident energy and arc flash hazard as recommended by ABB/GE. Replace load interrupter switches DS-04 and DS-05 on primary side of substation transformers S4 and S5 with Seco Breakmaster V vacuum circuit breakers and implement differential circuit protection across the substation transformers to decrease the incident energy and arc flash hazard 13. Filter #2 underdrain has failed. Condition of other underdrains for Filters #1-#6 are unknown. Existing underdrain is believed to be a Tetra U Block with IMS caps 14. Add double containment for diesel piping 15. O3 building water heater/boiler – WH capped off, redesign and modify flues for boiler and water heater 16. Install smaller pump for feeding and lower rates 17. Fix piping so power cord is not being pulled down 18. Fix solids handling floor slope or install new sump pit and pump. Install system to grease the bearings on the screw conveyor. Replace polymer pumps with different type of pump 19. Add double containment for fluoride piping 20. Replace LOX sump pump 21. Convert filter control stations to automatic
Justification:	Many of the projects are identified through condition assessments, operations staff observations, review of level of service and subsequent feasibility studies and alternative analyses at the plant. Water LOS Goal(s) Supported: Water Quality and Regional Delivery Reliability
Operating Impact:	This project ensures reliability and overall treatment efficiency of the HTWTP.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 462	$ 0	$ 0	$ 31	$ 23	$ 60	$ 348
Environmental Review	$ 462	$ 0	$ 0	$ 31	$ 23	$ 60	$ 348
Design	$ 2,305	$ 0	$ 0	$ 155	$ 113	$ 300	$ 1,737
Construction Management	$ 1,383	$ 0	$ 0	$ 93	$ 68	$ 180	$ 1,042
Construction	$ 9,215	$ 0	$ 0	$ 620	$ 450	$ 1,200	$ 6,945
Total	$ 13,827	$ 0	$ 0	$ 930	$ 677	$ 1,800	$ 10,420

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19056-UW Regional Water Treatment Pr
Authority Level 2:	15482-UW Htwtp & West Bay Fields
Project ID/FSP ID	CUW2720301 / (N/A)
Project Title:	Pulgas Dechlor Facility
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Transmission Program
Type:	Capital
Description:	The budget for this project includes the expected maintenance and replacement of worn components at the Pulgas Dechloramination Facility. The heat pump there needs replacing. 1. Replace heat pump (R-22 can no longer be used after Jan 2020)
Justification:	Many of the projects are identified through condition assessments, operations staff observations, and review of level of service. The project will result in more reliable performance. Water LOS Goal(s) Supported: Sustainability
Operating Impact:	This project ensures reliability and overall treatment efficiency of the West Bay Field Facilities.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 3	$ 0	$ 0	$ 0	$ 3	$ 0	$ 0
Environmental Review	$ 3	$ 0	$ 0	$ 0	$ 3	$ 0	$ 0
Design	$ 13	$ 0	$ 0	$ 0	$ 13	$ 0	$ 0
Construction Management	$ 8	$ 0	$ 0	$ 0	$ 8	$ 0	$ 0
Construction	$ 50	$ 0	$ 0	$ 0	$ 50	$ 0	$ 0
Total	$ 77	$ 0	$ 0	$ 0	$ 77	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19056-UW Regional Water Treatment Pr
Authority Level 2:	15482-UW Htwtp & West Bay Fields
Project ID/FSP ID	CUW-TBD / (N/A)
Project Title:	Regional Groundwater Treatment Improvements
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Tracy Cael
Facility Category:	Water Treatment Program
Type:	Capital
Description:	The Regional Groundwater Treatment Improvements Project is created to implement follow-up work on the Water System Improvement Program (WSIP)-funded project CUW30103 - Regional Groundwater Storage and Recovery Project. The follow-up work consists of construction of chemical treatment facilities, and retrofit and installation of plumbing, electrical, mechanical, programming, groundwater treatment, and other miscellaneous work. The purpose of the project is to improve the performance of Regional Groundwater and Recovery supply in the South Westside Basin for use during dry years. In normal and wet years, the SFPUC will supply supplemental surface water to Daly City, San Bruno, and Cal Water to be used in place of their typical groundwater pumping. The reduced pumping during normal and wet years will thereby increase the volume of groundwater in storage that can be pumped as supplemental water in dry years. The wells are in the South Westside Groundwater Basin (Daly City, Colma, South San Francisco, San Bruno, and Millbrae) and will be used to supply supplemental water during dry years. There are a total of 15 production and test wells in the area extending from the Millbrae Yard to the Lake Merced Golf Club.
Justification:	The project is necessary to improve the performance of Regional Groundwater Storage and Recovery. Water LOS Goal(s) Supported: Water Quality and Water Supply
Operating Impact:	Recovery of stored water from some of the groundwater stations will be delayed until construction is complete in 2025.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 2,500	$ 0	$ 0	$ 2,500	$ 0	$ 0	$ 0
Construction Management	$ 11,000	$ 0	$ 0	$ 1,800	$ 8,600	$ 600	$ 0
Construction	$ 16,700	$ 0	$ 0	$ 16,700	$ 0	$ 0	$ 0
Total	$ 30,200	$ 0	$ 0	$ 21,000	$ 8,600	$ 600	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19057-UW Water Transmission Program
Authority Level 2:	15483-UW Water Transmission Program
Project ID/FSP ID	CUW2730401 / 10033247
Project Title:	Arc Flash Studies
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Transmission Program
Type:	Capital
Description:	'This project funds the arc flash study for various facilities within the Regional Water System. An Arc flash study is the evaluation of a workplace facility by an electrical safety expert to determine hazards and risks in relation to electrical systems. The on-site study results in arc flash equipment labeling, fault current and coordination analysis, recommendations for improvements and requirements for proper personal protective equipment (PPE).
Justification:	Arc flash analysis calculates incident energy and arc flash boundaries. Proper electrical system design, construction of arc resistant equipment, and requirements for safe work practices help minimize the risk of electrical arc flash. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	Some coordination and staff time is needed by Sys Ops and Electricians to provide access.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 200	$ 0	$ 0	$ 0	$ 0	$ 0	$ 200
Design	$ 800	$ 0	$ 0	$ 0	$ 0	$ 0	$ 800
Total	$ 1,000	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,000

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19057-UW Water Transmission Program
Authority Level 2:	15483-UW Water Transmission Program
Project ID/FSP ID	CUW2730501 / 10035029
Project Title:	As-Needed Pipeline Repair
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Yolanda Quisao
Facility Category:	Water Transmission Program
Type:	Capital
Description:	'This project is to create an as-needed construction contract for large diameter pipeline repair and replacement. This is unlike conventional contracts, which could take months to bring a contractor on-board. With this vehicle, the selected pre-qualified contractor could be ready to work following a pipeline inspection or incident (unanticipated leaks). WSTD would provide the steel pipe, butt-strap, and closure pieces needed for the repair. This project is fully funded by FY20 funding.
Justification:	Water transmission pipeline segments, including major pipe leaks and ruptures, can be repaired and replaced in a much shorter time frame as compared to conventional contracting methods. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	Minimize the duration of outages due to unscheduled pipeline shutdowns.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19057-UW Water Transmission Program
Authority Level 2:	15484-UW Corrosion Control
Project ID/FSP ID	CUW2730101 / 10015071
Project Title:	Corrosion Control
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Eric Choi
Facility Category:	Water Transmission Program
Type:	Capital
Description:	Appropriate corrosion control is essential to extending the life of buried structures such as pipelines. The program consists of installing testing stations, galvanic and impressed current systems, remote monitoring units, and installation of isolation protection systems for priority assets. The program also provides funding for maintenance of existing systems such as rectifier repairs and sacrificial anode replacements, active systems with impressed current, isolating structures, and enhanced monitoring. Develop standard design details and specifications for applications of corrosion protection systems to upgrade the cathodic protection for the transmission mains. Perform dielectric and cement mortar coated pipeline surveys. Perform PCCP inspections, internal pipeline inspections and interference test station surveys. Perform interference mitigation at all stray current sources affecting WSTD piping. Develop recommendations for implementation of corrosion protection measures so that recommended methods, control strategies, mitigation, and/or remediation technology for improved assets life-cycle performance. Perform visual inspection and ultrasonic testing to identify amount of metal loss for the pipelines. Recommend and specify lining products for repairs. Conduct biennial pipe-to-soil survey of all test station locations of cathodically protected and non-cathodically protected pipelines.
Justification:	A Corrosion Planning Report was completed in 1999. A master plan identified specific projects and costs and was completed in August 2010. Investments in corrosion protection are a cost effective way to significantly extend the usable life of pipelines and appurtenances. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	The project increases operating expenditures by about $10K per year for activities related to managing corrosion data and monitoring systems that are performed by consultants (professional services).

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,135	$ 0	$ 0	$ 100	$ 100	$ 100	$ 835
Environmental Review	$ 200	$ 0	$ 0	$ 25	$ 25	$ 25	$ 125
Design	$ 1,500	$ 0	$ 0	$ 300	$ 100	$ 100	$ 1,000
Construction Management	$ 1,360	$ 0	$ 0	$ 660	$ 100	$ 100	$ 500
Construction	$ 7,840	$ 0	$ 0	$ 2,500	$ 500	$ 500	$ 4,340
Total	$ 12,035	$ 0	$ 0	$ 3,585	$ 825	$ 825	$ 6,800

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19057-UW Water Transmission Program
Authority Level 2:	15485-UW Water Transmission Program
Project ID/FSP ID	CUW2730200 / 10015072
Project Title:	Pipeline Inspection & Repair Project
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Eric Choi
Facility Category:	Water Transmission Program
Type:	Capital
Description:	'This project funds inspection (including shutting down, de-watering, and disinfection of pipelines) and minor rehabilitation and repair of pipelines that follow these inspections. Minor repairs can usually be made in weeks or within one to two months. Appurtenances such as blow-off valves and air valves are replaced and often times mortar lining or polyurethane lining can be repaired in short stretches. An available 20-Year Pipeline Inspection Schedule outlined inspections for the next 20 years. In general, inspections are not committed to more than 1 year in advance. Inspection of Irvington Tunnel No.2 with specialized inspection ROV, budgetary cost $1M, funding has been encumbered. Inspection of tunnels in the Regional Water System will be set-up as a new project under pipeline improvement program. For budgetary estimate, each pipeline shutdown, de-watering, and disinfection cost about $250K. Electromagnetic Inspection of PCCP, $30K/mob, $25K/mi, $10k/report.
Justification:	Periodic internal pipeline inspections are essential to minimize pipeline failures. Inspection is also part of condition assessment of our pipelines, which provides a basis for prioritizing pipeline replacements. Routine pipeline inspections are a part of good industry maintenance practice for large diameter transmission pipelines. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	Different sections of pipelines going out of service for inspection must be carefully coordinated in order to maintain customer supply.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 2,160	$ 0	$ 0	$ 270	$ 270	$ 270	$ 1,350
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 1,120	$ 0	$ 0	$ 140	$ 140	$ 140	$ 700
Construction Management	$ 960	$ 0	$ 0	$ 120	$ 120	$ 120	$ 600
Construction	$ 9,120	$ 0	$ 0	$ 1,470	$ 1,470	$ 1,030	$ 5,150
Total	$ 13,360	$ 0	$ 0	$ 2,000	$ 2,000	$ 1,560	$ 7,800

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19057-UW Water Transmission Program
Authority Level 2:	15487-UW Pump Station Upgrades
Project ID/FSP ID	CUW2730401 / (N/A)
Project Title:	Calaveras Substation Upgrades
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This program funds upgrades related to the Calaveras Substation and possibly the electrical poles to and from the Calaveras Substation along Calaveras Road.
Justification:	Calaveras Substation is nearing its maximum capacity. Additional electrical loads at SVWTP related to Ozone and any upgrades to SAPS may trigger additional capital work to increase Calaveras Substation capacity. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	None at this time.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 18,200	$ 0	$ 0	$ 0	$ 0	$ 0	$ 18,200
Total	$ 18,200	$ 0	$ 0	$ 0	$ 0	$ 0	$ 18,200

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19057-UW Water Transmission Program
Authority Level 2:	15487-UW Pump Station Upgrades
Project ID/FSP ID	CUW2730401 / (N/A)
Project Title:	Crystal Springs Pump Station Upgrades
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This program funds various improvement projects at Crystal Springs Pump Station: 1. Fix flow control valve issues 2. Replace BFV's with KGV due to BFV's vibration
Justification:	Reliability of the Crystal Springs Pump Station is important for water transfer into San Andreas Reservoir and operations of the HTWTP. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	A functional CSPS lowers reservoir elevation at Crystal Springs Reservoir when necessary and provides water to San Andreas Reservoir.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 600	$ 0	$ 0	$ 600	$ 0	$ 0	$ 0
Construction Management	$ 350	$ 0	$ 0	$ 0	$ 350	$ 0	$ 0
Construction	$ 3,500	$ 0	$ 0	$ 0	$ 3,500	$ 0	$ 0
Total	$ 4,450	$ 0	$ 0	$ 600	$ 3,850	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19057-UW Water Transmission Program
Authority Level 2:	15487-UW Pump Station Upgrades
Project ID/FSP ID	CUW2730401 / (N/A)
Project Title:	Pulgas Pump Station Upgrades
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This program funds various improvement projects at Pulgas Valve Lot, Pump Station, and Dechlor facility: 1. Fix Meter house flooding issues at Pulgas Valve Lot 2. Knife Gate Valve Replacement 3. Replace slide gates that are damaged, including the bent stems 4. Add sump pump to prevent flooding of electrical equipment and pumps 5. Replace all switchgear and MV starters along with Short Circuit, Coordination and Arc Flash Hazard Analysis 6. Replace gutters that are deteriorating at Pulgas Dechlor 7. Fix possible surge tank issues (must clarify with Ops.) at Pulgas Dechlor
Justification:	Reliability of the Pulgas Pump Station is important in the operations of the Pulgas Balancing Reservoir. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	Loss of the water reserve at Balancing Reservoir.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 70	$ 0	$ 0	$ 10	$ 10	$ 50	$ 0
Environmental Review	$ 15	$ 0	$ 0	$ 5	$ 5	$ 5	$ 0
Design	$ 160	$ 0	$ 0	$ 10	$ 50	$ 100	$ 0
Construction Management	$ 200	$ 0	$ 0	$ 50	$ 50	$ 100	$ 0
Construction	$ 2,770	$ 0	$ 0	$ 500	$ 720	$ 1,550	$ 0
Total	$ 3,215	$ 0	$ 0	$ 575	$ 835	$ 1,805	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19057-UW Water Transmission Program
Authority Level 2:	15487-UW Pump Station Upgrades
Project ID/FSP ID	CUW2730401 / (N/A)
Project Title:	Baden Pump Station Upgrades
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This program funds various improvement projects at Baden Pump Station: 1. Inspect and repair compressors' internal seals, water intrusion in oil 2. Replace all obsolete panel boards and disconnect switches at the pump station 3. Repair storm drain issues - drains have been closed/broken
Justification:	Reliability of the Baden Pump Station is important for high zone water delivery reliability. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	Provide redundancy to high zone pipelines and when HTWTP is offline.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 20	$ 0	$ 0	$ 10	$ 10	$ 0	$ 0
Environmental Review	$ 5	$ 0	$ 0	$ 3	$ 2	$ 0	$ 0
Design	$ 40	$ 0	$ 0	$ 20	$ 20	$ 0	$ 0
Construction Management	$ 10	$ 0	$ 0	$ 5	$ 5	$ 0	$ 0
Construction	$ 325	$ 0	$ 0	$ 175	$ 150	$ 0	$ 0
Total	$ 400	$ 0	$ 0	$ 213	$ 187	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19057-UW Water Transmission Program
Authority Level 2:	15487-UW Pump Station Upgrades
Project ID/FSP ID	CUW2730401 / 10015076
Project Title:	San Antonio Pump Station MCC Upgrades
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Transmission Program
Type:	Capital
Description:	'The San Antonio Pump Station (SAPS) is one of the key facilities in the Sunol Valley, and was constructed in 1965 and modified in 1990. The existing motor control centers MCC-A, MCC-B, and MCC-C have been in service since the 1960's and they are approaching the end of their useful life. In order to maintain reliable operation at SAPS, the existing MCCs are being replaced and facility walls are being seismically retrofitted. In order to accommodate the retrofit work, the communications system is being relocated to an adjacent room and the HVAC will be replaced in affected rooms.
Justification:	SAPS is integral to moving water within the Sunol Valley. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	SAPS is integral to moving water within the Sunol Valley.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 25	$ 0	$ 0	$ 25	$ 0	$ 0	$ 0
Design	$ 500	$ 0	$ 0	$ 500	$ 0	$ 0	$ 0
Construction Management	$ 1,067	$ 0	$ 0	$ 467	$ 300	$ 300	$ 0
Construction	$ 5,008	$ 0	$ 0	$ 5,008	$ 0	$ 0	$ 0
Total	$ 6,600	$ 0	$ 0	$ 6,000	$ 300	$ 300	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19057-UW Water Transmission Program
Authority Level 2:	15487-UW Pump Station Upgrades
Project ID/FSP ID	CUW2730401 / (N/A)
Project Title:	San Antonio Pump Station Upgrades
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This project funds various San Antonio Pump Station improvement projects: 1. Possible new pump accumulators for P-8, P-9, P-10 2. Replace one to two more diesel pumps at SAPS with electrics 3. Upsize San Antonio Substation to be able to provide power up to 6-1000 hp pumps operating simultaneously
Justification:	SAPS is important to the operational flexibility in the Sunol Valley. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	The project reduces miscellaneous repairs and unscheduled outages.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 320	$ 0	$ 0	$ 0	$ 50	$ 20	$ 250
Environmental Review	$ 115	$ 0	$ 0	$ 0	$ 50	$ 5	$ 60
Design	$ 620	$ 0	$ 0	$ 0	$ 50	$ 20	$ 550
Construction Management	$ 775	$ 0	$ 0	$ 5	$ 50	$ 20	$ 700
Construction	$ 6,125	$ 0	$ 0	$ 25	$ 500	$ 150	$ 5,450
Total	$ 7,955	$ 0	$ 0	$ 30	$ 700	$ 215	$ 7,010

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19057-UW Water Transmission Program
Authority Level 2:	15488-UW Pipeline Improvments
Project ID/FSP ID	CUW2730501 / (N/A)
Project Title:	Sunol Valley Pipelines Seismic Upgrades
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	
Facility Category:	Water Transmission Program
Type:	Capital
Description:	Calaveras fault cuts through the Sunol Valley across multiple water transmission pipelines. In recent years, failures due to seismic activities have been observed on the San Antonio Pipeline, 78" Effluent Pipeline, and Air Gap #1. This project is going to address seismic vulnerabilities for pipelines crossing the Calaveras Fault in Sunol Valley. 1. SVWTP 78" Effluent Pipeline repair/improvements along fault crossings in the Sunol Valley in later years of CIP. Helps with processing Lower Cherry Aqueduct water (during drought years) and Mountain Tunnel reliability. $2.5M 2. Calaveras Pipeline repair/improvements along fault crossing in the Sunol Valley in later years of CIP, helps with Lower Cherry Aqueduct water (during drought years) and Mountain Tunnel reliability. $2.5M 3. San Antonio Pipeline (SAPL) Replacement (2 mi) - rehab, repair, replacement of 60" PCCP that transmits water in/out of San Antonio Reservoir. SAPL has exhibited leaks and failures in the past. Being PCCP and the only pipeline that gets water in/out of the San Antonio Reservoir, sections should be replaced. 4. Air Gaps #1-3 $1M 5. Alameda Siphon #1-3 creek crossing. Sections of the Siphons are exposed as they cross Alameda Creek. $2.5M
Justification:	The pipelines in the Sunol Valley provide us with redundancy to the Hetch Hetchy water supply. If the seismic vulnerabilities are not addressed, there is a risk for unplanned outages/shutdown due to leaks. Water LOS Goal(s) Supported: Regional Seismic Reliability and Regional Delivery Reliability
Operating Impact:	Minimize the duration of outages due to unscheduled pipeline shutdown and maintain water delivery redundancy.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,650	$ 0	$ 0	$ 0	$ 0	$ 1,000	$ 650
Environmental Review	$ 550	$ 0	$ 0	$ 0	$ 0	$ 0	$ 550
Design	$ 1,100	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,100
Construction Management	$ 1,000	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,000
Construction	$ 11,000	$ 0	$ 0	$ 0	$ 0	$ 0	$ 11,000
Total	$ 15,300	$ 0	$ 0	$ 0	$ 0	$ 1,000	$ 14,300

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19057-UW Water Transmission Program
Authority Level 2:	15488-UW Pipeline Improvments
Project ID/FSP ID	CUW2730501 / (N/A)
Project Title:	Regional Water System Tunnels Inspection
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Eric Choi
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This project is to inspect the major tunnels in the regional water system. The order of inspection is listed by priority below: 1. Irvington Tunnel No.2 2. Hillsborough Tunnel 3. Stanford Tunnel 4. Pulgas Tunnel This project is partially funded by FY20 funding.
Justification:	The water transmission tunnels are critical assets in Regional Water System. They are usually the single link, without redundancy, in between pipelines. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	Minimize the duration of outages due to unscheduled pipeline shutdown, and maintain water delivery redundancy.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19057-UW Water Transmission Program
Authority Level 2:	15488-UW Pipeline Improvments
Project ID/FSP ID	CUW2730512 / 10015080
Project Title:	San Andreas Pipeline No. 2 Replacement
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Janet Ng
Facility Category:	Water Transmission Program
Type:	Capital
Description:	San Andreas Pipeline No. 2 (SAPL2) provides key water supply redundancy from the Harry Tracy Water Treatment Plant (HTWTP) to the Sunset Reservoir. The lock bar steel sections of SAPL2 between the HTWTP and the Golden Gate National Cemetery are almost 90 years old, pitted, deteriorated, and in need of replacement. This project will replace/rehabilitate approximately 6,500 linear feet of SAPL2 in the City of San Bruno.
Justification:	In July 2015, a portion of SAPL2 burst, resulting in the loss of millions of gallons of water. Upon inspection of the pipeline, it was discovered that four segments of SAPL2 in San Bruno were deteriorated and had severe pitting/corrosion. This project will replace 4 segments, approximately 6,500 linear feet, of 54" diameter SAPL2 in San Bruno.
Operating Impact:	SAPL2 provides redunant supply capacity and is currently out of service due to the severity of pitting/corrosion. When this project is completed, redundancy to the system will be restored.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19057-UW Water Transmission Program
Authority Level 2:	15488-UW Pipeline Improvments
Project ID/FSP ID	CUW2730506 / (N/A)
Project Title:	BDPL1-4-B Lining Repair
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Yolanda Quisao
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This project is to perform internal lining repairs on BDPL 1 - 4 post pipeline inspections. This project will address defects found in previous inspections and also scope for future Bay Division Pipelines inspection. The scope of work would consist of removing corrosion accumulation at pipe joints and spalled mortar lining, cleaning metal surface, applying new mortar lining, cleaning debris and sediment found inside the pipe, securing entry points, providing ventilation for confined space entry & standby rescue, locally control passing water inside the pipe, traffic control as necessary, and all associated incidentals. In addition, the rehabilitation of the 144LF of PCCP on BDPL4 with carbon fiber reinforced liner will be done.
Justification:	Each pipeline shutdown usually takes months of planning for operation work around, man hours for valving changes, chemical and water cost for disinfection and flushing. Instead of a reactive approach, where defects are found but no contract in-place to address, the pipeline has to return to service and be taken down again in future when the contractor is ready. This project will minimize the number of repeated shutdown for inspection and for repair. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	Minimize number of pipeline shutdown will minimize risk of operational changes in the system.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19057-UW Water Transmission Program
Authority Level 2:	15488-UW Pipeline Improvments
Project ID/FSP ID	CUW2730507 / (N/A)
Project Title:	PCCP Repair
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Eric Choi
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This project is going to rehabilitate, repair, and replace the 22 miles of Prestressed Concrete Cylinder Pipe (PCCP) in the Regional Water System. PCCP's mode of failure usually has catastrophic consequences. From a 2017 inspection, BDPL4 Segment D has a large number of defects in the last mile that parallels Edgewood Rd in Redwood City. These defects are not currently posing a risk of structural failure, but over time, can develop into more serious problems. San Antonio Pipeline (SAPL) Replacement (2 mi) - The purpose of this project would be to rehab, repair, and replace 2 miles of 60" PCCP that sends water in and out of San Antonio Reservoir. SAPL has leaked in the past. Being PCCP and the only pipeline that gets water in and out of San Antonio Reservoir, it should undergo condition assessment. Design and construction of the SAPL will be scoped after condition assessment and an alternatives analysis study.
Justification:	PCCP modes of failure can have catastrophic consequences.
Operating Impact:	Minimize the duration of outages due to unscheduled pipeline shutdown.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19057-UW Water Transmission Program
Authority Level 2:	15488-UW Pipeline Improvments
Project ID/FSP ID	CUW2730510 / 10034578
Project Title:	CSPL2 Reach 5 Lining Replacement
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Janet Ng
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This project is to fund the CSPL2 replacement from K40 to K50 (4 mi). CSPL2 is a 60"" welded steel pipeline with coal tar lining. The scope of work includes lining replacement for the 4 mi segment, add new manholes to improve access, add in-line isolation valve and appurtenances improvement to meet current water quality standards. The construction funding has been deferred to FY24.
Justification:	The original coal tar lining is due for replacement, and coal tar is believed to be a taste and odor contributor. The added access manholes will better facilitate future inspection, and the new in-line isolation valve will provide ability to keep Baden PS online while CSPL2 is shutdown. Water LOS Goal(s) Supported: Water Quality and Regional Delivery Reliability
Operating Impact:	Minimize the duration of outages due to unscheduled pipeline shutdown, and maintain water delivery redundancy.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 11,000	$ 0	$ 0	$ 0	$ 11,000	$ 0	$ 0
Total	$ 11,000	$ 0	$ 0	$ 0	$ 11,000	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19057-UW Water Transmission Program
Authority Level 2:	15488-UW Pipeline Improvments
Project ID/FSP ID	CUW2730515 / (N/A)
Project Title:	Palo Alto Pipeline Replacement
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Transmission Program
Type:	Capital
Description:	'This project is going to rehab/replace the 5.1 miles of 36" Palo Alto Pipeline. The PAPL was constructed in 1937 with 1/4" thick welded steel plate. It has experienced numerous leaks since the 1960s. The project funding has been deferred. Design and construction of the Palo Alto pipeline will be scoped after condition assessment and an alternatives analysis study.
Justification:	The PAPL is the single pipeline that feeds wholesale customers from City of Palo Alto, Stanford, and Cal Water, with no redundancy.
Operating Impact:	Minimize the duration of outages due to unscheduled pipeline shutdown and maintain water delivery reliability to wholesale customers.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19057-UW Water Transmission Program
Authority Level 2:	15488-UW Pipeline Improvments
Project ID/FSP ID	CUW2730505 / 10015081
Project Title:	CSPL2 Reaches 2 and 3 Rehabilitation
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Janet Ng
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This project is to fund the CSPL2 rehabilitation from K10 to K30 (4 mi). CSPL2 is a 60" welded steel pipeline with coal tar lining. Approximately 1.5 mi of CSPL2 traverses through steep terrain with a narrow access road which makes maintenance and repair difficult. The scope of work includes replacement and re-alignment of a 1.5 mi stretch, lining replacement for the remaining segment, and appurtenances improvements to meet current water quality standards. The construction funding has been deferred to FY25.
Justification:	CSPL2 traverses through steep terrain with narrow access road which makes maintenance and repair difficult. The original coal tar lining is due for replacement, and coal tar is believed to be a taste and odor contributor. Water LOS Goal(s) Supported: Water Quality and Regional Delivery Reliability
Operating Impact:	Minimize the duration of outages due to unscheduled pipeline shutdown, and maintain water delivery redundancy.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Design	$ 100	$ 0	$ 0	$ 100	$ 0	$ 0	$ 0
Construction Management	$ 8,100	$ 0	$ 0	$ 0	$ 1,500	$ 5,000	$ 1,600
Construction	$ 23,289	$ 0	$ 0	$ 0	$ 2,800	$ 10,000	$ 10,489
Total	$ 31,489	$ 0	$ 0	$ 100	$ 4,300	$ 15,000	$ 12,089

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19057-UW Water Transmission Program
Authority Level 2:	15489-UW Valve Replacement
Project ID/FSP ID	CUW2730601 / 10015083
Project Title:	Regional WQ Cross Connection Program
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This project replaces aging line valves, air valves, blow-offs, and other pipeline appurtenances not already replaced as part of WSIP and which present cross-connection problems associated with new infrastructure. Includes structural improvements of valve vaults, as required. Also includes Regional upgrades (motivated by March 3, 2015 incident).
Justification:	Expenditures are required to maintain transmission system reliability and redundancy. Water LOS Goal(s) Supported: Water Quality and Regional Delivery Reliability
Operating Impact:	The project reduces miscellaneous repairs needed within the Regional Water System.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 5,598	$ 0	$ 0	$ 1,276	$ 1,658	$ 1,211	$ 1,453
Total	$ 5,598	$ 0	$ 0	$ 1,276	$ 1,658	$ 1,211	$ 1,453

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19057-UW Water Transmission Program
Authority Level 2:	TBD - WTR R&R
Project ID/FSP ID	CUW2730601 / 10015082
Project Title:	Valve Replacement RNR
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This project replaces aging line valves, air valves, blow-offs, and other pipeline appurtenances not already replaced as part of WSIP and which present cross-connection problems associated with new infrastructure. It includes structural improvements of valve vaults, as required, and includes regional upgrades (motivated by March 3, 2015 incident).
Justification:	Expenditures are required to maintain transmission system reliability and redundancy. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	The project reduces miscellaneous repairs needed within the Regional Water System.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 350	$ 0	$ 0	$ 25	$ 25	$ 50	$ 250
Environmental Review	$ 350	$ 0	$ 0	$ 25	$ 25	$ 50	$ 250
Design	$ 350	$ 0	$ 0	$ 25	$ 25	$ 50	$ 250
Construction Management	$ 350	$ 0	$ 0	$ 25	$ 25	$ 50	$ 250
Construction	$ 1,050	$ 0	$ 0	$ 100	$ 100	$ 100	$ 750
Total	$ 2,450	$ 0	$ 0	$ 200	$ 200	$ 300	$ 1,750

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19057-UW Water Transmission Program
Authority Level 2:	TBD - WTR R&R
Project ID/FSP ID	CUW2730401 / 10027759
Project Title:	Pump Station Upgrades RNR
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This project would fund minor to medium sized overhauls of existing pump stations, such as pump replacement, electrical upgrades, MCCs, protective relays, and load tap changers replacement.
Justification:	Expenditures are required to maintain water transmission system reliability and redundancy. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	The project reduces miscellaneous repairs and unscheduled outage of the pump stations.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 100	$ 0	$ 0	$ 50	$ 50	$ 0	$ 0
Environmental Review	$ 200	$ 0	$ 0	$ 50	$ 50	$ 50	$ 50
Design	$ 350	$ 0	$ 0	$ 50	$ 50	$ 50	$ 200
Construction Management	$ 400	$ 0	$ 0	$ 50	$ 50	$ 50	$ 250
Construction	$ 1,050	$ 0	$ 0	$ 100	$ 100	$ 100	$ 750
Total	$ 2,100	$ 0	$ 0	$ 300	$ 300	$ 250	$ 1,250

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19057-UW Water Transmission Program
Authority Level 2:	TBD - WTR R&R
Project ID/FSP ID	CUW2730901 / 10015085
Project Title:	Metering Upgrades RNR
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Eric Choi
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This project is to ensure accurate water accounting by maintaining various water meters in the Regional Water System to provide reliable and precise reads. Upcoming projects include: New Sunset Supply Meter to capture flow to Sunset & Sutro Reservoirs crossing the county-line. This is one of the more expensive installation work on meters. San Antonio F/R meter, modify vault hatch for easier access and restore sump pump. Albers Road venturi meters upgrade to include HMI local display at RTU. New effluent meter (accusonic) needs to develop flow verification procedures with BAWSCA. SA-3 meter, potential to use new CDD installed meter at Merced Manor to be the new county-line meter. SA-2 meter, retrofit to for reverse flow detection BDPL 1-5 meters at Pulgas Valve Lot, retrofit to read low flow conditions. Update as-built at each of the meter site to reflect most current installation.
Justification:	Accurate flow measurement is needed for system input and deliveries in real time for day-to-day management of the Regional Water System and for water use report generation. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	None.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 1,636	$ 0	$ 0	$ 150	$ 150	$ 206	$ 1,130
Total	$ 1,636	$ 0	$ 0	$ 150	$ 150	$ 206	$ 1,130

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19057-UW Water Transmission Program
Authority Level 2:	TBD - WTR R&R
Project ID/FSP ID	CUW2730701 / (N/A)
Project Title:	Vault Upgrades RNR
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This project replaces and/or upgrades various vaults within the regional transmission system. Typical upgrades include SCADA installation/upgrades, actuator replacement/electrical upgrades, sump pump replacement, and access improvements and other OSHA-driven safety improvements.
Justification:	Expenditures are required to maintain transmission system reliability and redundancy. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	The project reduces miscellaneous repairs needed within the Regional Transmission System.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 440	$ 0	$ 0	$ 50	$ 51	$ 52	$ 287
Environmental Review	$ 233	$ 0	$ 0	$ 25	$ 22	$ 28	$ 158
Design	$ 797	$ 0	$ 0	$ 25	$ 103	$ 105	$ 564
Construction Management	$ 436	$ 0	$ 0	$ 50	$ 50	$ 52	$ 284
Construction	$ 3,812	$ 0	$ 0	$ 450	$ 424	$ 470	$ 2,468
Total	$ 5,718	$ 0	$ 0	$ 600	$ 650	$ 707	$ 3,761

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19058-UW Water Supply & Storage
Authority Level 2:	15493-UW Dam Structural Upgrades
Project ID/FSP ID	CUW2740102 / 10015091
Project Title:	Pilarcitos Dam Improvements
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Stacie Feng
Facility Category:	Water Supply and Storage Program
Type:	Capital
Description:	The project will fund the continuing geotechnical investigation of the seismic stability and hydraulic adequacy evaluation of the forebay, outlet pipe, spillway, and embankment. This program covers studies, planning, engineering design and construction improvement of the Pilarcitos Dam and Reservoir facility. Future work (not included in the budget below) may include dredging Stone Dam, rebuilding Stone Dam and Spillway, clearing Stone Tunnel, and repairing miscellaneous diversion structures.
Justification:	In 2008 DSOD notified WTSD that additional geotechnical information was needed at Pilarcitos Dam based on the age of the dam and the findings from the last inspection. Subsequent investigations and hydraulic studies reveal that the dam has limited freeboard, and the prelimnary forebay structure evaluation shows the structure wouldn't pass the Maximum Creditable Earthquake on San Andreas fault. Furthermore, the existing spillway cannot pass the maximum probably flood. Geotechnical investigation continues on the upstream dam in the fall 2019, and structural evaluation will be conducted on the spillway. Water LOS Goal(s) Supported: Regional Seismic Reliability and Regional Delivery Reliability
Operating Impact:	Reservoir storage will be restricted during construction spillway, outlet structure, outlet pipeline, and embankment construction.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,750	$ 0	$ 0	$ 500	$ 500	$ 500	$ 250
Environmental Review	$ 200	$ 0	$ 0	$ 0	$ 0	$ 0	$ 200
Design	$ 200	$ 0	$ 0	$ 0	$ 0	$ 0	$ 200
Construction Management	$ 400	$ 0	$ 0	$ 0	$ 0	$ 0	$ 400
Construction	$ 20,857	$ 0	$ 0	$ 500	$ 500	$ 3,500	$ 16,357
Total	$ 23,407	$ 0	$ 0	$ 1,000	$ 1,000	$ 4,000	$ 17,407

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19058-UW Water Supply & Storage
Authority Level 2:	15493-UW Dam Structural Upgrades
Project ID/FSP ID	CUW2740103 / 10015092
Project Title:	San Andreas Dam Facility Improvements
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Supply and Storage Program
Type:	Capital
Description:	The spillway condition assessement was concluded in the summer of 2019. Additional work has been identified for the dam, spillway, and outlet works. This program includes scope for a new spillway, 2) Seismic evaluation and potential retrofit of the embankment, 3) Permanent emergency outlet on the southside of the embankment.
Justification:	The 2019 spillway condition assessment by Stantec recommended the existing spillway to be replaced. A permanent emergency release outlet along the spillway will be assessed for flooding impacts during emergency releases. The embankment is due for an updated seismic stability evaluation and it may require upgrade. Water LOS Goal(s) Supported: Regional Seismic Reliability and Regional Delivery Reliability
Operating Impact:	Reservoir storage would need to be lower during construction.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 600	$ 0	$ 0	$ 200	$ 200	$ 100	$ 100
Environmental Review	$ 1,000	$ 0	$ 0	$ 400	$ 400	$ 100	$ 100
Design	$ 1,000	$ 0	$ 0	$ 400	$ 400	$ 100	$ 100
Construction Management	$ 990	$ 0	$ 0	$ 0	$ 0	$ 600	$ 390
Construction	$ 22,931	$ 0	$ 0	$ 0	$ 0	$ 7,100	$ 15,831
Total	$ 26,521	$ 0	$ 0	$ 1,000	$ 1,000	$ 8,000	$ 16,521

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19058-UW Water Supply & Storage
Authority Level 2:	15493-UW Dam Structural Upgrades
Project ID/FSP ID	CUW2740104 / 10029995
Project Title:	Turner Dam and Reservoir Improvements (Interim)
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Stacie Feng
Facility Category:	Water Supply and Storage Program
Type:	Capital
Description:	This program encompasses the capital improvements of outlet system and structure, release facilities, geotechnical investigation of embankment, and potential seismic upgrade of embankment, and address improvement needs from the spillway condition assessemnt that may include crack repair, replacement of subdrain and erosion protections. The scope of the outlet system and structure evaluation and improvements includes performning a seismic stability evaluation of the intake structure, outlet pipe and the outlet structure, stabilize the access road from the dam to the outstructure, replacement of fish screens, improvement of inlet structures including electrical, plumbing, and structural, improvement of outlet structure and release channel. The geotechnical investigation of embankment includes field investigation and instrumentation installation per the 2019 Seismic Stability Evaluation by AECOM. The potential seismic upgrade of the embankment is pending DSOD's review and further investigation.
Justification:	The facility has been in service for 65 years without major upgrade or capital improvement. In a recent dam seismic stability evaluation by AECOM, it showed the dam would be subject to settlement and deflection which would reduce the freeboard under the maximum credible earthquake. The report is being reviewed by DSOD. In 2017, Legislation SB92 directed the SFPUC to perform a condition assessment of the spillway. hase I spillway condition assessment report recommended repair cracks on spillway. The report is also being reviewed by DSOD. Phase II spillway condition assessment, including move field investigation, checking structural adequacy and stability under design loading conditions, will continue after DSOD finishes review of the Phase I report. Water LOS Goal(s) Supported: Regional Seismic Reliability and Regional Delivery Reliability
Operating Impact:	Retrofit of the embankment would require the reservoir level be reduced.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,700	$ 0	$ 0	$ 500	$ 500	$ 0	$ 700
Environmental Review	$ 1,200	$ 0	$ 0	$ 500	$ 0	$ 0	$ 700
Design	$ 700	$ 0	$ 0	$ 0	$ 0	$ 0	$ 700
Construction Management	$ 700	$ 0	$ 0	$ 0	$ 0	$ 0	$ 700
Construction	$ 1,700	$ 0	$ 0	$ 0	$ 500	$ 500	$ 700
Total	$ 6,000	$ 0	$ 0	$ 1,000	$ 1,000	$ 500	$ 3,500

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19058-UW Water Supply & Storage
Authority Level 2:	15493-UW Dam Structural Upgrades
Project ID/FSP ID	CUW2740106 / 10015090
Project Title:	Dam Condition Assessments and Related Studies
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Supply and Storage Program
Type:	Capital
Description:	The dam program covers stability study of dams and ancillary structures, condition assessment of spillways, instrumentation upgrades, repairs maintenance and replacement projects at San Andreas Dam, Pilarcitos Dam, Turner Dam, Lower Crystal Springs Dam, and Calaveras Dam.
Justification:	This program is formed to address routine maintenance directed by DSOD and legislation SB-92, which requires condition assessment of spillways and emergency action plans. Water LOS Goal(s) Supported: Regional Seismic Reliability and Regional Delivery Reliability
Operating Impact:	Reservoir operations may be restricted.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 6,240	$ 0	$ 0	$ 780	$ 780	$ 780	$ 3,900
Total	$ 6,240	$ 0	$ 0	$ 780	$ 780	$ 780	$ 3,900

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19058-UW Water Supply & Storage
Authority Level 2:	15493-UW Dam Structural Upgrades
Project ID/FSP ID	CUW2740501 / 10015232
Project Title:	Merced Manor Reservoir Facilities Repairs
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Supply and Storage Program
Type:	Capital
Description:	Merced Manor Reservoir - Concrete Spalling Repair project The roof structure of the Merced Manor Reservoir was inspected and evaluated by SFPUC structural engineers in 1995. It was determined that seismic strengthening and repair of the roof structure is needed. This project is to implement the recommendations from the seismic evaluation and inspection of the roof structure of Merced Manor Reservoir. Scope of the project will include performing a structural evaluation of the existing roof structure per current seismic code, developing design for seismic strengthening and repair, and construction.
Justification:	Seismic strengthening and repair of the Merced Manor Reservoir roof structure is needed to ensure the function of the reservoir and the ability to deliver water to the Merced Manor zone after a major earthquake. Water LOS Goal(s) Supported: Regional Seismic Reliability
Operating Impact:	Seismic strengthening and repair of the Merced Manor Reservoir roof structure is needed to ensure water delivery to the Merced Manor zone with normal operations and after a major earthquake.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 400	$ 0	$ 0	$ 0	$ 200	$ 200	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 300	$ 0	$ 0	$ 0	$ 300	$ 0	$ 0
Construction Management	$ 1,000	$ 0	$ 0	$ 0	$ 400	$ 600	$ 0
Construction	$ 3,291	$ 0	$ 0	$ 0	$ 1,000	$ 2,291	$ 0
Total	$ 4,991	$ 0	$ 0	$ 0	$ 1,900	$ 3,091	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19058-UW Water Supply & Storage
Authority Level 2:	15497-UW Calaveras Dam And Reservoir
Project ID/FSP ID	CUW2740500 / (N/A)
Project Title:	Calaveras Dam HOS
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Water Transmission Program
Type:	Capital
Description:	Calaveras Dam needs a new HOS system. The existing HOS system was not upgraded as a part of the CDRP project completed in 2019. With an expanded area, a redesigned HOS system is needed.
Justification:	Existing HOS has reached the end of its useful life.
Operating Impact:	None.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 100	$ 0	$ 0	$ 100	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 50	$ 0	$ 0	$ 50	$ 0	$ 0	$ 0
Construction Management	$ 150	$ 0	$ 0	$ 150	$ 0	$ 0	$ 0
Construction	$ 1,230	$ 0	$ 0	$ 1,200	$ 30	$ 0	$ 0
Total	$ 1,530	$ 0	$ 0	$ 1,500	$ 30	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19058-UW Water Supply & Storage
Authority Level 2:	15498-UW Bay Area Regional Reliability
Project ID/FSP ID	10030767 / 10030767
Project Title:	UW Bay Area Regional Reliability
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Manisha Kothari
Facility Category:	Water Transmission Program
Type:	Capital
Description:	The SFPUC has been identifying and evaluating collaborative opportunities for water storage, transfers and supply. This preliminary assessment includes: 1) collaborating with Valley Water to identify potential opportunities to serve common customers or exchange water supplies; 2) early feasibility review of Potable Reuse Exploratory Plan (PREP) with partners; 3) eight-agency partnership to identify additional options for regional exchanges (BARR); 4) initial review and regional planning for the expansion of Los Vaqueros; and 5) the evaluation of potential scenarios for an expanded Calaveras Reservoir that can be further integrated with additional supplies from the Regional Water System.
Justification:	Preliminary funding to identify opportunities and potential fatal flaws has enabled staff to determine which projects can move forward into more detailed planning and development.
Operating Impact:	None at this time.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19058-UW Water Supply & Storage
Authority Level 2:	TBD
Project ID/FSP ID	CUW2740301 / (N/A)
Project Title:	Purified Water & Other Supplies
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Manisha Kothari
Facility Category:	Water Supply and Storage Program
Type:	Capital
Description:	The SFPUC is identifying opportunities and investigating the potential for purified water (potable reuse) projects as well as regional opportunities for transfers, exchanges, groundwater banking, and inter-basin collaborations. The SFPUC is participating in research and regulatory review statewide, and is working with other Bay Area water agencies to develop potential project opportunities for water needs anticipated within the planning horizon. The efforts that are envisioned under include: 1) identifying water supply and storage opportunities through the Bay Area Regional Reliability (BARR) Partnership, which includes 8 water agencies working together to identify projects to increase water supply reliability in the region. The BARR process includes a proposed Regional Market Study Pilot effort, among others; 2) investigating opportunities for groundwater banking in the MID and TID service areas ; 3) initiating Inter-Basin collaborations between parties on the Tuolumne River and those on the Stanislaus River; 4) continuing to pursue dry year transfers with the Irrigation Districts; 5) identifying regional recycled water opportunities in the service area; and other potential regional water supply opportunities.
Justification:	Feasibility and other technical studies will be necessary to demonstrate the viability of purified water projects, transfers, and groundwater banking. Once the project(s) that will continue to move forward with planning is/are identified, pilot testing, environmental review, design, and construction phases will all be required to implement the project within the planning period. These projects represent water supply options that can help meet long-term LOS goals of the SFPUC and provide dry and normal year supply reliability. All future work is subject to Commission approval.
Operating Impact:	None.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 170,000	$ 0	$ 10,000	$ 20,000	$ 20,000	$ 20,000	$ 100,000
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 170,000	$ 0	$ 10,000	$ 20,000	$ 20,000	$ 20,000	$ 100,000

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19058-UW Water Supply & Storage
Authority Level 2:	TBD
Project ID/FSP ID	CUW2740301 / (N/A)
Project Title:	Daly City Recycled Water Expansion Project
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Manisha Kothari
Facility Category:	Water Supply and Storage Program
Type:	Capital
Description:	The Daly City Recycled Water Expansion Project was originally envisioned and planned under Local Water CUW 278 (Other Recycled Water Projects). Planning for this and other recycled water projects was completed and identified in the Local CIP. As the planning for the Daly City Recycled Water Expansion Project has evolved, the 3 MGD capacity identified would help offset groundwater pumping in the Westside Basin and potential demands from the Regional Water System (RWS). The project is ready to move into design and construction phases.
Justification:	A feasibility study has been completed as part of CUW278. The project will benefit RWS users and is considered a regional project. By helping to offset pumping in the Westside Groundwater Basin, the project also enhances the Groundwater Storage and Recovery (GSR) project and its ability to deliver water supply during droughts. Water LOS Goal(s) Supported: Water Supply
Operating Impact:	None.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 5,500	$ 0	$ 5,500	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 10,000	$ 0	$ 0	$ 10,000	$ 0	$ 0	$ 0
Construction	$ 65,000	$ 0	$ 0	$ 0	$ 10,000	$ 20,000	$ 35,000
Other	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 80,500	$ 0	$ 5,500	$ 10,000	$ 10,000	$ 20,000	$ 35,000

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19058-UW Water Supply & Storage
Authority Level 2:	TBD
Project ID/FSP ID	CUW-TBD / (N/A)
Project Title:	Crystal Springs Purified Water Project
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Manisha Kothari
Facility Category:	Water Supply and Storage Program
Type:	Capital
Description:	The Crystal Springs Purified Water Project can provide 6-12 million gallons per day (MGD) of purified water from Silicon Valley Clean Water (SVCW) and City of San Mateo blended into Crystal Springs Reservoir and treated at Harry Tracy Treatment Plant for use within SFPUC's service area. Two phases of feasibility study have been undertaken, a third phase is planned. Modeling and other technical studies will also need to be completed.
Justification:	This project provides a new water supply to increase long-term reliability in SFPUC's service area. Water LOS Goal(s) Supported: Water Supply
Operating Impact:	Crystal Springs Reservoir is owned and operated by the SFPUC. A new water supply in this reservoir will impact permitting, reservoir management, and treatment plant operations at Harry Tracy.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 2,000	$ 0	$ 2,000	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 2,000	$ 0	$ 2,000	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19058-UW Water Supply & Storage
Authority Level 2:	TBD
Project ID/FSP ID	CUW-TBD / (N/A)
Project Title:	SFPUC-ACWD-USD Purified Water Partnership
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Manisha Kothari
Facility Category:	Water Supply and Storage Program
Type:	Capital
Description:	The Project will investigate opportunities for potable reuse with wastewater from Union Sanitary District treated for groundwater recharge and recovery through Alameda County Water District's (ACWD's) service area and the potential to increase capacity at ACWD's Brackish Groundwater Desalination plant.
Justification:	This project provides an opportunity to increase water supply reliability in the SFPUC's service area. Water LOS Goal(s) supported: Water Supply
Operating Impact:	None at this time.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,500	$ 0	$ 1,500	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 1,500	$ 0	$ 1,500	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19058-UW Water Supply & Storage
Authority Level 2:	TBD
Project ID/FSP ID	CUW-TBD / (N/A)
Project Title:	Bay Area Brackish Water Desalination (Regional)
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Manisha Kothari
Facility Category:	Water Supply and Storage Program
Type:	Capital
Description:	The Bay Area Brackish Water Treatment (Regional Desalination) Project is a partnership between Contra Costa Water District (CCWD), East Bay Municipal Utility District (EBMUD), SFPUC, Valley Water, and Zone 7 Water Agency. The project could provide 10-20 mgd of new drinking water supply to the region by treating brackish water from CCWD's existing Mallard Slough intake in Contra Costa County. The project relies primarily on available capacity in an extensive network of existing pipelines and interties that already connect the agencies, as well as existing wastewater outfalls and pump stations. Storage through the Los Vaqueros Reservoir Expansion project can provide a dry year benefit from this supply. The new infrastructure needed for this project includes a treatment facility, upgrades to existing facilities and a new intertie between Zone 7 and EBMUD. Depending on the conveyance system used, additional pretreatment and/or facility upgrades may be needed. The SFPUC would not directly receive desalinated water, but would take delivery of water through a series of transfers and exchanges. For planning and cost estimation purposes, it was assumed that the SFPUC's share of this new regional water supply would be 9 mgd in all year types: however, if additional capacity is available, the SFPUC may secure up to 15 mgd. The final share would be based on SFPUC needs, and subject to negotiation with other partners.
Justification:	A regional desalination project leverages existing interties and facilities to provide a shared new regional water supply resource. Water LOS Goal(s) Supported: Water Supply
Operating Impact:	None at this time.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 2,500	$ 0	$ 2,500	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 2,500	$ 0	$ 2,500	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19058-UW Water Supply & Storage
Authority Level 2:	TBD
Project ID/FSP ID	CUW-TBD / (N/A)
Project Title:	Los Vaqueros Reservoir Expansion Project
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Manisha Kothari
Facility Category:	Water Transmission Program
Type:	Capital
Description:	The Los Vaqueros Reservoir Expansion (LVE) Project is a storage project that will enlarge the existing reservoir located in northeastern Contra Costa County from 160,000 acre-feet to 275,000 acre-feet. The main objectives of the expansion include increasing water supply reliability for municipal, industrial and agricultural customers as well as ecosystem benefits to south-of-Delta wildlife refuges and Delta fisheries. While the existing reservoir is owned and operated by Contra Costa Water District (CCWD), the expansion will have regional benefits and will be managed by a Joint Powers Authority that will be set up prior to construction. Meanwhile, Contra Costa Water District is leading the planning, design and environmental review efforts. The LVE Project includes construction of new pipelines, upgrades to existing facilites and reoperation of some facilities. Storage in LVE can provide a dry year water supply benefit to the SFPUC's Regional Water System (RWS). Currently, SFPUC staff are pursuing scenarios of 20,000 - 40,000 acre-feet of storage. In addition, water supply and conveyance to the RWS need to be determined before the SFPUC determines the extent of participation in the LVE project. The Conveyance Alternatives project is linked directly to this project.
Justification:	Water storage can help manage dry year supplies, helping to meet critical water supply needs of the SFPUC's Regional Water System customers. Water LOS Goal(s) supported: Water Supply
Operating Impact:	None at this time.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,500	$ 0	$ 1,500	$ 0	$ 0	$ 0	$ 0
Design	$ 5,000	$ 0	$ 5,000	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 6,500	$ 0	$ 6,500	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19058-UW Water Supply & Storage
Authority Level 2:	TBD
Project ID/FSP ID	CUW-TBD / (N/A)
Project Title:	Conveyance Alternatives
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Manisha Kothari
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This project explores the mechanism for a dry year water transfer from Contra Costa Water District's Los Vaqueros Reservoir for the benefit of the SFPUC Regional Water System (RWS). The volume of water that can be transferred would be the same volume of water that is stored by SFPUC in Los Vaqueros Reservoir Expansion Project. This project will identify and pursue feasible conveyance alternatives so that SFPUC can realize the benefit of water stored in Los Vaqueros Reservoir. The three conveyance alternatives that will be explored as part of this project using the South Bay Aqueduct include 1) a transfer with ACWD; 2) a transfer with Valley Water; and 3) delivery to San Antonio Reservoir. This project is dependent on participation in the Los Vaqueros Expansion Project. Partners will include the SBA Contractors (ACWD, Zone 7 Water Agency, Valley Water), particularly any agency identified as a feasible transfer partner. Of the three alternatives, only one (delivery to San Antonio) provides a water supply directly into the RWS. This project will likely include pipeline improvements and may also include pretreatment and/or pumping, depending on the alternative pursued. Reliability of the SBA is critical to the viability of these options. In addition, the SFPUC will also consider a new intertie with EBMUD that bypasses Hayward.
Justification:	Developing conveyance alternatives provides a mechanism for the SFPUC to realize benefits of regional partnerships and enable transfers and exchanges to the Regional Water System. Water LOS Goal(s) Supported: Supply
Operating Impact:	None at this time.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,000	$ 0	$ 1,000	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 1,000	$ 0	$ 1,000	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19058-UW Water Supply & Storage
Authority Level 2:	TBD
Project ID/FSP ID	CUW-TBD / 10015098
Project Title:	Calaveras Reservoir Expansion Project
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Manisha Kothari
Facility Category:	Water Supply and Storage Program
Type:	Capital
Description:	This storage project envisions the expansion of Calaveras Reservoir to store excess Regional Water System (RWS) supplies or other source water in wet/normal years. No expansion of water rights from the local watershed is anticipated. With the Calaveras Dam Replacement project in place, Calaveras Dam holds a capacity of 96,850 acre-feet, or 31 billion gallons of water. Through an expansion, up to an additional 289,000 acre-feet, or 94 billion gallons of storage could be realized. Calaveras Reservoir is owned and operated by the SFPUC for the benefit of RWS customers. No external partners are anticipated at this time. The expansion of Calaveras Reservoir would provide storage for additional water that can be available in all water year types. The proposed project would include raising the dam, increasing the capacity of the outlet structures and the spillway, and the addition of any transmission and pumping needed to bring water to Calaveras Reservoir.
Justification:	This is an SFPUC-owned and operated reservoir that can provide storage of Tuolumne River and other normal and wet year water sources for use during dry years by Regional Water System customers. Water LOS Goal(s) Supported: Water Supply
Operating Impact:	Increasing storage at Calaveras Dam will have an impact to reservoir operations and management. Additional facilities may be built for this project, which will also have an operational and asset management impact.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 842	$ 0	$ 842	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 842	$ 0	$ 842	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19059-UW Watershed & Land Management
Authority Level 2:	15503-UW Bay Area Watershed & Row Pr
Project ID/FSP ID	CUW27502 / (N/A)
Project Title:	Bay Area Watershed and ROW Protection Program
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Tim Ramirez
Facility Category:	Watersheds and Land Management
Type:	Capital
Description:	The purpose of this program is to support capital projects that improve and/or protect the water quality and/or ecological resources that affect or are affected by the operation of the SFPUC water supply system within the Bay Area counties. Projects may include the repair, replacement, maintenance, and/or construction of roads, water systems, fences, or trails that meet these purposes. Projects may also include the acquisition of easements and/or fee title of properties that meet these purposes (within the Pilarcitos Creek, San Mateo Creek, or Alameda Creek watersheds), and other ecosystem restoration or public access, recreation, and education projects.
Justification:	This program provides funding to support capital projects that protect and restore the natural resources under SFPUC management, and improve the ability to cost-effectively manage trails, fences, roads, water systems and bridges within the watersheds.
Operating Impact:	This project provides the resources required for the long-term management of SFPUC watershed and ROW lands, which minimizes the environmental regulatory risk and long-term costs associated with the protection of natural resources that affect or are affected by the operation of the SFPUC water supply system. All projects are the responsibility of existing Natural Resources and Lands Management Division staff.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 835	$ 0	$ 0	$ 100	$ 100	$ 100	$ 535
Total	$ 835	$ 0	$ 0	$ 100	$ 100	$ 100	$ 535

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19059-UW Watershed & Land Management
Authority Level 2:	15503-UW Bay Area Watershed & Row Pr
Project ID/FSP ID	CUW2751401 / 10015108
Project Title:	Sneath Lane Gate/San Andreas
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Tim Ramirez
Facility Category:	Watersheds and Land Management
Type:	Capital
Description:	This project will provide 1.25 miles of new trail from San Mateo County's Crystral Springs Regional Trail (North San Andreas) to GGNRA's Sweeney Ridge property at the Sneath Lane Gate. The trail is a critical connection among existing regional trails, and will provide access to hikers, bikers and equestrians.
Justification:	This program provides funding to support investments in watershed management compatible with protecting the watershed lands, and provides an opportunity to educate the public about the SFPUC water system and watershed land management.
Operating Impact:	The project provides resources required for the long-term management of SFPUC watershed and ROW lands. Projects are the responsibility of Natural Resources and Lands Management Division.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 500	$ 500	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 700	$ 700	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 300	$ 0	$ 300	$ 0	$ 0	$ 0	$ 0
Construction	$ 4,000	$ 0	$ 4,000	$ 0	$ 0	$ 0	$ 0
Total	$ 5,500	$ 1,200	$ 4,300	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19059-UW Watershed & Land Management
Authority Level 2:	15503-UW Bay Area Watershed & Row Pr
Project ID/FSP ID	CUW2751401 / (N/A)
Project Title:	Watershed and ROW Protection - Land Acquisition
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Tim Ramirez
Facility Category:	Watersheds and Land Management
Type:	Capital
Description:	The Watershed and Environmental Improvement Program (WEIP) includes the comprehensive identification and protection of critical watershed lands and ecosystem restoration needs within the hydrologic boundaries of the Alameda Creek, Peninsula (San Mateo and Pilarcitos Creeks) and Tuolumne River watersheds, and prioritizes the protection and/or restoration of these lands. Projects under this program will protect source water quality, native species and their habitat; and identify critical watershed lands for protection by purchasing fee title and/or perpetual conservation easements from willing landowners. WSIP/WEIP bond funds are close to being expended and additional funds are needed to continue our efforts to protect watershed lands.
Justification:	This program provides funding to support investments to protect watershed lands that deliever water to SFPUC reservoirs and enhances the SFPUC's ability to protect source water quality and provide reliable water supplies to our customers. Water LOS Goal(s) Supported: Water Quality and Sustainability
Operating Impact:	The project provides resources required for the long-term protection of watershed lands that deliver water to SFPUC reservoirs. Projects are the responsibility of Natural Resources and Lands Management Division.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 38,000	$ 20,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 10,000
Total	$ 38,000	$ 20,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 10,000

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19059-UW Watershed & Land Management
Authority Level 2:	15505-UW Watershed Cottages-Building
Project ID/FSP ID	CUW2751401 / 10015110
Project Title:	EBRPD Water System
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Murat Bozkurt
Facility Category:	Watersheds and Land Management
Type:	Capital
Description:	The East Bay Regional Park District (EBRPD) is responsible for providing potable water to users of the Sunol Regional Wilderness Park (SRP). The EBRPD owns and maintains a water system located at SRP Headquarters which previously supplied potable water to four park facilities, as well as drinking water fountains and picnic areas interspersed throughout the park. Currently, the water system serves non-potable water for use by EBRPD employees only. Since the system stopped producing potable water due to supply and sanitary deficiencies, EBRPD has been supplying park visitors with bottled water trucked in by a contracted vendor. The project purpose is • To provide a reliable water supply for potable use at the EBRPD facilities. • To provide potable uses at the SRP.
Justification:	The MOU between EBRPD and SFPUC requires SFPUC to provide potable water to EBRPD. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	Currently EBRPD has to provide bottled water

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 500	$ 200	$ 300	$ 0	$ 0	$ 0	$ 0
Construction	$ 100	$ 100	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 600	$ 300	$ 300	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19059-UW Watershed & Land Management
Authority Level 2:	15507-UW Row "gaps" Project
Project ID/FSP ID	CUW2751401 / 10015112
Project Title:	ROW Gaps Project
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Tim Ramirez
Facility Category:	Watersheds and Land Management
Type:	Capital
Description:	The purpose of this program is to support investments securing, protecting, and maintaining Rights Of Way (ROW) entitlements and access consistent with SFPUC policies.
Justification:	This program provides funding to support investments in ROW assets under SFPUC management, and improves the ability to cost-effectively manage and maintain these assets in good condition. Water LOS Goal(s) supported: Regional Delivery Reliability
Operating Impact:	The project provides resources required for the long-term management of SFPUC ROW lands. Projects are the responsibility of Water Supply and Treatment and Natural Resources and Lands Management Divisions, in coordination with Real Estate Services.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 2,500	$ 250	$ 250	$ 250	$ 250	$ 250	$ 1,250
Total	$ 2,500	$ 250	$ 250	$ 250	$ 250	$ 250	$ 1,250

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19059-UW Watershed & Land Management
Authority Level 2:	15508-UW Skyline Ridge Trail
Project ID/FSP ID	CUW275N0203 / 10015113
Project Title:	So. Skyline Blvd. Ridge Trail Ext.
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Mary Tienken
Facility Category:	Watersheds and Land Management
Type:	Capital
Description:	Construction of 6 miles of trails and parking areas within the Peninsula Watershed in two distinct segments. The project is consistent with recommendations the Peninsula Watershed Management Plan.
Justification:	The project will provide public access to the Peninsula Watershed while providing an essential link in of the Bay Area Ridge Trail. Water LOS Goal(s) Supported: Sustainability
Operating Impact:	The project provides access to watershed land for SFPUC employees to monitor, maintain and secure PUC property.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 715	$ 510	$ 205	$ 0	$ 0	$ 0	$ 0
Construction	$ 14,660	$ 14,660	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 15,375	$ 15,170	$ 205	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19059-UW Watershed & Land Management
Authority Level 2:	15511-UW Native Plants Nursery
Project ID/FSP ID	10015116 / 10015116
Project Title:	Native Plants Nursery
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	
Facility Category:	Water Transmission Program
Type:	Capital
Description:	The purpose of this program is to construct a state of the art "clean" nursery to grow pathogen-free native plants. The plants will be used to landscape capital projects including the Sunol Yard, The Alameda Creek Watershed Center and In the future, restoration projects through out SFPUC watershed lands.
Justification:	This program provides funding to support investments in watershed lands under SFPUC management, and Improves the ability to ensure the success of restoration projects on SFPUC watershed lands.
Operating Impact:	The project provides resources to continue support for the Sunol Native Plan Nursery. Projects are the responsibility of Natural Resources and Lands Management Division.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 462	$ 0	$ 0	$ 462	$ 0	$ 0	$ 0
Total	$ 462	$ 0	$ 0	$ 462	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19059-UW Watershed & Land Management
Authority Level 2:	15512-UW Sa-1 Service Road-Ingoing Road
Project ID/FSP ID	10030771 / 10030771
Project Title:	UW Sa-1 Service Road-Ingoing Road
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	
Facility Category:	Water Transmission Program
Type:	Capital
Description:	The purpose of this project is to support investments in watershed capital assets (roads) to maintain infrastructure and watershed lands.
Justification:	This project provides funding to support investments in watershed assets under SFPUC management and improves the ability to cost-effectively manage access to and protect water system infrastructure by maintaining roads and bridges in good condition.
Operating Impact:	The project provides resources required for the long-term management of SFPUC watershed lands. Prnjects are the responsibility of Natural Resources and Lands Management Division.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction Management	$ 1,106	$ 300	$ 806	$ 0	$ 0	$ 0	$ 0
Construction	$ 7,500	$ 500	$ 7,000	$ 0	$ 0	$ 0	$ 0
Total	$ 8,606	$ 800	$ 7,806	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19060-UW Communication & Monitoring
Authority Level 2:	15514-UW Microvave Backbone Upgrade
Project ID/FSP ID	CUW2760101 / 10015120
Project Title:	Microwave Backbone System
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Mary Ellen Carroll
Facility Category:	Communication and Monitoring Program
Type:	Capital
Description:	This project expands the SFPUC Microwave network to include the Thomas Shaft facility and surrounding area for security, radio communications and SCADA purposes. It Includes development of intermediate radio sites from leased facility (KHKK Radio Station) to HHWP Transmission Tower, both required to reach Thomas shaft from existing sites.
Justification:	The project will provide much needed communication for personnel working at this isolated facility. It will also provide redundant emergency communication capability and increased bandwidth for security data transfer. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	The project will improve current day-to-day radio communication and security data provision in addition to providing critical redundant emergency communication capability.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 1,000	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,000
Total	$ 1,000	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,000

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19060-UW Communication & Monitoring
Authority Level 2:	15514-UW Microvave Backbone Upgrade
Project ID/FSP ID	CUW2760101 / 10015119
Project Title:	Tesla/Thomas Shaft Microwave to SVCF & Radio Rplmt
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Brian Rolley
Facility Category:	Communication and Monitoring Program
Type:	Capital
Description:	Expansion of the SFPUC Microwave network starting in FY2019 to include the Thomas Shaft facility and surrounding area for security, radio communications and SCADA purposes. Includes development of intermediate radio sites from leased facility (KHKK Radio Station) to HHWP Transmission Tower, both required to reach Thomas shaft from existing Backbone site. ($600K)
Justification:	The project will provide much needed communication for personnel working at this isolated facility. It will also provide redundant emergency communication capability and increased bandwidth for security data transfer. Water LOS Goal(s) Supported: Regional Delivery Reliability and Cost Effectiveness
Operating Impact:	The project will improve current day-to-day radio communication and security data provision in addition to providing critical redundant emergency communication capability.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 1,460	$ 0	$ 0	$ 0	$ 210	$ 1,000	$ 250
Total	$ 1,460	$ 0	$ 0	$ 0	$ 210	$ 1,000	$ 250

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19060-UW Communication & Monitoring
Authority Level 2:	15514-UW Microwave Backbone Upgrade
Project ID/FSP ID	10015118 / 10015118
Project Title:	Radio Communication
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	
Facility Category:	Water Transmission Program
Type:	Capital
Description:	The radio project replaces the Water Enterprise low frequency land mobile radio system. SFPUC currently uses two radio systems. The first system, operated by the Department of Emergency Management ("DEM"), is a Motorola 700/800 MHz standard public safety radio system. It is used by the City and County of San Francisco ("CCSF"), SFPUC's Wastewater Enterprise, Power Enterprise, Customer Service Bureau, as well as the City Distribution Division's Auxiliary Water Supply System personnel and Gatemen. The second system is a low frequency radio system, used by SFPUC's Water Enterprise that spans seven counties.
Justification:	The project will provide much needed redundant emergency communication capability and increased bandwidth for security data transfer.
Operating Impact:	The project will improve current day to day radio communication and security data provision in additional to providing critical redundant emergency communication capability.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19060-UW Communication & Monitoring
Authority Level 2:	15515-UW Security Systems
Project ID/FSP ID	CUW2760201 / 10015121
Project Title:	WST Security System
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Josh Gale
Facility Category:	Communication and Monitoring Program
Type:	Capital
Description:	Design, construct and integrate security infrastructure for the Water Supply and Treatment Division.
Justification:	While some of the Regional Water System facilities have received security system upgrades through the recent WSIP, not all sites were covered. Water LOS Goal(s) Supported: Regional Delivery Reliability and Cost Effectiveness
Operating Impact:	None.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 5,122	$ 500	$ 482	$ 500	$ 515	$ 515	$ 2,610
Total	$ 5,122	$ 500	$ 482	$ 500	$ 515	$ 515	$ 2,610

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19061-UW Buildings & Grounds - Regio
Authority Level 2:	15517-UW Sunol Long Term Improvement
Project ID/FSP ID	CUW2770101 / 10015124
Project Title:	Sunol Long Term (Watershed Center & Yard Improve)
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Bryan Dessaure
Facility Category:	Buildings and Grounds Program
Type:	Capital
Description:	The project include the Sunol Yard and the Alameda Creek Watershed Center. Construction for the Sunol Yard is 99% complete. The scope for the Alameda Creek Watershed Center will include an 11,000 square foot LEED Gold building; interior exhibits and displays; a variety of interactive and hands-on exhibits; classroom; wet lab; staff offices; restrooms; event gathering space with kitchen; conference room; outdoor patios; picnic and play areas; and a discovery trail and garden area to represent the various reaches of the Alameda Creek Watershed. Funding for the Sunol Yard construction and Watershed Center design and construction contract was appropriated in previous years. NTP for the construction of the Watershed Center is anticipated in mid-February 2020.
Justification:	The SFPUC Alameda Creek Watershed Center (Center) will be a gathering place for increasing the awareness and appreciation of the natural, cultural, scenic, historic and recreational resources of the Alameda Creek watershed. Consistent with the SFPUC Water Enterprise Environmental Stewardship Policy, and as described in the SFPUC Alameda Watershed Management Plan, the Center will enhance public awareness and provide education opportunities related to water quality, water supply, conservation and environmental stewardship issues. Water LOS Goal(s) Supported: Regional Delivery Reliability and Sustainability
Operating Impact:	None.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19061-UW Buildings & Grounds - Regio
Authority Level 2:	15518-UW Sunol Yard Upgrades
Project ID/FSP ID	CUW2770202 / 10015125
Project Title:	Sunol Yard Interim Improvements
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Buildings and Grounds Program
Type:	Capital
Description:	Sunol Interim Improvements will capture RNR costs needed at the facility after the Sunol Yard Long Term project and Sunol Watershed Center are built.
Justification:	Minor repairs will be needed on an annual basis at the Sunol Yard to extend the usable life of this facility post capital improvements. Water LOS Goal(s) Supported: Regional Delivery Reliability and Cost Effectiveness
Operating Impact:	Interim improvements will increase security, lower utility bills (energy), and decrease maintenance costs; overall savings of $10K per year.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 2,665	$ 0	$ 0	$ 322	$ 333	$ 335	$ 1,675
Total	$ 2,665	$ 0	$ 0	$ 322	$ 333	$ 335	$ 1,675

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19061-UW Buildings & Grounds - Regio
Authority Level 2:	15519-UW Millbrea Yard
Project ID/FSP ID	10034825 / 10034825
Project Title:	Millbrae Yard Security Upgrade
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Yolanda Quisao
Facility Category:	Water Transmission Program
Type:	Capital
Description:	The project was previously approved to upgrade security for the Millbrae Yard facilities. The work includes Lenel integration, security fence and gates, video surveillance system, site lighting, access card readers at all entry doors to buildings, card access control at select laboratory and administration building perimeter doors, and emergency crash-bar egress.
Justification:	Millbrae Yard facility is vulnerable to unauthorized access because it does not have security in place to deter intruders. This project will provide security measures needed to protect the occupants and City assets in the Millbrae Yard facility. No additional funding is being requested.
Operating Impact:	The project will provide security measures necessary for protection of City staff and assets.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19061-UW Buildings & Grounds - Regio
Authority Level 2:	15519-UW Millbrea Yard
Project ID/FSP ID	CUW2770301 / 10034526
Project Title:	Millbrae Warehouse Settlement & Admin. Bldg. HVAC
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Yolanda Quisao
Facility Category:	Buildings and Grounds Program
Type:	Capital
Description:	The Project proposes to upgrade and repair the Millbrae Administration Building's existing HVAC system as required. The majority of anticipated repairs would take place within the existing building. Anticipated exterior work would include installation of an outdoor chiller unit on a concrete pad located in an existing landscaped area adjacent to the facility. The existing loading dock at the warehouse facility located on northern side of the Yard property has experienced displacement issues due to poor compaction below the existing concrete slab. Anticipated repairs include removal of the existing slab, excavation, replacement and compaction of the dirt, and replacement of the slab in kind. The Warehouse Settlement scope will be issued as a separate contract about a year ahead of the HVAC Improvements scope.
Justification:	The project is necessary to provide health and safety to occupants of the warehouse building and the administration building. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	If the project is implemented, Water Quality Lab issues pertaining to uneven air distribution in the administration building which impacts the efficiency of the water quality testing operation will be resolved. The floor slab displacement due to presence of expansive soil will be corrected which therefore improve safety access into the warehouse.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 50	$ 0	$ 0	$ 25	$ 25	$ 0	$ 0
Environmental Review	$ 20	$ 0	$ 0	$ 20	$ 0	$ 0	$ 0
Design	$ 175	$ 0	$ 0	$ 150	$ 25	$ 0	$ 0
Construction Management	$ 160	$ 0	$ 0	$ 135	$ 25	$ 0	$ 0
Construction Management	$ 150	$ 0	$ 0	$ 100	$ 50	$ 0	$ 0
Total	$ 555	$ 0	$ 0	$ 430	$ 125	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19061-UW Buildings & Grounds - Regio
Authority Level 2:	15519-UW Millbrae Yard
Project ID/FSP ID	CUW2770304 / 10015128
Project Title:	Millbrae Yard Lab & Shops
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Tracy Cael
Facility Category:	Buildings and Grounds Program
Type:	Capital
Description:	Additional space for Water Enterprise (WE) staff and laboratory is needed to meet current water regulations. In addition, more space is also needed for operations and function. It will gradually build out new laboratory building, administration building, IT office and server relocation, wellness center, generator, covered storage for equipment and vehicles, landscaping and site improvements in 3 phases. The proposed budget is based on Alternative 1 phased project to meet immediate needs, minimize disruptions to operations and allow gradual buildout of the master plan to resolve potential funding issues. Also the proposed budget will fund only the Phase 1 work, which includes the construction of a new laboratory building, south shop, reuse of existing warehouse, and addition of a new parking spaces. The new laboratory building will provide space for staff currently located in the Rollins Road Building. Phase 2 includes demolition of the existing administration building and construction of a new one, and construction of associated site improvements. Phase 3 includes construction of new covers for new equipment and storage structures, and remaining site improvements. Phases 2 and 3 are planned as part of future long-term improvement projects within the Millbrae Yard campus.
Justification:	The project is necessary for WQD to have a laboratory that meets the regulation requirements for testing and processing water samples. It will also meet NRD and WST's current operational and functional needs. New buildings for WST and WQD will provide occupant safety and comfort, mission critical facility function, and will save relocation cost and seismic upgrade cost of the existing administration building. Water LOS Goal(s) Supported: Regional Delivery Reliability and Cost Effectiveness
Operating Impact:	If implemented, the project will provide long term and sustainable "mission critical" buildings and allow the consolidation of work groups for increased staff efficiency.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 5,565	$ 0	$ 0	$ 5,565	$ 0	$ 0	$ 0
Design	$ 5,399	$ 0	$ 2,000	$ 3,399	$ 0	$ 0	$ 0
Construction Management	$ 25,036	$ 0	$ 0	$ 0	$ 17,724	$ 7,312	$ 0
Construction	$ 104,498	$ 0	$ 0	$ 0	$ 54,498	$ 50,000	$ 0
Total	$ 140,498	$ 0	$ 2,000	$ 8,964	$ 72,222	$ 57,312	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19061-UW Buildings & Grounds - Regio
Authority Level 2:	15519-UW Millbrea Yard
Project ID/FSP ID	CUW2770302 / 10002098
Project Title:	Millbrae Yard Interim Improvements
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Buildings and Grounds Program
Type:	Capital
Description:	Millbrae Interim Improvements will capture RNR costs needed at the facility after the Millbrae Yard Long Term capital project is built.
Justification:	Existing facilities are dilapidated, and do not meet present and future needs. Water LOS Goal(s) Supported: Regional Delivery Reliability and Cost Effectiveness
Operating Impact:	Interim improvements will increase security and decrease maintenance costs; overall savings of $20K per year.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 4,115	$ 0	$ 0	$ 500	$ 500	$ 515	$ 2,600
Total	$ 4,115	$ 0	$ 0	$ 500	$ 500	$ 515	$ 2,600

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19061-UW Buildings & Grounds - Regio
Authority Level 2:	15519-UW Millbrea Yard
Project ID/FSP ID	CUW2770301 / 10033555
Project Title:	Rollins Road Building Renovation
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Mary Tienken
Facility Category:	Buildings and Grounds Program
Type:	Capital
Description:	The Rollins Road Building Renovation Project involves the renovation of 1657-Rollins Road in Burlingame, CA to consolidate Water Enterprise NRD, WQD, and ITS work groups. The project scope includes construction of the NRD Wing interiors, as well as roof, security, civil, HVAC and electrical improvements and upgrades. In addition to the building systems improvements, a seismic retrofit is part of the planned construction.
Justification:	40% of the building is unusable until the renovation is complete. Water LOS Goal(s) Supported: Regional Delivery Reliability and Cost Effectiveness
Operating Impact:	The building systems are antiquated and unreliable impacting employee productivity and impact. The renovation will extend the useful life of the building.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 3,000	$ 3,000	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 3,000	$ 3,000	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19061-UW Buildings & Grounds - Regio
Authority Level 2:	15519-UW Millbrea Yard
Project ID/FSP ID	CUW2770301 / 10034524
Project Title:	SVWTP WQD Trailer
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Yolanda Quisao
Facility Category:	Buildings and Grounds Program
Type:	Capital
Description:	This project involves two locations: Sunol and Millbrae Yard. At Sunol, the proposed project will install two new 12'x60' trailer at the Sunol treatment plant to replace an existing dilapidated trailer that Water Quality is currently housed in. In addition to the installation of the trailer itself, utilities such as water, sewer, power and communications will be trenched and brought over to supply the trailer from nearby sources. At the Millbrae location, the proposed project would eliminate the doors and replace them with windows to reduce points of entry and improve security in the administration building. The entrance area to the Yard property off of El Camino Real would be repaved as a part of the proposed Project. The area planned to be repaved is approximately 6,500 square feet. Traffic signal systems and electrical lines within the Project area would be replaced in-kind.
Justification:	The project is necessary to provide city staff a safe and healthy working environment. Water LOS Goal(s) Supported: Regional Delivery Reliability and Cost Effectiveness
Operating Impact:	When the project is implemented, it will increase staff production and minimize health and safety hazards.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19061-UW Buildings & Grounds - Regio
Authority Level 2:	TBD - WTR R&R
Project ID/FSP ID	CUW2770501 / (N/A)
Project Title:	Rollins Road Building RNR
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Buildings and Grounds Program
Type:	Capital
Description:	Maintenance improvements will be needed after capital upgrades are made to Rollins Road Building. The SFPUC purchased the Rollins Road Building which is occupied by WQB, NRD and WSTD staff and a tenant operating a medical facility.
Justification:	Existing facilities are dilapidated, and do not meet present and future needs.
Operating Impact:	Interim improvements will increase security and decrease maintenance costs.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 2,565	$ 0	$ 0	$ 250	$ 250	$ 300	$ 1,765
Total	$ 2,565	$ 0	$ 0	$ 250	$ 250	$ 300	$ 1,765

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19061-UW Buildings & Grounds - Regio
Authority Level 2:	TBD - WTR R&R
Project ID/FSP ID	CUW2770601 / (N/A)
Project Title:	Buildings & Grounds All Locations RNR
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Annie Li
Facility Category:	Buildings and Grounds Program
Type:	Capital
Description:	CUW277-0601 Buildings and Grounds All locations – in no particular order Millbrae: 1. Haz. Mat. Removal 2. Building Rot Repair 3. Diesel Spill Cleanup 4. Planning - Plumbing Shop 5. Security Upgrades 6. IT Server Facilities and Pilarcitos Conference Room Upgrades 7. Yard Waste Oil Tank Replacement 8. Development of secured outdoor storage for warehouse 9. Yard Access, Water Conservation and Landscaping Upgrades 10. Truck Wash and Yard drainage and pavement repairs 11. Yard Covered parking for equipment & materials storage 12. Pulgas Temple Access, Water Conservation and Landscaping Upgrades
Justification:	Existing facilities are dilapidated, and do not meet present and future needs.
Operating Impact:	Improvements will increase security, lower utility bills (energy), and decrease maintenance costs.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 9,000	$ 0	$ 0	$ 1,500	$ 1,500	$ 1,000	$ 5,000
Total	$ 9,000	$ 0	$ 0	$ 1,500	$ 1,500	$ 1,000	$ 5,000

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19069-UW Long Term Monitoring & Perm
Authority Level 2:	15549-UW Long Term Monitoring & Perm
Project ID/FSP ID	CUW28600 / 10015233
Project Title:	Long Term Monitoring & Permit Program (Capital)
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	Tim Ramirez
Facility Category:	Watersheds and Land Management
Type:	Capital
Description:	The purpose of this program is to meet the long-term monitoring and permit requirements associated with capital projects and the operation and maintenance of the SFPUC water supply system and watershed/ROW lands within the Bay Area. Projects with long-term monitoring required by environmental permits include WSIP-related environmental mitigation and permit requirements (i.e., Bioregional Habitat Mitigation Program) and non-WSIP capital projects.
Justification:	This program provides the resources to comply with terms and conditions in state and federal environmental permits associated with construction and/or operations and maintenance of the SFPUC water system, and watershed and ROW lands. Water LOS Goal(s) Supported: Sustainability
Operating Impact:	By providing the resources to comply with conditions and state and federal environmental regulatory permits, this program will minimize the risk and long-term costs associated with operation and maintenance of the SFPUC water supply system and watershed and ROW lands. As additional capital projects are completed, long-term monitoring funding will be requested as needed to meet conditions in state and federal environmental regulatory permits.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 24,786	$ 4,043	$ 4,000	$ 3,457	$ 3,374	$ 1,782	$ 8,130
Total	$ 24,786	$ 4,043	$ 4,000	$ 3,457	$ 3,374	$ 1,782	$ 8,130

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19069-UW Long Term Monitoring & Perm
Authority Level 2:	15549-UW Long Term Monitoring & Perm
Project ID/FSP ID	10015234 / 10015234
Project Title:	Alameda Watershed Monitoring
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	
Facility Category:	Watersheds and Land Management
Type:	Capital
Description:	The purpose of this project is to meet the long-term monitoring and permit requirements associated with capital projects and the operation and maintenance of the SFPUC water supply system and watershed/ROW lands within the Bay Area. Projects with long-term monitoring required by environmental permits include WSIP-related environmental mitigation and permit requirements (i.e., Bioregional Habitat Mitigation Program) and non-WSIP capital projects in the Alameda Watershed. This project was approved in a prior Capital Improvement Plan. No additional funding is requested.
Justification:	This program provides the resources to comply with terms and conditions in state and federal environmental permits associated with construction and/or operations and maintenance of the SFPUC water system, and watershed and ROW lands. Water LOS Goal(s) Supported: Sustainability
Operating Impact:	By providing the resources to comply with conditions and state and federal environmental regulatory permits, this program will minimize the risk and long-term costs associated with operation and maintenance of the SFPUC water supply system and watershed and ROW lands. As additional capital projects are completed, long-term monitoring funding will be requested as needed to meet conditions in state and federal environmental regulatory permits.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Regional Water

Authority Level 1:	19069-UW Long Term Monitoring & Perm
Authority Level 2:	15551-UW Peninsula Watershed Monitor
Project ID/FSP ID	10015235 / 10015235
Project Title:	Peninsula Watershed Monitoring
Enterprise:	Water Enterprise
Organization:	Regional Water
Project Manager:	
Facility Category:	Watersheds and Land Management
Type:	Capital
Description:	The purpose of this project is to meet the long-term monitoring and permit requirements associated with capital projects and the operation and maintenance of the SFPUC water supply system and watershed/ROW lands within the Bay Area. Projects with long-term monitoring required by environmental permits include WSIP-related environmental mitigation and permit requirements (i.e., Bioregional Habitat Mitigation Program) and non-WSIP capital projects in the Peninsula Watershed. This project was approved in a prior Capital Improvement Plan. No additional funding is requested.
Justification:	This program provides the resources to comply with terms and conditions in state and federal environmental permits associated with construction and/or operations and maintenance of the SFPUC water system, and watershed and ROW lands. Water LOS Goal(s) Supported: Sustainability
Operating Impact:	By providing the resources to comply with conditions and state and federal environmental regulatory permits, this program will minimize the risk and long-term costs associated with operation and maintenance of the SFPUC water supply system and watershed and ROW lands. As additional capital projects are completed, long-term monitoring funding will be requested as needed to meet conditions in state and federal environmental regulatory permits.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	80119-Water Supply Projects
Authority Level 2:	20711-Water Diversification Projects
Project ID/FSP ID	CUW278N04 / (N/A)
Project Title:	Groundwater - Irrigation Well Decommission
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Tracy Cael
Facility Category:	Water Supply and Storage Program
Type:	Capital
Description:	The SFPUC shall decommission (destroy under permit) the eight (8) irrigation wells (i.e., seal the wells, most likely by pressure grouting) in Golden Gate Park that are not part of the San Francisco Groundwater Supply Phase 2 Project in accordance with the provisions of Chapter 12B of the San Francisco Health Code. The work consists of surveying, removal of the existing well pumps and above-ground valves, and removal, capping and restraining mainline pipes below grade.
Justification:	The project will provide long-term protection of groundwater quality and to facilitate management of groundwater pumping for potable supply use.
Operating Impact:	Decommissioning of the wells will take place only after the Recycled Water Project is operational and reliably providing the irrigation water supply for Golden Gate Park. This is to allow the continuity of existing San Francisco Recreation & Park Department operations for irrigation.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Environmental Review	$ 20	$ 20	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 120	$ 120	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 210	$ 210	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 350	$ 350	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 700	$ 700	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	80119-Water Supply Projects
Authority Level 2:	20711-Water Diversification Projects
Project ID/FSP ID	CUW-TBD / (N/A)
Project Title:	Sunset Boulevard Recycled Water Irrigation Project
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Cheryl Munoz
Facility Category:	Water Supply and Storage Program
Type:	Capital
Description:	The Sunset Boulevard Recycled Water Irrigation Project will install new recycled water pipelines and associated appurtenances, to provide recycled water from the Westside Enhanced Water Recycling Project to irrigate Sunset Boulevard medians. Recycled water will replace potable water currently used for irrigation. Recycled water will be brought up to the point of connection (i.e., water meter). The project does not include landscaping, irrigation systems, irrigation system retrofits, meters, irrigation booster pumps, or cross connection testing.
Justification:	Implementing this project will add to the water supply reliability in the SFPUC's service area, both locally and regionally, by delivering recycled water to offset groundwater currently being used for irrigation.
Operating Impact:	The pipeline will be owned and operated by the SFPUC. Adding this user to the Westside Enhanced Recycled Water Project will impact permitting, infrastructure management and maintenance, and treatment plant operations.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 202	$ 202	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 50	$ 50	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 350	$ 350	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 200	$ 0	$ 200	$ 0	$ 0	$ 0	$ 0
Construction	$ 1,000	$ 0	$ 1,000	$ 0	$ 0	$ 0	$ 0
Total	$ 1,802	$ 602	$ 1,200	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	80119-Water Supply Projects
Authority Level 2:	20711-Water Diversification Projects
Project ID/FSP ID	CUW-TBD / (N/A)
Project Title:	San Francisco Zoo Recycled Water Pipeline Project
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Sarah Triolo
Facility Category:	Water Supply and Storage Program
Type:	Capital
Description:	The San Francisco Zoo Recycled Water Pipeline Project will convert its current groundwater supply and distribution system to a recycled water supply and distribution system, except for end uses that need to be converted to potable water (e.g., drinking water for animals). Recycled water will replace groundwater currently used to supply various uses including irrigation, cleaning and replenishment of surface water bodies, animal exhibit washdown and pool refilling, and general cleaning. A new recycled water pipeline will be installed connecting the Zoo's groundwater reservoir to the existing Westside Enhanced Recycled Water Project distribution line. The project will also include a series of small retrofits including signage installation and tagging of fixtures. This project does not include landscaping, irrigation system retrofits, or cross-connection testing.
Justification:	Implementing this project will add to the water supply reliability in the SFPUC's service area, both locally and regionally, by delivering recycled water to offset groundwater currently being used for Zoo operation purposes. The groundwater freed up by this project will be used for supplemental potable water supplies.
Operating Impact:	The pipeline will be owned and operated by the SFPUC. Adding this user to the Westside Enhanced Recycled Water Project will impact permitting, infrastructure management and maintenance, and treatment plant operations.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 100	$ 100	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 75	$ 75	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 425	$ 425	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 400	$ 0	$ 400	$ 0	$ 0	$ 0	$ 0
Construction	$ 2,100	$ 0	$ 2,100	$ 0	$ 0	$ 0	$ 0
Total	$ 3,100	$ 600	$ 2,500	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	80119-Water Supply Projects
Authority Level 2:	20711-Water Diversification Projects
Project ID/FSP ID	CUW-TBD / (N/A)
Project Title:	SF Eastside Satellite Recycled Water Project
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Manisha Kothari
Facility Category:	Water Supply and Storage Program
Type:	Capital
Description:	Tertiary recycled water supply to meet the demands of dual plumbed buildings on the eastside of SF that do not currently have a non-potable water supply source. Based on prior surveys, there is likely less than 0.5 mgd of demand for existing buildings that have the ability to use non-potable water, but lack the supply. This project would include a small centralized tertiary treatment facility, storage tank, and transmission lines that would be located nearest to a majority of the end uses. This project would provide an appropriate water supply source for non-potable irrigation, as well as commercial and industrial uses not addressed by the Non-Potable Ordinance and Auxiliary Water Supply System.
Justification:	The planning support for reuse within San Francisco will allow the SFPUC to advance and maximize reuse potential within the City.
Operating Impact:	None at this time.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 4,800	$ 800	$ 3,000	$ 500	$ 500	$ 0	$ 0
Total	$ 4,800	$ 800	$ 3,000	$ 500	$ 500	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	80119-Water Supply Projects
Authority Level 2:	20711-Water Diversification Projects
Project ID/FSP ID	10034505 / 10034505
Project Title:	Water Supply Projects
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	
Facility Category:	Water Supply and Storage Program
Type:	Capital
Description:	This project includes work authorized under a previous Capital Improvement Plan that is being completed. No additional funding is requested.
Justification:	N/A
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19054-UW Treasure Island Capital Imp
Authority Level 2:	15465-UW Treasure Island Capital Imp
Project ID/FSP ID	10015042 / 10015042
Project Title:	Treasure Island Capital Improvements
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This project was approved in a prior Capital Improvement Plan and is not requesting additional funding.
Justification:	N/A
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19062-UW Local Water Supply-other Re
Authority Level 2:	15522-UW Local Water Supply-other Re
Project ID/FSP ID	10015131 / 10015131
Project Title:	Local Water Supply/Other Recycle
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This includes feasibility and research on a number of local efforts including PureWaterSF, which is are completing now and will require funds to complete that research effort for developing purified water in San Francisco. We expect to use some remaining funds to continue our research efforts on local purified water in San Francisco. We are also looking at other water recycling efforts with Menlo Country Club and other San Francisco retail customers (both within and outside of San Francisco) to determine the viability of serving recycled/non-potable or purified water.
Justification:	N/A
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19063-UW Local Water Conveyance-dist
Authority Level 2:	15527-UW New Services
Project ID/FSP ID	CUW-TBD / (N/A)
Project Title:	UW New Services
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Heather Pohl
Facility Category:	Water Transmission Program
Type:	Capital
Description:	The CDD New Services Program budget line item covers costs for CDD office and field resources (and a small number of CSB staff) to administer and construct New Service Flat Fee Installation requests. This work is performed solely in response to external customer requests. Historical data trends have been used to project the anticipated budgetary needs for this period including conservative increases to anticipated applications and escalations for FY20-21 and FY21-22. No anticipated work increases or escalations have been included for the remaining 8 years at this time.
Justification:	The City is in the middle of a construction boom and recent plumbing code changes have also resulted in a significant increase to SFPUC new water service requests over the last few years. In FY18-19 SFPUC collected $8.1 million in fees to construct new water service flat fee projects, a 55% increase in fees collected the previous FY. This budget item allows for our resources to perform the installation work for which the fees are collected.
Operating Impact:	Without sufficient budget to perform this work, CDD staff cannot complete the new service installations and customers cannot receive water service delivery without a direct impact to CDD's existing operations or other capital project budgets

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 84,000	$ 10,000	$ 10,000	$ 8,000	$ 8,000	$ 8,000	$ 40,000
Total	$ 84,000	$ 10,000	$ 10,000	$ 8,000	$ 8,000	$ 8,000	$ 40,000

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19063-UW Local Water Conveyance-dist
Authority Level 2:	15528-UW Renew Services
Project ID/FSP ID	10015136 / 10015136
Project Title:	UW Renew Services
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This long-term program funds management of linear assets in the potable water distribution system between transmission or storage and final customer service connection. Starting in FY21-22, Renew services will be a standalone project to allow for improved tracking of budget vs. expenditures. Renew Services: renews assets between the water main and the customer's service connection, including: 1-inch to 8-inch diameter service pipes made of galvanized steel, lead and plastic, to be replaced with copper or ductile iron; broken meter boxes; outdated or broken meters and associated piping; and subsequent associated sidewalk and roadway restoration. This program also renews gate valves and pressure reducing valves in the pipe network.
Justification:	Renew services will be a standalone project to allow for improved tracking of budget vs. expenditures.
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 30,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 15,000
Total	$ 30,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 15,000

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19063-UW Local Water Conveyance-dist
Authority Level 2:	15528-UW Renew Services
Project ID/FSP ID	CUW-TBD / 10035723
Project Title:	GIS Program
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Lynn Fong
Facility Category:	Water Transmission Program
Type:	Capital
Description:	CDD is building an asset management system under the Linear Asset Management Program (LAMP). This long-term program will fund the management of the enterprise Geographic Information System (eGIS), as the hub and system of record for linear assets. CDD's asset management system and eGIS platform is used in daily operations to analyze system water conveyance, locate facilities, manage preventive maintenance, respond to emergencies, and optimize field work through GIS data analysis. The GIS platform will be used for a wide array of applications that utilizes innovative software such as machine learning and pro-active leak detection software. CDD's GIS applications will also include analysis of main breaks and leak information to assess likelihood and consequence of pipe failures. The asset management system will also be crucial for hydraulic modeling and analysis. Other CDD programs that will be determined by the GIS platform includes the lead component program, as well as the integration efforts with Maximo and CC&B. STAFFING: 1-1054 IS Business Analyst who will manage the GIS program and 1-1052 IS Business Analyst who will be responsible for the data intake and editing to the GIS platform. DEVELOPMENT: Upgrade to Utility Network, Enterprise system integration, new business applications, future operating procedures. IMPLEMENTATION: GIS Enterprise integration, GIS pilot applications, Enterprise system integration support for Maximo and CC&B. MAINTENANCE: Licenses, database, applications Beginning FY 21, the program will further incorporate industry standards by modernizing the GIS framework to the Utility Network, and integration with other enterprise business software. The GIS program will focus on: 1) coordination with IT on enterprise GIS platform design and implementation needs for CDD; 2) migration of GIS data assets into updated industry standard data model; 3) Implementation of critical web and desktop solutions; 4) Enterprise business system integrations; 5) Digitization of all records, data optimization and data modeling to move database schemas into industry-standard data models; 6) training CDD staff on the use of professional desktop and web tools.
Justification:	Current Asset Management system and GIS database efforts are funded by the Linear Asset Management Program (LAMP). FY21 and FY22 cost estimates are based on FY19 SFPUC staff salaries, and current consultant support. CDD has recently completed its data migration from a local geodatabase to an Enterprise database. This new program will support additional enhancements such as the Hydraulic and Risk Assessment model software where the GIS data is used as the foundation for the hydraulic model with future enterprise system integrations (i.e. MAXIMO).
Operating Impact:	The lack of a long-term asset management program and GIS database will impact CDD's daily operations by causing service disruption to SFPUC customers, impact response time to emergencies and fires, and can cause liability problems if assets or facilities are improperly identified. Furthermore, GIS is currently funded by LAMP, having outdated software can cause interruptions to the end users, while impacting the overall data maintenance processes, and delineate from industry standards. A delineation could result in significant unforeseen costs trying to achieve the most relevant technology. These costs will ultimately impact the Linear Asset Management Program as well as the 15 miles of pipeline replacement goals.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Design	$ 6,700	$ 500	$ 700	$ 600	$ 700	$ 700	$ 3,500
Construction	$ 958	$ 100	$ 175	$ 95	$ 16	$ 38	$ 534
Total	$ 7,658	$ 600	$ 875	$ 695	$ 716	$ 738	$ 4,034

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19063-UW Local Water Conveyance-dist
Authority Level 2:	15528-UW Renew Services
Project ID/FSP ID	CUW-TBD / (N/A)
Project Title:	Local Water - Lead Component Services Program
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Lynn Fong
Facility Category:	Water Transmission Program
Type:	Capital
Description:	In September 2016, the California State Legislature passed Senate Bill 1398 (SB 1398) requiring all public water systems to compile an inventory of known lead user service lines in use in its distribution system and identify areas that may have lead user service lines. In addition, SB 1398 requires public water systems to provide a timeline to the board for the replacement of user service lines whose content cannot be determined. This new CIP program funds the management of and replacement of a.) Unknown user service lines, and b.) Galvanized service lines with possible lead whips or appurtenances over a 10-year period: a.) Unknown user service lines: There are 10,912 unknown user service lines. CDD has field investigated 900 unknown user service lines distributed throughout the City and based upon a recommended statistical analysis, approximately 4% (36) of the 900 have been identified as galvanized. The new CIP program will continue the discovery of the remaining 10,012 service lines through consultant services over a 2-year period at a cost of approximately $1 million/year. In addition, the program estimates that approximately 15% (1,640) of the unknown service lines will need to be renewed; however, this figure may change depending on the results of the discovery process: - $2 million over 2 years to determine the service line material for unknown services. - $24.6 million over 10 years to renew approximately (15%) 1,640 services potentially found to have a galvanized service. NOTE: Although only 4% of unknown services have currently been found to be galvanized, this new CIP program is projecting that conservatively 15% of unknown services will be renewed. b.) Galvanized service lines: There are 4,524 galvanized services with a potential lead whip or appurtenances. Currently, CDD has field inspected 200 galvanized services and 20% are galvanized with the remaining 80% consisting of another material. Based on this, the new CIP program will fund the continuation of field investigations as well as the service renewal of 30% (1,360) galvanized services over a 10-year period. - $1 million over 2 years to confirm the service line material for galvanized services. - $20.4 million over 10 years to renew 1,360 galvanized services. NOTE: Although only 20% of galvanized services have been found to be galvanized, this new CIP program is projecting that conservatively 30% of the services will be found to actually be galvanized. TOTAL RENEWED SERVICES = 3,000
Justification:	By June 2020, CDD will be reporting to the State on the current level of efforts to inspect, identify and put in place a program to renew services with potential lead components. The new CIP program identifies crucial funds to fulfill SB 1398 requirements, including the inspection & removal of all known lead user service lines as well as identify all unknown user service lines. This program will clearly demonstrate the commitment by SFPUC to adhere to State requirements through the identification of programmatic resources dedicated to identify and remove all potential lead components remaining in the distribution system.
Operating Impact:	The lack of a dedicated funding source as well as a identified program may result in the State requiring CDD to replace all 10,912 unknown services as well at the 4,524 galvanized services in an abbreviated timeframe of less than 10 years. This could result in State mandated requirements of renewing 15,436 services, instead of a projected 3,000 services at a total cost of $231.5 million, instead of $48 million. This may result in very significant impacts over the next several years to the current CUW 280 main replacement program, including reducing the number of miles that are planned, designed, and constructed for the 15 mile/year replacement program.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 3,045	$ 1,500	$ 1,545	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 1,840	$ 0	$ 0	$ 230	$ 230	$ 230	$ 1,150
Construction	$ 26,455	$ 0	$ 0	$ 2,953	$ 3,048	$ 3,146	$ 17,308
Total	$ 31,340	$ 1,500	$ 1,545	$ 3,183	$ 3,278	$ 3,376	$ 18,458

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19063-UW Local Water Conveyance-dist
Authority Level 2:	15528-UW Renew Services
Project ID/FSP ID	CUW-TBD / 10035728
Project Title:	Water Loss Reduction Program
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Joan Ryan
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This program will develop a master plan to guide the implementation of cost-effective and comprehensive strategies to reduce water loss and ensure the SFPUC is compliant with State Board regulations. Since 2014 the SFPUC has documented a 10% increase in its water losses; and beginning in July 2020, the State Water Resources Control Board (State Board) will be enforcing new water loss performance measures. What are the best strategies for the SFPUC to reduce water losses and respond to new regulations, is it more Boots-on-the-ground eliminating water leaks & breaks or Nerds-on-the-computer improving the documentation and quantification of water losses, or a combination of both, or other? This program will develop a master plan detailing new or improved water loss prevention strategies with implementation plans, procedures, and resource needs to reduce water loss and maintain SFPUC compliant with state regulations. The master plan will make recommendations, quantified estimated water loss reduction to be achieved, and proposed implementation strategies in the following areas: 1. Re-active and pro-active leak detection (equipment review, installing, contracting, staffing requirements, reporting, repairs). 2. Pressure Management (data collection, hydraulic review, customer impacts, post-implementation data collection & analyses, GIS updates). 3. Water Loss Quantification (developing methodologies and algorithms for improved quantification of water losses during leaks & break events, flushing & disinfection events, training staff to estimate and record field-information). 4. Water Facility Surveys (identify sources of water losses at facilities, e.g. reservoir underdrains, leaking valves, reservoir sealing). 5. Large Meter Assessment (prioritization methodology for large meter calibration and replacement, cost/benefit analysis for manifold meter change-outs). 6. Data Reporting and Integration with Maximo and GIS (develop data recording tools in Maximo with GIS interface) 7. Annual Water Audit (develop standard procedures and methodologies for documenting and reporting water consumption and losses, prepare quarterly data gathering activities to ensure SFPUC is meeting its water loss reduction targets) 8. How Low Do We Go? (develop a business case for cost-efficient water loss reduction goals over the next 5- 10- and 15-years)
Justification:	In 2015 California Senate adopted SB 555 which added language to the California Water Code requiring on October 1, 2017, and each year thereafter, for urban retail water suppliers to submit a completed standardized retail water loss audit for the previous fiscal year. Based upon the findings from over 400 water utilities' audits, by July 2020 the State Board will require urban retail water suppliers to meet performance standards for the volume of water loss. To meet the water audit reporting requirements and to be compliant with State Board regulations, the SFPUC needs to reduce its water losses which are strongly correlated to leaks & breaks and missing or incorrect data in information systems.
Operating Impact:	Since the SFPUC began conducting the standardized water audit in 2014, it has documented a 10% increase in total water losses. For FY18, SFPUC reported water losses of 2,550 MG or 7,830 AF, which represents a potential retail revenue loss of $50M. Without improvements to its water loss reduction strategies, it is reasonable to estimate 10% or greater increases in water loss into the foreseeable future and the SFPUC will be at-risk for monetary penalties for non-compliance with State Board regulations.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,540	$ 750	$ 750	$ 40	$ 0	$ 0	$ 0
Construction	$ 4,574	$ 0	$ 0	$ 500	$ 2,000	$ 1,500	$ 574
Total	$ 6,114	$ 750	$ 750	$ 540	$ 2,000	$ 1,500	$ 574

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19063-UW Local Water Conveyance-dist
Authority Level 2:	15528-UW Renew Services
Project ID/FSP ID	CUW-XXX-TBD / (N/A)
Project Title:	Water Quality Distribution System
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	PMB
Facility Category:	Water Transmission Program
Type:	Capital
Description:	Capital planning to improve water quality in SF Water System were last initiated 20 years ago. Since that time, numerous changes have been made to the local water system, including change in disinfectant, addition of groundwater wells, demand reductions, conveyance changes, and other modifications. These changes, along with aging facilities prompt the need to document changes, and plan engineered improvements to ensure reliable operations, maintain and improve drinking water quality to comply with regulations and ensure consumer protection. Tasks under this project will include the following: • Enhanced water quality monitoring and update online water quality analyzer instruments at transmission storage reservoirs. • Refurbishment and upgrades of Reservoir WQ Mixers • Chlorine Station Refurbishment • New Sunset Reservoir Chlorine Station • Swing Check Valve Replacement Pilot • Forest Hill and Crocker Amazon HPS Circulation Improvements • Maintenance and replacement of Reservoir Sample Station • Hydrant Use - Provide coordination and development for use of low pressure hydrants by stakeholders other than SFPUC DPW, SFFD, contractors etc). Stakeholder use of low pressure hydrants have potential for backflow contamination, water system upsets and customer disturbance.
Justification:	This project will help to maintain or update existing equipment to ensure reliable distribution operations. Changes are needed as outdated chemical facilities, equipment and operations present safety risks to personnel, loss of productivity due to obsolete chemical handling, electrical and SCADA failures due to obsolete equipment and resultant risks to operational upsets and impacts to customers. These equipment, such as chlorine stations, reservoir mixers, water quality analyzers are all critical to the local water operations. Also improvements to select sites where known water quality problems exist (e.g. Forest hill tank and Crocker Amazon PS) will resolve known locations where water degrades severely such that tanks are routinely taken out of service and sites operate with near zero disinfectant residuals.
Operating Impact:	CDD trades and stationary engineers have provided annual maintenance and in-house repairs for existing facilities such that some facilities (e.g. chlorine stations) no longer reflect the last as-builts drawings completed over 20 years ago. It is essential that the facilities that will be addressed for this project have engineered design improvements with formal planning and construction improvements. This will provide a clearer and consistent operating strategy for facilities.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 200	$ 200	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 600	$ 0	$ 200	$ 200	$ 200	$ 0	$ 0
Construction	$ 1,900	$ 0	$ 300	$ 800	$ 800	$ 0	$ 0
Total	$ 2,700	$ 200	$ 500	$ 1,000	$ 1,000	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19063-UW Local Water Conveyance-dist
Authority Level 2:	15526-UW Local Water Conveyance-dist
Project ID/FSP ID	CUW280 / 10015526
Project Title:	Local Water Conveyance / Distribution System
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Ryan Freeborn
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This program was approved in a prior Capital Planning Program. Remaining funding for this program under this authority will be spent and the project closed. Future work will be performed under the Main Replacement Program described on the following page.
Justification:	N/A
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19063-UW Local Water Conveyance-dist
Authority Level 2:	15531-UW Pipeline Replacement
Project ID/FSP ID	CUW280 / 10015134
Project Title:	Local Water Conveyance / Distribution System
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Ryan Freeborn
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This long-term program funds management of linear assets in the potable water distribution system between transmission or storage and final customer service connection. 1.Main Replacement Program: replaces and renews feeder and distribution mains for the 1,230 miles of pipe distribution system. Improvements include replacement, rehabilitation, relining, and cathodic protection of all pipe size categories to extend or renew pipeline useful life. Coordination with construction projects by other City agencies, especially SFPUC Sewer and DPW Paving, is emphasized to optimize efficiencies and minimize customer disruptions. Starting in FY21-22, a new L-Taraval Transit Project has been created to provide separate funding for the main replacement project along this major transit corridor, where street improvement projects by other agencies (CalTrans, SFMTA, SFCTA, DPW) and are more expensive to implement due to their complexity, traffic and transit impacts, and multi-agency coordination. The L-Taraval Project will provide separate project funding for the 4 miles of main replacement at a cost of $6.0M per mile. Additionally, in FY21-22, a new Better Market Street Project has been created to provide separate funding for the water main replacement along the Market Street Corridor to be constructed over a period of 7 years with the assumption of 0.5 miles per year. The proposed budget will include the following: 1) replacement of distribution pipelines at $4.5M per mile; 2) replacement of 1 mile with seismically reliable pipelines at $6.0M per mile; and 3) Pipe relining at $3M per mile. FY20 budget will be allocated from existing budget balance.
Justification:	Extensive review of pipe age and condition revealed that a higher replacement rate is needed to continue meeting LOS goals to minimize disruption of service to customers. Currently, 16% of the system's 1,230 miles of mains exceed their typical 100-year useful life. At past replacement rate of 6 miles/year, over 20% of the mains will exceed their recommended useful life by year 2025. By 2040, over 50% of mains will exceed the useful life, increasing the rate of main breaks, resulting in expensive property/street damage, domestic/commercial service disruption, and the potential threat to public health/safety. Maintaining overall funding for a replacement/renewal rate to 15 miles/year will enhance the probability of maintaining LOS goals for customer service through year 2035. In 2035, more aggressive capital improvements may be necessary to maintain LOS goals. Coordinating main replacements with transit corridor street improvement project stakes advantage of current construction opportunities and minimizes risk of main breaks from old pipes and community disruption after construction.
Operating Impact:	Main breaks due to aging infrastructure cause service disruption and result in costly property damage and need for emergency repairs. Increasing the pipeline renewal rate will help prevent potential increased rate of main breaks, thus maintaining or slightly increasing operational costs to respond to main and service connection breaks.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 11,553	$ 0	$ 921	$ 1,329	$ 1,329	$ 1,329	$ 6,645
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 49,262	$ 0	$ 4,950	$ 5,539	$ 5,539	$ 5,539	$ 27,695
Construction Management	$ 64,140	$ 0	$ 6,540	$ 7,200	$ 7,200	$ 7,200	$ 36,000
Construction	$ 199,467	$ 0	$ 21,755	$ 22,214	$ 22,214	$ 22,214	$ 111,070
Total	$ 324,422	$ 0	$ 34,166	$ 36,282	$ 36,282	$ 36,282	$ 181,410

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19063-UW Local Water Conveyance-dist
Authority Level 2:	15531-UW Pipeline Replacement
Project ID/FSP ID	CUW28002 / (N/A)
Project Title:	Local Water Conveyance Better Market Street
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Ryan Freeborn
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This project provides separate funding outside of the Main Replacement Program for the Better Market Street Project lead by San Francisco Public Works. The objective of the Better Market Street Project is to deliver transportation, streetscape, and safety improvements along with replacement of aging underground utilities which are beyond or nearing the end of its useful life within the 2.2 miles of Market Street between Octavia Boulevard and The Embarcadero. This project will be delivered in 5 phases with the first phase, Phase 1A, between 5th and 8th Streets, estimated begin construction in FY21. The estimated construction duration for each phase is 2 years with overall project completion estimated in FY27. SFPUC-CDD water scope includes replacement of approximately 3.3 miles of distribution and transmission pipelines ranging in size from 8-inch to 36-inch. The estimated construction cost is $8M per mile escalated over the 7 year construction duration for a total estimated cost of $31.4M. Program escalation is assumed to be 6% for FY22 budget and 3% for FY23 through FY27. The overall project construction is estimated between $800M and $1,000M
Justification:	Market Street is San Francisco's busiest thoroughfare in terms of pedestrians, bicyclists, and transit. To balance the needs between these modes, major elements of the project will include intersection safety enhancements, a renewed pedestrian realm and streetscape, continuous protected bicycling facilities, and optimizing transit operations. Additionally, the project will replace much of the existing infrastructure along Market Street, which is beyond or nearing the end of its useful life. This project includes replacement of existing SFMTA railway tracks in which SFPUC water pipelines are routed under these tracks at street intersections to provide redundancy within the water distribution system. It is important that SFPUC join this project to allow for replacement of these pipelines during the transit shutdown. Additionally, due the planned improvement along with the crowded utility corridor it is important that SFPUC closely coordinate with city agencies and provide utilities in order to carefully plan and design the location of the replacement pipelines in order to minimize the distribution to SFPUC, other city agencies, and the public during future repairs and replacement.
Operating Impact:	Main breaks due to aging infrastructure cause service disruption and result in costly property damage along major transit corridors and need for emergency repairs. Additionally, the transit and streetscape improvement projects typically include new street surface features such as special thermoplastic painting for bike and transit dedicated lanes, transit boarding islands, and bulbouts and other features that are expensive to repair and replace. Renewing these important assets will improve reliability and redundancy of the water distribution system and reduce the risks associated with pipeline failure.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,400	$ 200	$ 200	$ 200	$ 200	$ 200	$ 400
Design	$ 1,400	$ 200	$ 200	$ 200	$ 200	$ 200	$ 400
Construction Management	$ 3,700	$ 600	$ 600	$ 500	$ 500	$ 500	$ 1,000
Construction	$ 24,926	$ 3,000	$ 3,240	$ 3,467	$ 3,598	$ 3,733	$ 7,887
Total	$ 31,426	$ 4,000	$ 4,240	$ 4,367	$ 4,498	$ 4,633	$ 9,687

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19063-UW Local Water Conveyance-dist
Authority Level 2:	15531-UW Pipeline Replacement
Project ID/FSP ID	CUW28003 / (N/A)
Project Title:	Local Water Conveyance Joint Transit Project
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This project provides separate funding outside of the Main Replacement Program for the L-Taraval Joint Transit Project lead by San Francisco Municipal Transit Agency (SFMTA). The objective of the L-Taraval Project is to deliver transportation, streetscape, and safety improvements along with replacement of aging underground utilities which are beyond or nearing the end of its useful life on Taraval Street from Sunset Boulevard to 15th Avenue. Joint transit and streetscape improvement projects along major transit corridors are more expensive to implement due to their complexity, traffic and transit impacts, and multi-agency coordination. This program provides funding for 4 miles at a cost of $6.0M per mile. The funding for the Main Replacement Program will be reduced during FY21 to FY23 based on the separate funding for this project and Better Market Street funding.
Justification:	Providing funding for projects within transit corridors advantage of current construction opportunities and minimizes risk of main breaks from old pipes and community disruption after construction.
Operating Impact:	Main breaks due to aging infrastructure cause service disruption and result in costly property damage along major transit corridors and need for emergency repairs. Additionally, the transit and streetscape improvement projects typically include new street surface features such as special thermoplastic painting for bike and transit dedicated lanes, transit boarding islands, and bulbouts and other features that are expensive to repair and replace.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 412	$ 200	$ 212	$ 0	$ 0	$ 0	$ 0
Design	$ 1,236	$ 600	$ 636	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 2,060	$ 1,000	$ 1,060	$ 0	$ 0	$ 0	$ 0
Construction	$ 21,012	$ 10,200	$ 10,812	$ 0	$ 0	$ 0	$ 0
Total	$ 24,720	$ 12,000	$ 12,720	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19063-UW Local Water Conveyance-dist
Authority Level 2:	15531-UW Pipeline Replacement
Project ID/FSP ID	CUW280-05 / (N/A)
Project Title:	Van Ness BRT Project
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This project provides separate funding outside of the Main Replacement Program for final construction and construction closeout associated with SFPUC-CDD's portion of the Van Ness Bus Rapid Transit Project. Construction of SFMTA's Van Ness Bus Rapid Transit (VNBRT) Project started in October 2016. Substantial completion of water pipeline replacement work associated with VNBRT is anticipated in 2021 with overall project completion anticipated in 2023. Additional funding of $4M is requested based on current project expenditures along with risk registry trending potential change orders and construction claims. Intial construction funding in the amount of approximately $25M is provided as part of the Main Replacement Program.
Justification:	The VNBRT Project is a major transit improvement project along Van Ness Avenue which is also US-101 (CalTrans Right of Way). Due to the transportation thoroughfare within the city limits of San Francisco, additional CalTrans requirements, and utility conflicts, additional construction funding is required to complete this complex, but very beneficial project.
Operating Impact:	Main breaks due to aging infrastructure cause service disruption and result in costly property damage along major transit corridors and need for emergency repairs. Additionally, the transit and streetscape improvement projects typically include new street surface features such as special thermoplastic painting for bike and transit dedicated lanes, transit boarding islands, and bulbouts and other features that are expensive to repair and replace. Renewing these important assets will improve reliability and redundancy of the water distribution system and reduce the risks associated with pipeline failure.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 4,000	$ 2,000	$ 2,000	$ 0	$ 0	$ 0	$ 0
Total	$ 4,000	$ 2,000	$ 2,000	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19063-UW Local Water Conveyance-dist
Authority Level 2:	15531-UW Pipeline Replacement
Project ID/FSP ID	CWWSP / 10033816
Project Title:	Potable Emergency Firefighting Water System
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	
Facility Category:	Candidates
Type:	Capital
Description:	This project provides funding for the design and construction of about 2 to 3 miles of large diameter earthquake resistant pipeline to improve the fire water and potable supply reliability in the western area of San Francisco, particularly in the Sunset and Richmond Districts. This project is part of a larger effort to construct approximately 14 miles of the Potable Emergency Firefighting Water System (PEFWS), which also includes two planned pump stations. Current funding will fund the aforementioned 2 to 3 miles of pipeline and design work for a Lake Merced Pump Station. The pipeline will be designed as a potable AWSS pipeline, meaning it will convey low pressure potable water with connections to the distribution system during normal operations but can be isolated with motorized valves and operate under high pressure for firefighting after a major seismic event or emergency conditions by activating associated pumps. This funding will provide planning and design through FY 22-23 with construction funding in FY24 and 25. Additional funding will be provided by existing Earthquake Safety & Emergency Response (ESER) general obligation bond funds, with additional funding possibly approved in the March 2020 ESER referendum. The total Local Water funding commitment to this project is $55M with $12M carryover from FY 18-19 and FY19-20 budgets.
Justification:	This project was identified as part of the ESER program to improve the fire water supply reliability in the western area of San Francisco, particularly in the Sunset and Richmond areas. Planning studies evaluated the City's fire suppression water requirements following a magnitude 7.8 earthquake. As a result, the PEFWS project was proposed to improve the fire suppression capabilities in the Sunset and Richmond. PEFWS will also improve potable water supply seismic reliability under normal operation and provide potable water after a seismic event.
Operating Impact:	None.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 43,000	$ 0	$ 0	$ 0	$ 23,000	$ 20,000	$ 0
Total	$ 43,000	$ 0	$ 0	$ 0	$ 23,000	$ 20,000	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19063-UW Local Water Conveyance-dist
Authority Level 2:	20504-New Services Connection Program
Project ID/FSP ID	CUWXXX / 10033817
Project Title:	CDD Asset Management Platform
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Heather Pohl
Facility Category:	Candidates
Type:	Capital
Description:	This project includes design, development, and implementation of a CDD Asset Management Platform (CAMP) including new business processes and Maximo system improvements in coordination with a Maximo-GIS systems integration and mobile workforce system deployment using I-pads for all CDD field work. The project moves CDD from a reactive paper-based way of performing work to a proactive and planned asset-based work management program. The work was initiated under the New Services Connection Process Improvement Project (NSCPIP) which identified mobile Maximo and work management business process improvements as a key task to improve the customer experience with the New Service Application and Construction process. The original budget of $2,345,000 has been partially spent on the initial stages of this work, as well as on other NSCPIP tasks to date. It is anticipated that $683,736 will remain at the end of FY 19/20 for carryover into this new 10-year budget cycle. The proposed 10-year spending plan in this request includes $2,417,767 through FY 30 to complete the work for a revised total budget of $4,079,031.
Justification:	This project began in June 2016 under charter by 2 Assistant General Managers in response to continued customer complaints regarding the new water service application and installation process delays and poor customer communications as part of the NSCPIP. The mobile Maximo NSCPIP task has been fully scoped for all CDD work, including new services, with this new budget proposal and extended out to include a full asset-management program and platform for CDD work.
Operating Impact:	The project provides data improvements and work records related to our operating assets. It also provides the ability to track the status of all work requested using our Maximo system minimizing the loss of data or work requests and providing accountability and reporting regarding current staff responsible for work completion at each status step.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 1,734	$ 0	$ 480	$ 338	$ 342	$ 346	$ 228
Total	$ 1,734	$ 0	$ 480	$ 338	$ 342	$ 346	$ 228

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19063-UW Local Water Conveyance-dist
Authority Level 2:	20505-Town of Sunol Pipeline
Project ID/FSP ID	CUW26308 / 10033818
Project Title:	Town of Sunol Pipeline
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Murat Bozkurt
Facility Category:	Water Transmission Program
Type:	Capital
Description:	The SFPUC completed the construction of a fire suppression system for the Town of Sunol through an MOU with Alameda County. The project constructed a fire suppression system including new pipelines, pump stations, monitoring equipment and storage tanks. For most of the Town of Sunol, the pipes combined both potable and fire hydrant service. The next phase of the project will replace a section of the pipeline that crosses the creek and under Hwy 680. 100% of this project is LOCALLY funded.
Justification:	The upstream section of pipeline that feeds both the potable line and fire suppression line is exposed under the creek and in danger of failing uder HWY 680. Pipeline failure at either location has significant consequences.
Operating Impact:	Reduced maintenance from pipe breaks and less main flushing may lower operating expenses. All fire and potable water in the TOS is dependent on the rehabilitation of this 12" line.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 175	$ 175	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 350	$ 350	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 375	$ 0	$ 375	$ 0	$ 0	$ 0	$ 0
Construction	$ 700	$ 0	$ 700	$ 0	$ 0	$ 0	$ 0
Total	$ 1,600	$ 525	$ 1,075	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19064-UW Pacific Rod & Gun Club Reme
Authority Level 2:	15532-UW Pacific Rod & Gun Club Reme
Project ID/FSP ID	CUW281 / 10033155
Project Title:	520 John Muir Drive - Site Rehabilitation
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Obi Nzewi
Facility Category:	Buildings and Grounds Program
Type:	Capital
Description:	Scope of work includes: Funding and oversight of EIR for recreational site redevelopment and remediation of residual contamination Funding, permitting and overseeing effort to acquire required permits for recreational site redevelopment and remediation Implementation of limited remediation, which will entail: o Excavation and off-haul of contaminated soils and debris from beneath an existing building onsite. o Characterization and proper offsite disposal of excavated materials o Regulatory reporting documenting final remedial activities as required by the Regional Water Quality Control Board
Justification:	This work will ensure site compliance following remediation activities.
Operating Impact:	None.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19064-UW Pacific Rod & Gun Club Reme
Authority Level 2:	20503-520 John Muir Dr Site Rehab
Project ID/FSP ID	10033815 / 10033815
Project Title:	520 John Muir Drive - Site Rehab
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Obi Nzewi
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This is an existing project utilizing funds approved in a prior Capital Improvement Plan. The project scope of work is the same as that described on the prior page.
Justification:	See prior page.
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19065-UW Systems Monitoring & Contro
Authority Level 2:	15534-UW Systems Monitoring & Contro
Project ID/FSP ID	CUW28201 / 10015300
Project Title:	Security
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Don Lampe
Facility Category:	Water Supply and Storage Program
Type:	Capital
Description:	This project funds the completion of the security system installations began under the WSIP. The security portion of the WSIP began after many of the local facilities had already completed construction and therefore the security infrastructure and components were not installed at these facilities. This project will complete the installation of the security systems at these facilities. This will include card readers, cameras and point of entry monitoring that is now only partially monitored under the Water SCADA system. The full budget will be determined following a vulnerability assessment and project analysis.
Justification:	The current security system does not provide monitoring and alarming to adequately protect Water assets from intrusion and vandalism. Completing the installation of the security system will provide the needed situational awareness to help protect these Water assets from intrusion and vandalism while also providing real time accountability for Water personnel entering and exiting these facilities.
Operating Impact:	Failure to fund this project will leave critical facilities vulnerable to damage and vandalism.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19065-UW Systems Monitoring & Contro
Authority Level 2:	15536-UW Communication
Project ID/FSP ID	CUW28202 / 10015220
Project Title:	Communications
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Don Lampe
Facility Category:	Water Supply and Storage Program
Type:	Capital
Description:	This project provides funding to install City of San Francisco owned and operated fiber optic cabling and other communications systems to critical water facilities. The large bandwidth required by todays systems requires a fast and dependable communications pathway. City fiber rings San Francisco and provides a reliable system to transmit data from field facilities to primary operations centers which include 525 Golden Gate, 1990 Newcomb Avenue, 900 Lake Merced Blvd. and 1011 Turk Street (DEM). Data that can be transferred over the fiber network include SCADA, cameras, security systems and the business network increasing operational capabilities, reliability and levels of service.
Justification:	Current communications options do not provide sufficient bandwidth for current data needs and are susceptible to failure during a catastrophic event. While portions of the fiber may also fail during a catastrophe, there are always two paths for the fiber to transmit data due to it's ring style construction, providing inherent redundancy. Current communications options that provide adequate bandwidth are costly, making the installation of fiber optic cabling cost effective over the life of the installation.
Operating Impact:	Existing funding should be sufficient to meet the projects needs over the next two year budget cycle.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19065-UW Systems Monitoring & Contro
Authority Level 2:	15537-UW Controls
Project ID/FSP ID	CUW28203 / 10015221
Project Title:	Controls
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Don Lampe
Facility Category:	Water Supply and Storage Program
Type:	Capital
Description:	This project funds the replacement of potable water SCADA system remote telemetry units (RTU's) that are past their useful service life and the installation of additional control and monitoring elements throughout the potable water system. Replacement of the RTU's will increase the overall reliability of the potable water SCADA system. The current equipment is past it's useful service life and in need of replacement to maintain the current levels of service. Additional data will enhance the operation and monitoring of the potable water system and provide the data necessary to create the annual water audit required by the State of California.
Justification:	The water SCADA system is critical to the safe and reliable delivery of water to consumers and provides the primary source of water for fighting fires within the City and County of San Francisco.
Operating Impact:	Failure to replace the RTU's, that are nearing obsolescence, will reduce the water SCADA systems reliability. Manufacturer support for older equipment is becoming harder to obtain and increases the cost of repair and turnaround time.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19066-UW Local Reservoir-tank Improv
Authority Level 2:	15538-UW Local Reservoir - Budget
Project ID/FSP ID	CUW283-05 / (N/A)
Project Title:	Sunset South Basin
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	
Facility Category:	Water Supply and Storage Program
Type:	Capital
Description:	This project provides funding to implement recommendations from AECOM's Report, "Structural and Seismic Performance Review for DSOD Jurisdictional Reservoirs", dated August 7, 2018. The report includes seismic rehabilitation recommendations for four reservoirs under DSOD jurisdiction, including Sunset South Basin, U Mound South Basin, Stanford Heights, and Summit Reservoir. The funding will support additional investigation and/or risk remediation measures, including an assessment of the seismic risk level for the reservoir's embankments as well as structural elements including the reservoir roof, divider walls, liners, gate towers, inlet-outlet conduit, and other ancillary features. Sunset South Basin: In a 1996 study, SFPUC recommended seismic strengthening of the roof structure and other associated reservoir structural elements at the Sunset Reservoir South Basin. However, due to subsequent prioritization decisions made by SFPUC under WSIP, those recommendations were deferred. Since the study is now 22 years old, the recommendations should be reviewed and updated prior to developing and implementing a structural improvement project. The South Basin contains less dam embankment in comparison to the North Basin; therefore, an analysis of the embankment based on up-to-date geotechnical and seismic inputs are recommended. Additional data should be obtained to better characterize the embankment fill, foundation materials, and piezometric conditions. The reservoir roof structure and other structural elements should be strengthened, based upon previously performed studies, and would bring the structural components to current standards.
Justification:	Sunset South Basin needs to be assessed for seismic stability and risk level in order to address DSOD requirements and obligations. Sunset South Basin is critical to the water supply distribution system, and will need to be seismically reliable following a major seismic event. If repairs are not made, the long term repairs will be significantly more costly, and collapse or rupture of the embankment or roof could result in a major interruption to water service.
Operating Impact:	Replacement and repair work may cause a short duration outage of the reservoir; however, impact should be minimal based upon operational work-arounds. However, if the reservoir embankment or structures fail, it would result in a significant impact to Operations to reliably supply water to the distribution zones.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 8,000	$ 0	$ 0	$ 0	$ 0	$ 0	$ 8,000
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 8,000	$ 0	$ 0	$ 0	$ 0	$ 0	$ 8,000

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19066-UW Local Reservoir-tank Improv
Authority Level 2:	15538-UW Local Reservoir - Budget
Project ID/FSP ID	New / (N/A)
Project Title:	Summit Reservoir
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This project provides funding to implement recommendations from AECOM's Report, "Structural and Seismic Performance Review for DSOD Jurisdictional Reservoirs", dated August 7, 2018. The report includes seismic rehabilitation recommendations for four reservoirs under DSOD jurisdiction, including Sunset South Basin, U Mound South Basin, Stanford Heights, and Summit Reservoir. The funding will support additional investigation and/or risk remediation measures, including an assessment of the seismic risk level for the reservoir's embankments as well as structural elements including the reservoir roof, divider walls, liners, gate towers, inlet-outlet conduit, and other ancillary features. Summit Reservoir: Additional investigation to verify the conclusions of a 2017 seismic engineering evaluation should be conducted, including subsurface investigations, installation of piezometers, and laboratory testing of retrieved samples because of the limited subsurface materials and conditions information, particularly in the area of the embankment fill where the original inlet-outlet conduit was constructed. Planning for this project will begin in FY 20 to determine the scope of seismic improvements required and additional project funding will be requested in future budget.
Justification:	Summit Reservoir Dam needs to be assessed for seismic stability and risk level in order to address DSOD requirements and obligations. Summit Reservoir is critical to the water supply distribution system and will need to be seismically reliable following a major seismic event. If repairs are not made, the long term repairs will be significantly more costly, and collapse or rupture of the embankment or roof could result in a major interruption to water service.
Operating Impact:	Replacement and repair work may cause a short duration outage of the reservoir; however, impact should be minimal based upon operational work-arounds. However, if the reservoir embankment or structures fail, it would result in a significant impact to Operations to reliably supply water to the distribution zones.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 125	$ 125	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 125	$ 125	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19066-UW Local Reservoir-tank Improv
Authority Level 2:	15538-UW Local Reservoir - Budget
Project ID/FSP ID	New / (N/A)
Project Title:	Stanford Height Reservoir
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This project provides funding to implement recommendations from AECOM's Report, "Structural and Seismic Performance Review for DSOD Jurisdictional Reservoirs", dated August 7, 2018. The report includes seismic rehabilitation recommendations for four local reservoirs under DSOD jurisdiction, including Sunset South Basin, U Mound South Basin, Stanford Heights, and Summit Reservoir. Stanford Heights Reservoir: Due to the age of the previous 1993 analysis performed on the reservoir, an updated seismic stability and deformation analysis check of the embankment is recommended. Based on the stability analysis investigation, further design may be necessary. Planning for this project will begin in FY 26
Justification:	Stanford Reservoir Dam needs to be assessed for seismic stability and risk level in order to address DSOD requirements and obligations. Stanford Height Reservoir is critical to the water supply distribution system and will need to be seismically reliable following a major seismic event. If repairs are not made, the long term repairs will be significantly more costly, and collapse or rupture of the embankment or roof could result in a major interruption to water service.
Operating Impact:	Replacement and repair work may cause a short duration outage of the reservoir; however, impact should be minimal based upon operational work-arounds. However, if the reservoir embankment or structures fail, it would result in a significant impact to Operations to reliably supply water to the distribution zones.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 225	$ 0	$ 0	$ 0	$ 0	$ 0	$ 225
Total	$ 225	$ 0	$ 0	$ 0	$ 0	$ 0	$ 225

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19066-UW Local Reservoir-tank Improv
Authority Level 2:	15538-UW Local Reservoir - Budget
Project ID/FSP ID	New / (N/A)
Project Title:	U Mound South Basin Improvements
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This project provides funding to implement recommendations from AECOM's Report, "Structural and Seismic Performance Review for DSOD Jurisdictional Reservoirs", dated August 7, 2018. The report includes seismic rehabilitation recommendations for four reservoirs under DSOD jurisdiction, including Sunset South Basin, U Mound South Basin, Stanford Heights, and Summit Reservoir. The funding will support additional investigation and/or risk remediation measures, including an assessment of the seismic risk level for the reservoir's embankments as well as structural elements including the reservoir roof, divider walls, liners, gate towers, inlet-outlet conduit, and other ancillary features. U Mound South Basin: In a 1996 study, SFPUC recommended seismic strengthening of the roof structure and other associated reservoir structural elements. However, due to subsequent prioritization decisions made by SFPUC under WSIP, those recommendations were deferred. Since the reservoir study is over 22 years old now, the recommendations should be reviewed and updated. The recommendations and subsequent improvements will bring the structural seismic condition up to current standards.
Justification:	U Mound South Basin needs to be assessed for seismic stability and risk level in order to address DSOD requirements and obligations. Sunset South Basin is critical to the water supply distribution system and will need to be seismically reliable following a major seismic event. If repairs are not made, the long term repairs will be significantly more costly, and collapse or rupture of the embankment or roof could result in a major interruption to water service.
Operating Impact:	Replacement and repair work may cause a short duration outage of the reservoir; however, impact should be minimal based upon operational work-arounds. However, if the reservoir embankment or structures fail, it would result in a significant impact to Operations to reliably supply water to the distribution zones.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 2,500	$ 0	$ 0	$ 0	$ 0	$ 0	$ 2,500
Total	$ 2,500	$ 0	$ 0	$ 0	$ 0	$ 0	$ 2,500

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19066-UW Local Reservoir-tank Improv
Authority Level 2:	15538-UW Local Reservoir - Budget
Project ID/FSP ID	CUW283-06 / (N/A)
Project Title:	Reservoir Roof and Tank Coatings
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Don Lampe
Facility Category:	Water Supply and Storage Program
Type:	Capital
Description:	The City Distribution Division (CDD) tanks and reservoirs that were upgraded during the Water System Improvement Project (WSIP) are currently, or in the very near future, in need of replacement of their exterior coatings and/or roofing. The useful service life of most of these coatings is approximately ten years and many have begun to deteriorate in the last few years due to the harsh marine environment to which they are exposed. This project will provide the R&R funding necessary to maintain these coating and extend the useful service life of these critical assets.
Justification:	Replacement of exterior and roof coatings will substantially increase the useful service life of the potable and auxiliary water supply systems storage facilities in the City and County of San Francisco. Additionally, the roof coating on the north basin of the University Mound Reservoir was completed under the WSIP in 2010 and the roof coating and maintenance contract expire in the coming year. This coating has reached the end of its useful and warrantied service life. A maintenance contract for the coating is also needed to maintain the proper reflectivity of the coating or the heat loading will increase to dangerous levels that could cause damage to the structural integrity of the reservoirs north basin. Most of the other storage facilities were completed around the same period and need to be recoated to protect the structural integrity of these facilities.
Operating Impact:	Failure to recoat and maintain the roof of the north basin of the University Mound Reservoir will lead to heat loading from exposure to the sun, that will exceed the original design specifications and cause damage to the structural elements of the north basin. Failure to recoat the other tanks and reservoirs will lead to premature failure and the subsequent need to replace these critical storage facilities.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Design	$ 750	$ 200	$ 150	$ 50	$ 50	$ 50	$ 250
Construction Management	$ 550	$ 0	$ 150	$ 50	$ 50	$ 50	$ 250
Construction	$ 3,700	$ 0	$ 1,700	$ 250	$ 250	$ 250	$ 1,250
Total	$ 5,000	$ 200	$ 2,000	$ 350	$ 350	$ 350	$ 1,750

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19066-UW Local Reservoir-tank Improv
Authority Level 2:	15539-UW College Hill Reservoir
Project ID/FSP ID	CUW28301 / 10015223
Project Title:	College Hill Reservoir
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Ryan Freeborn
Facility Category:	Water Supply and Storage Program
Type:	Capital
Description:	This project provides funding for the design and construction of the College Hill Reservoir Outlet Structure and Pipeline Upgrade Project to address seismic, water quality, electrical, structural, and other deficiencies. This project includes installation of a new control valve vault; replacement of reservoir inlet and outlet piping; replacement of reservoir transmission pipelines up to Cortland Avenue; reservoir roof replacement; and miscellaneous piping, security, site access, electrical, instrumentation, and water quality improvements. This project is currently in final design phase with a 24-month construction duration starting in 2020. The estimated budget is $18 million with $14M in funding provided for FY1920 and additional $3M provided for FY2021 and $1M FY2021 for roof replacement.
Justification:	This project will improve the overall reliability of this important reservoir system which provides water to the eastern and northern areas of San Francisco, including San Francisco General Hospital, the City's trauma center. College Hill Reservoir supplies a critical mid-elevation portion of the distribution system, including San Francisco General Hospital, Upper Market Street, the Civic Center, and City Hall, and needs to be seismically reliable following a major seismic event. This project is one part of the SF General Hospital Water Seismic Reliability Program that provides seismically reliable piping from College Hill Reservoir to SF General Hospital.
Operating Impact:	Bypass will be installed prior to the start of construction to allow for the reservoir to be take out of service during the entire 24-month construction duration.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Design	$ 250	$ 200	$ 50	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 400	$ 300	$ 100	$ 0	$ 0	$ 0	$ 0
Construction	$ 3,350	$ 2,500	$ 850	$ 0	$ 0	$ 0	$ 0
Total	$ 4,000	$ 3,000	$ 1,000	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19066-UW Local Reservoir-tank Improv
Authority Level 2:	21006-UW Local Reservoir - Budget
Project ID/FSP ID	CUW-N03 / (N/A)
Project Title:	Lombard Geotechnical Improvements
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Don Lampe
Facility Category:	Water Supply and Storage Program
Type:	Capital
Description:	This project includes the design and construction of geotechnical improvements to the Northeast slope of the Lombard Reservoir. More specifically, the slope on the south side of Lombard Street from the intersection with Hyde Street extending approximately 200 feet west and on the west side of Hyde Street from the intersection with Lombard Street extending approximately 100 feet south.
Justification:	A recent consultant study of the slopes stability indicated the need to stabilize the slope to provide an adequate safety factor against failure.
Operating Impact:	Failure to mitigate the slopes stability could lead to premature failure of the slope during major rain events due to soil saturation.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 200	$ 150	$ 50	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 15	$ 0	$ 15	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 200	$ 0	$ 200	$ 0	$ 0	$ 0	$ 0
Construction	$ 2,000	$ 0	$ 2,000	$ 0	$ 0	$ 0	$ 0
Total	$ 2,415	$ 150	$ 2,265	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19067-UW Pump Station Improvements
Authority Level 2:	15543-UW Pump Station Improvements
Project ID/FSP ID	CUW284_N06 / (N/A)
Project Title:	LMPS and APS Suction Valve Automation
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Don Lampe
Facility Category:	Pump Stations
Type:	Capital
Description:	This project funds the automation of the five pump suction valves at Lake Merced Pump Station. The valves are currently manually operated and require an electric motor to be held in place and operated for approximately one hour to close the valve and isolate the suction header from the individual pump. This is not only extremely time consuming but can lead to fatigue and injury of the employee holding the electric motor operator or multiple employees must be utilized to close the valve. Installing electric actuators will decrease the closing time and eliminate the need for personnel to isolate the pumps. Should a leak occur in the pump or adjacent piping the timely closure of the suction valves will prevent possible damage to the facility and it's assets.
Justification:	Automation of the suction valves will increase efficiencies and eliminate possible employee injury.
Operating Impact:	Failure to automate these valves could lead to employee injuries when closing the valves and/or facility damage during a piping or pump failure.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Design	$ 500	$ 0	$ 0	$ 0	$ 500	$ 0	$ 0
Construction Management	$ 450	$ 0	$ 0	$ 0	$ 0	$ 0	$ 450
Construction	$ 1,500	$ 0	$ 0	$ 0	$ 0	$ 1,500	$ 0
Total	$ 2,450	$ 0	$ 0	$ 0	$ 500	$ 1,500	$ 450

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19067-UW Pump Station Improvements
Authority Level 2:	15546-UW Bay Bridge West Pump Station
Project ID/FSP ID	CUW28403 / 10015230
Project Title:	Bay Bridge West PS
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Don Lampe
Facility Category:	Pump Stations
Type:	Capital
Description:	This project funds the hydraulic analysis, design and construction of improvements to the Bay Bridge Pump Station to meet the increased demand of the fully built out Treasure Island development. the planned population will require additional demand that the current pump station is not expected to meet without decreased levels of service. The transmission line located on the San Francisco Bay Bridge will also be evaluated for reliability and remaining life span. Current estimates of water usage on the island after full build out will require approximately eighteen hours of pump operation daily. Maintenance and breakdowns could leave the island susceptible to insufficient fire demand supply.
Justification:	The final build out of the Treasure Island development will result in an island population of approximately 20,000. Reliable operation of the pump station and transmission main is critical to maintain adequate levels of service to the island. Increased pump station capacity will increase available supply to the island in the event of a large fire or island main break.
Operating Impact:	Failure to evaluate and subsequently increase pump station and transmission main capacity and reliability could result in questionable levels of service and available capacity to meet the islands demand should a breakdown occur.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 100	$ 0	$ 100	$ 0	$ 0	$ 0	$ 0
Design	$ 100	$ 0	$ 100	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 200	$ 0	$ 200	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19067-UW Pump Station Improvements
Authority Level 2:	15547-UW Harding Park Pump Station
Project ID/FSP ID	CUW28404 / 10015243
Project Title:	Harding Park PS
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Don Lampe
Facility Category:	Pump Stations
Type:	Capital
Description:	This project funds long term improvements to the Harding Park Pump Station to increase reliability and correct conditions that have led to the premature corrosion and failure of critical components. The current design places the pumping facility on top of the recycled water reservoir leading to high humidity levels within the facility. This project will seal the reservoir from the pump room, improve the HVAC system for humidity control, and relocate critical electrical panel and components out of the pump room. The project will also modify the current electrical feed to allow for the safe maintenance of the water pump electrical components while leaving the buildings lighting and auxiliary loads powered.
Justification:	The current design of the facility has led to the premature failure of critical components and a costly shutdown while the temporary repairs were performed. Long term solution to address the humidity and electrical panel issues is required to prevent future component failure and shutdown of facility.
Operating Impact:	Failure to perform the needed improvements will lead to premature and costly failures within the facility and hazardous conditions when performing maintenance. Operation of Harding Park Golf Course and the delivery of recycled water from Daly City will be impacted.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19072-UW Recycled Water Project
Authority Level 2:	15558-UW Reycled Water Project
Project ID/FSP ID	CUW30201 / 10015242
Project Title:	San Francisco Westside Recycled Water
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Barbara Palacios
Facility Category:	Base Funded by WSIP
Type:	Capital
Description:	This project includes all facilities to produce and deliver about 2 mgd of recycled water for irrigation use in the western end of San Francisco. The project includes a new recycled water treatment facility consisting of membrane filtration, reverse osmosis, and ultraviolet light disinfection; a 1.1 million gallon storage reservoir; distribution pumping facilities; and 5 to 6 miles of new pipelines.
Justification:	This project is funded through construction and close-out up to the budget specified in WSIP. The project scope was unconfirmed with respect to treatment facility siting at the time it was funded. With the recommendation of an alternate site, the project budget has increased due to additional pipeline costs, additional engineering and environmental review for the new alternative, and added escalation costs due to delay. Additional funding is requested through the Local CIP to cover the cost differential. The additional funding will be needed when the project goes to construction. Proposed baseline budget is current, Commission-approved baseline budget for the project, as rebaselined in 2018.
Operating Impact:	A minimum O&M cost of approximately $1.6 M per year (chemicals, power, staffing, etc.) would be anticipated.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 9,722	$ 5,057	$ 4,665	$ 0	$ 0	$ 0	$ 0
Total	$ 9,722	$ 5,057	$ 4,665	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19112-UW Automated Meter Reading Sys
Authority Level 2:	15612-UW Automated Meter Reading Sys
Project ID/FSP ID	New / (N/A)
Project Title:	AWMP Completion (FY21) & Repl. Planning (FY22-26)
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Heather Pohl
Facility Category:	Local Water
Type:	Capital
Description:	This project will provide funding to complete the Automated Water Meter Program (AWMP) during FY21 and for replacement planning of the AWMP System by the end of useful life.
Justification:	The Automated Water Meter Program implementation began in 2010 and has a 20-year life expectancy. Renewal rates are currently at about 3% annually and that is expected to increase as the system ages and eventually is out of warranty and recommended AWWA useful life in 2030.
Operating Impact:	If SFPUC does not complete the remaining AWMP "hard to construct" locations, those accounts will continue to need manual meter reading by CSB staff resources that should transition their work focus on AMI Quality Assurance field visits for the 99% of infrastructure previously installed. The operating impact also includes revenue losses as most of those remaining accounts have very old and inaccurate meters. In order to upgrade or replace the AWMP and metering system in its entirety by the end of its system life, planning costs are required in FY 24-26 to evaluate technology options and develop an implementation plan, budget, RFP, and contract. If the system is not upgraded or replaced by the end of its 20-year life expectancy, operating impacts may include: • inability to upgrade existing technology systems and no vendor support for aged technology systems and equipment, • expired warranty on 100% of our hardware, • inability for customers to view hourly water consumption usage on My Account web portal and to receive leak notifications from our I-info system, reducing our ability to achieve water conservation and water loss objectives, • reduced accuracy of bills due to aging meters, and • required use of bill estimations and/or hiring additional manual meter reading resources (for monthly billing this is a minimum increase of 20 meter reading staff and one supervisor). Note: System Procurement and Installation costs for the system upgrade or replacement are not included in this budget request.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 300	$ 0	$ 0	$ 0	$ 0	$ 150	$ 150
Construction	$ 805	$ 805	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 1,105	$ 805	$ 0	$ 0	$ 0	$ 150	$ 150

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19112-UW Automated Meter Reading Sys
Authority Level 2:	15612-UW Automated Meter Reading Sys
Project ID/FSP ID	New / (N/A)
Project Title:	AWMP Renewal and Meters
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Heather Pohl
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This project will provide funding for AWMP Renewals needed through the 20-year system life (ending in 2030),) and metering equipment (including automation) for all renewals and new services through 2030.
Justification:	The Automated Water Meter Program implementation began in 2010 and has a 20-year life expectancy. Renewal rates are currently at about 3% annually and that is expected to increase as the system ages. The AWMP system upkeep is critical to maintain automated reading in lieu of manual meter reads or bill estimations.
Operating Impact:	If SFPUC does not have sufficient budget to purchase metering and AWMP equipment to fulfill new service requests and to upkeep the existing AWMP and metering systems including annual renewals, the impact may include the following for a portion of our customers: •Inaccurate bills based on estimations of previous water use patterns •Inability to view hourly water consumption usage on SFPUC's MyAccount web portal and to receive leak notifications from our I-info system for early detection of leaks in the home Not having AWMP data for a portion of our customers also reduces SFPUC's ability to achieve certain water conservation and customer service objectives.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 4,996	$ 1,544	$ 1,636	$ 1,817	$ 0	$ 0	$ 0
Construction	$ 12,717	$ 0	$ 0	$ 0	$ 1,817	$ 1,817	$ 9,084
Total	$ 17,713	$ 1,544	$ 1,636	$ 1,817	$ 1,817	$ 1,817	$ 9,084

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19112-UW Automated Meter Reading Sys
Authority Level 2:	15612-UW Automated Meter Reading Sys
Project ID/FSP ID	CUW-280xx / 10015138
Project Title:	Large Meter Renewals
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Heather Pohl
Facility Category:	Water Transmission Program
Type:	Capital
Description:	There are approximately 1,000 large (3" - 10") water meters in the City and County of San Francisco. The accuracy of these meters directly affects not only local water ratepayers but has a direct effect on the funding of the SFPUC Local Water Enterprise. The City Distribution Division (CDD) is proposing staffing and funding the replacement of the Unit Measuring Elements (UME) of these meters over an ongoing 4-year period. The current staffing of the Meter Shop at CDD limits its ability to perform renewals of these meters in a timely manner and leads to an ever-growing population of possibly inaccurate water meters. CDD is requesting funding for four off budget, 7353 Water Meter Repairer positions and the cost of materials to replace these UMEs over a 4 year period ($4,202,577). Approximately 50% of these replacements will occur on overtime to minimize the disruption to customers and interference of local pedestrian and vehicle traffic.
Justification:	As-received testing of a statistical sampling of 61 large water meters revealed a net loss of approximately $94,374 per month with 18 meters showing a decrease in consumption and 43 meters showing an increase in consumption. Extrapolating this loss in revenue over the entire large meter population of 1072 for one year, the potential loss in revenue to the Local Water Enterprise of the SFPUC is approximately $19,902,084.
Operating Impact:	Failure to fund this program will result in lost revenue to the Local Water Enterprise of the SFPUC and inaccurate customer billing over the aggregate of the large water meter population within the City and County of San Francisco.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 3,681	$ 1,364	$ 1,126	$ 1,191	$ 0	$ 0	$ 0
Construction	$ 8,339	$ 0	$ 0	$ 0	$ 1,191	$ 1,191	$ 5,956
Total	$ 12,020	$ 1,364	$ 1,126	$ 1,191	$ 1,191	$ 1,191	$ 5,956

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19112-UW Automated Meter Reading Sys
Authority Level 2:	15612-UW Automated Meter Reading Sys
Project ID/FSP ID	New / (N/A)
Project Title:	BCC Meter Program
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	
Facility Category:	Water Transmission Program
Type:	Capital
Description:	This project includes improvements, equipment upgrades and automation of the Building & Contractors (B&C) metering program. This proposal includes hardware, software and labor costs through 2030. The total budget for this program through FY19-30 is $980,811 which includes both hardware to automate the meters and the yearly costs for software and data subscriptions.
Justification:	Automating the B&C meters will provide more timely billing, access for SFPUC and customers to view hourly water use on the Badger Beacon web portal, and eliminate the requirement for a monthly site visit and the cost of labor to manually read the B&C meters every month at the water department corporation yard.
Operating Impact:	If SFPUC does not replace B&C meters and upgrade the system to automated reads the operating impacts may include: (1) continued inability for SFPUC to monitor B&C customer water use, produce bills, and collect revenue timely from B&C customers if the meter isn't brought to the meter shop monthly as required, (2) reduced accuracy of bills due to aging meters, (3) delays in the timely billing of customers offered by electronics reads and (4) the increasing cost of labor to manually read the B&C meters to bill the customer.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 981	$ 527	$ 209	$ 214	$ 4	$ 4	$ 23
Total	$ 981	$ 527	$ 209	$ 214	$ 4	$ 4	$ 23

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19114-UW Buildings & Grounds Improve
Authority Level 2:	15617-UW Building & Grounds Improvem
Project ID/FSP ID	CUW688 / 10015427
Project Title:	Buildings & Grounds Improvement - Local
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Joan Ryan
Facility Category:	Buildings and Grounds Program
Type:	Capital
Description:	This program will fund interim improvements at CDD Headquarters at 1990 Newcomb Avenue and its four satellite administrative satellite facilities. These satellite facilities (1980 Oakdale Avenue, 1876 Oakdale Avenue, 300 Putnam, and 89 Beacon) are needed because of the space and functionality limitations at Newcomb Avenue. Interim improvements are required to address health and safety concerns and to renovate existing facilities to allow them to remain functional while a new CDD Headquarters at 2000 Marin is designed and constructed, estimated to be move-in ready by 2026. The majority of the City Distribution Division (CDD) staff (about 260 of 300) are located at the Newcomb Yard facility. Three primary buildings, Administrative Building, Shops Building, and Warehouse, were constructed in 1962. In 2017 a Condition Assessment was performed, and found all buildings to be aged, water-damaged, and deficient in meeting San Francisco building codes. Several of the buildings, including the Administration Building where most people work, were found to not meet the minimum Life Safety Standard for seismic events. Consequently, a Needs Assessment was performed and determined that to meet the division and the agency's needs for the next 30 years, a new facility is required; CDD is working with the Project Management Bureau to design and construct a new facility, estimated to be move-in ready within the next 5 to 7 years. But during the next 5 to 7 years, CDD needs to maintain and renovate its existing facilities to meet health and safety requirements. Interim improvements include: re-roofing the Administration, Shops and Warehouse Building; Emergency Communication Facilities at Newcomb Yard and Lake Merced Pump Station; developing approximately 5,000 square feet of new office space; renovating the Shops Building mechanical systems; developing Incident Command Structure facilities; developing access control systems; and street and sidewalk improvements.
Justification:	Code deficiencies, coupled with water damage, unreliable electrical service, and outdated undersized work spaces, result in lower productivity, excessive building maintenance, and uncomfortable work environment. The CDD Headquarters at 1990 Newcomb Avenue is a critical emergency response department, responding to approximately 40 fires and 120 emergency main breaks annually, as well as variety of other major and minor water system emergencies. Interim improvements are necessary to ensure that CDD can perform its duties and responsibilities in a safe and habitable work environment without interruption.
Operating Impact:	Without interim improvements, the facilities at Newcomb Yard will continue to deteriorate, require excess building maintenance, and negatively impact CDD performing its core responsibilities and functions. Following a city-wide emergency, the communication and mechanical systems at Newcomb Yard CDD may be significantly compromised resulting in CDD's inability to perform its duties as a Coordination Center for water system repair and operation.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19114-UW Buildings & Grounds Improve
Authority Level 2:	15617-UW Building & Grounds Improvem
Project ID/FSP ID	CUW688-12 / 10032373
Project Title:	Additional Newcomb Yard Improvements - NEW
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Joan Ryan
Facility Category:	Buildings and Grounds Program
Type:	Capital
Description:	This program will fund interim improvements at CDD Headquarters at 1990 Newcomb Avenue that are required to address health and safety concerns and to renovate existing facilities to accommodate the division's staffing needs while a new CDD Headquarters at 2000 Marin is designed and constructed, estimated to be move-in ready by 2026. The majority of the City Distribution Division (CDD) staff (about 260 of 300) are located at the Newcomb Yard facility. Three primary buildings, Administrative Building, Shops Building, and Warehouse, were constructed in 1962, and overtime several other smaller buildings have been erected around the 300,000 square foot site. In 2017 a Condition Assessment was performed, and found all buildings to be aged, water-damaged, and deficient in meeting San Francisco building codes. Several of the buildings, including the Administration Building where most people work, were found to not meet the minimum Life Safety Standard for seismic events. Consequently, a Needs Assessment was performed and determined that to meet the division and the agency's needs for the next 30 years, a new facility is required; CDD is working with the Project Management Bureau to design and construct a new facility, estimated to be move-in ready within the next 7 to 10 years. But during the next 7 to 10 years, CDD needs to maintain and renovate its facilities at Newcomb Yard to meet health and safety requirements and to develop new office facilities to accommodate the growing number of staff required to operate and maintain the portable, recycled and ground water distributions systems and the emergency fire-fighting water system. Interim improvements include: re-roofing the Administration, Shops and Warehouse Building; Emergency Communication Facilities at Newcomb Yard and Lake Merced Pump Station; developing approximately 5,000 square feet of new office space; renovating the Shops Building mechanical systems; developing Incident Command Structure facilities; developing access control systems; and street and sidewalk improvements.
Justification:	Code deficiencies, coupled with water damage, unreliable electrical service, and outdated undersized work spaces, result in lower productivity, excessive building maintenance, and uncomfortable work environment. The CDD Headquarters at 1990 Newcomb Avenue is a critical emergency response department, responding to approximately 40 fires and 120 emergency main breaks annually, as well as variety of other major and minor water system emergencies. Interim improvements are necessary to ensure that CDD can perform its duties and responsibilities in a safe and habitable work environment without interruption.
Operating Impact:	Without interim improvements, the facilities at Newcomb Yard will continue to deteriorate, require excess building maintenance, and negatively impact CDD performing its core responsibilities and functions. Following a city-wide emergency, the communication and mechanical systems at Newcomb Yard CDD may be significantly compromised resulting in CDD's inability to perform its duties as a Coordination Center for water system repair and operation.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 659	$ 0	$ 325	$ 162	$ 97	$ 26	$ 49
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 659	$ 0	$ 325	$ 162	$ 97	$ 26	$ 49
Construction	$ 7,550	$ 0	$ 3,700	$ 1,900	$ 1,100	$ 295	$ 555
Total	$ 8,868	$ 0	$ 4,350	$ 2,224	$ 1,294	$ 347	$ 653

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19114-UW Buildings & Grounds Improve
Authority Level 2:	TBD
Project ID/FSP ID	CUW688-N02 / (N/A)
Project Title:	New CDD Headquarters
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Shelby Campbell
Facility Category:	Buildings and Grounds Program
Type:	Capital
Description:	The City Distribution Division (CDD) Headquarters, currently located at 1990 Newcomb Avenue, San Francisco, was constructed in 1962. The majority of CDD's staff are located at Newcomb (approx. 260 people). Existing facilities include administrative offices, warehouse, shops, materials and equipment storage and vehicle fleet. CDD oversees the retail water distribution system with the City and County of San Francisco, responsible for the physical infrastructure of San Francisco's potable, auxiliary water system, groundwater, and recycled water systems. CDD's responsibilities include 24/7 emergency response to water main breaks and two-alarm or larger fires in addition to day-to-day operations and maintenance of over 1,250 miles of water main, 12 reservoirs, 9 pump stations, 7 hydro-pneumatic stations, 6 tanks, the water meter program serving over 176,000 customers, and maintaining CDD's physical plant, equipment and vehicles and over 1,100 acres of grounds throughout the City.
Justification:	The 2017 Condition Assessment found all buildings aged, water-damaged, and deficient in meeting seismic, ADA, electrical and other building code standards. Several buildings, including the Administration Building where people work 24 hours per day were found to have extensive overcrowded conditions, do not meet the minimum Life Safety Standard for seismic events, and may be expected to experience catastrophic failure during a large event. It was recommended that all buildings be rebuilt at the same time to optimize space and cost.
Operating Impact:	Severe seismic, structural and other code deficiencies, coupled with water damage, unreliable electrical service, inadequate ventilation, and outdated and undersized work spaces, has resulted in lower productivity, excessive building maintenance, and risk of injury during a seismic event. If the CDD continues operating at its current headquarters, the SFPUC's ability to meet its In-City Seismic Reliability and In-City Delivery Reliability Level of Service Goals is significantly compromised. CDD is a critical emergency response operation and is staffed 24 hours per day. Given the current condition of the facilities there is a high probability that the facilities designated to deploy and coordinate Emergency Response personnel, equipment and resources to restore the water distribution system will not be able to respond because it will have sustained significant damage. There is no backup facility that could provide even limited service as a Coordination Center, and the City may be required to call upon mutual aid from state and local agencies. In addition to significantly compromising CDD's ability to respond to a city-wide emergency, the current headquarters impede the Division's ability to meet the agency's Sustainability Level of Service Goal, namely the Workforce Support component. The outdated and deficient facilities make it difficult for the Division to attract, develop and retain a healthy, safe and well-trained, productive and well-equipped work force. With projections that 50% of the CCSF workforce will be retire within the next ten years, it is more critical than ever that the CDD be able to attract, train and retain the workforce required to meet its 24/7 emergency and day-to-day responsibilities. Additionally, SFPUC will continue to spend millions of dollars to maintain operations at the existing facilities and lease surplus space to maintain substandard conditions for operations. Over the next 10 years, CDD will spend $7.0 million to construct interim improvements to its existing facilities which will largely only address overcrowding, and $16.5 million to lease and operate additional warehouse, office and storage facilities.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Environmental Review	$ 750	$ 250	$ 500	$ 0	$ 0	$ 0	$ 0
Design	$ 37,400	$ 14,900	$ 15,000	$ 7,500	$ 0	$ 0	$ 0
Construction Management	$ 12,500	$ 0	$ 500	$ 5,000	$ 5,000	$ 2,000	$ 0
Construction	$ 299,542	$ 0	$ 14,150	$ 3,000	$ 113,171	$ 132,471	$ 36,750
Total	$ 350,192	$ 15,150	$ 30,150	$ 15,500	$ 118,171	$ 134,471	$ 36,750

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19115-UW Pacifica Recycled Water Program
Authority Level 2:	15629-UW Pacific Recycled Water Project
Project ID/FSP ID	10015443 / 10015443
Project Title:	Pacifica Recycled Water Project
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	Manisha Kothari
Facility Category:	Water Transmission Program
Type:	Capital
Description:	The Pacifica Reycyled Water project is for the development, retrofit and delivery of recycled water in northern Pacifica, including San Francisco's retail customer Sharp Park Golf Course.There is no immediate funding need, but SFPUC ultimately expects to retrofit the western portion of the golf course to receive recycled water. This retrofit work is not currently in the budget or planning. The current remaining balance of funding appropriated to this project will be realigned to the Westside Water Recycling Project to support ongoing work (see page 119).
Justification:	N/A
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Local Water

Authority Level 1:	19124-UW Auxiliary Water Supply Syst
Authority Level 2:	15670-UW Auxiliary Water Supply Syst
Project ID/FSP ID	CUWAW3 / (N/A)
Project Title:	ESER 2020
Enterprise:	Water Enterprise
Organization:	Local Water
Project Manager:	David Myerson
Facility Category:	Auxiliary Water Supply System
Type:	Capital
Description:	This program includes repairing, replacing, and extending system components of the Emergency Firefighting Water System, which delivers high-pressure water and provides cistern water storage for fire suppression in the City.
Justification:	This program is intended to increase the likelihood of providing fire-fighting water following a major earthquake and during multiple-alarm fires from other causes. The program continues implementation of the Earthquake Safety and Emergency Response (ESER) Bond programs with the assumed voter approval of a new ESER bond referendum in year 2020.
Operating Impact:	Lack of funding will cause delay in implementing the assumed referendum. Future bond funding is assumed to be $50 million in FY20-21 and $40 million in FY21-22.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 7,500	$ 7,500	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 25,500	$ 25,500	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 30,000	$ 30,000	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 90,000	$ 90,000	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 153,000	$ 153,000	$ 0	$ 0	$ 0	$ 0	$ 0

Page intentionally left blank

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

Water Enterprise

Fiscal Years 2021-2030

Programmatic Projects

June 22, 2020

SFPUC Capital Project Plan
Water Enterprise
Programmatic

Authority Level 1:	19047-UW Watershed Protection
Authority Level 2:	15415-UW Watershed Protection
Project ID/FSP ID	CUW25701 / (N/A)
Project Title:	Natural Resources Planning
Enterprise:	Water Enterprise
Organization:	Programmatic
Project Manager:	Tim Ramirez
Facility Category:	Watershed Protection Program
Type:	Programmatic
Description:	The purpose of this program is to support planning efforts for projects to improve and/or protect the water quality and/or ecological resources that affect or are affected by the operation of the SFPUC water supply system within the Bay Area counties. Examples of these projects include collaborative efforts with members of watershed workgroups, leading-edge research with local universities, and education programs with community groups. Many of these projects also include cost-share from project partners.
Justification:	This program provides the foundation for the long-term stewardship of natural resources under SFPUC management by supporting collaborative planning and environmental regulatory compliance efforts.
Operating Impact:	By providing for the long-term stewardship of natural resources and protection of water quality, this program will minimize the environmental regulatory risk and long-term costs associated with not proactively managing the natural resources that affect or are affected by the operation of the SFPUC water system. All projects are managed by existing Natural Resources and Lands Management Division staff.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 497	$ 50	$ 47	$ 50	$ 50	$ 50	$ 250
Construction	$ 7,100	$ 1,000	$ 949	$ 1,112	$ 673	$ 521	$ 2,845
Total	$ 7,597	$ 1,050	$ 996	$ 1,162	$ 723	$ 571	$ 3,095

SFPUC Capital Project Plan
Water Enterprise
Programmatic

Authority Level 1:	19052-UW Landscape Conservation Prog
Authority Level 2:	15455-UW Landscape Conservation Budg
Project ID/FSP ID	CUW265001 / (N/A)
Project Title:	Landscape Conservation Program
Enterprise:	Water Enterprise
Organization:	Programmatic
Project Manager:	Julie Ortiz
Facility Category:	Program - Project
Type:	Programmatic
Description:	This budget funds the Large Landscape Conservation Retrofit Program (former Famis # CUW26501, current FSP Project #10015023) that funds the replacement of old, water-wasting irrigation equipment and plantings at large landscapes in the SFPUC's retail service area. The program is part of the SFPUC's Retail Water Conservation Plan that guides how the SFPUC will meet near-term and long-term local and state water conservation goals and directives. Annual Large Landscape Retrofit Program funding covers approximately 3 to 4 projects a year. Large landscape retrofits are not restricted by code and are envisioned to continue. The program overall will be re-evaluated periodically.
Justification:	The program is an important element of the SFPUC's retail conservation plan for meeting demand reduction and conservation goals and requirements. Without additional funding, the program will not be able to achieve targeted customer participation and meet water-savings goals.
Operating Impact:	None.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 3,500	$ 1,000	$ 0	$ 0	$ 0	$ 500	$ 2,000
Total	$ 3,500	$ 1,000	$ 0	$ 0	$ 0	$ 500	$ 2,000

SFPUC Capital Project Plan
Water Enterprise
Programmatic

Authority Level 1:	19055-UW Long Term Monitoring & Perm
Authority Level 2:	
Project ID/FSP ID	NEW / (N/A)
Project Title:	Long Term Monitoring & Permitting
Enterprise:	Water Enterprise
Organization:	Programmatic
Project Manager:	Tim Ramirez
Facility Category:	Programmatic
Type:	Programmatic
Description:	The purpose of this program is to meet the long-term monitoring and permit requirements associated with capital projects and the operation and maintenance of the SFPUC water supply system and watershed/ROW lands within the Bay Area. Projects with long-term monitoring required by environmental permits include the Alameda Watershed Habitat Conservation Plan, WSIP-related environmental mitigation and permit requirements (i.e., National Marine Fisheries Service) and non-WSIP capital projects.
Justification:	This program provides the resources to comply with terms and conditions in state and federal environmental permits associated with construction and/or operations and maintenance of the SFPUC water system, and watershed and ROW lands.
Operating Impact:	By providing the resources to comply with conditions and state and federal environmental regulatory permits, this program will minimize the risk and long-term costs associated with operation and maintenance of the SFPUC water supply system and watershed and ROW lands. As additional capital projects are completed, long-term monitoring funding will be requested as needed to meet conditions in state and federal environmental regulatory permits.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 119,498	$ 9,219	$ 7,759	$ 9,440	$ 10,426	$ 12,967	$ 69,687
Total	$ 119,498	$ 9,219	$ 7,759	$ 9,440	$ 10,426	$ 12,967	$ 69,687

SFPUC Capital Project Plan
Water Enterprise
Programmatic

Authority Level 1:	19159-UW Water Enterprise-watershed
Authority Level 2:	15504-UW Watershed Cottages-building
Project ID/FSP ID	FUW102 / (N/A)
Project Title:	Watershed Structures Upgrades -Cottages
Enterprise:	Water Enterprise
Organization:	Programmatic
Project Manager:	Tim Ramirez
Facility Category:	Water Enterprise Watershed Protection
Type:	Programmatic
Description:	This program supports investment in watershed cottages on the Peninsula and Alameda Watersheds in the Bay Area.
Justification:	Expenditures are required to maintain watershed cottages to be occupied by SFPUC staff to protect, operate, and maintain SFPUC water system infrastructure and watershed and ROW lands.
Operating Impact:	The program provides resources required for cost-effective long-term management of SFPUC watershed cottages.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 376	$ 36	$ 36	$ 36	$ 37	$ 37	$ 194
Environmental Review	$ 190	$ 18	$ 18	$ 18	$ 19	$ 19	$ 98
Design	$ 733	$ 72	$ 72	$ 72	$ 73	$ 73	$ 371
Construction Management	$ 373	$ 36	$ 36	$ 36	$ 37	$ 37	$ 191
Construction	$ 3,340	$ 324	$ 324	$ 324	$ 337	$ 337	$ 1,694
Total	$ 5,012	$ 486	$ 486	$ 486	$ 503	$ 503	$ 2,548

SFPUC Capital Project Plan
Water Enterprise
Programmatic

Authority Level 1:	19159-UW Water Enterprise-watershed
Authority Level 2:	15415-UW Watershed Protection
Project ID/FSP ID	FUW10201 / (N/A)
Project Title:	Watershed & ROW Infrastructure
Enterprise:	Water Enterprise
Organization:	Programmatic
Project Manager:	Tim Ramirez
Facility Category:	Water Enterprise Watershed Protection
Type:	Programmatic
Description:	The purpose of this program is to support investments in watersheds and ROW-related capital assets, including: roads, security fences and gates, bridges, culverts and stock ponds. This program also supports wildfire risk reduction work on the watersheds and ROW, including: fuel breaks, tree removal, prescribed burns (in coordination with CalFire), and non-native vegetation management.
Justification:	Expenditures are required to maintain access to SFPUC water system infrastructure , watershed lands and ROW, and also to reduce wildlife risk consistent with state requirements. This program provides funding to support investments in watershed and ROW assets under SFPUC management, to cost-effectively maintain these assets in good condition.
Operating Impact:	The project supports ongoing maintenance of SFPUC watershed lands and ROW assets. Projects are the responsibility of Natural Resources and Lands Management Division.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 30,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 15,000
Total	$ 30,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 15,000

SFPUC Capital Project Plan
Water Enterprise
Programmatic

Authority Level 1:	19158-UW Awss Maintenance - Cdd
Authority Level 2:	15826-UW Awss Maintenance - Cdd
Project ID/FSP ID	FUW101 / (N/A)
Project Title:	AWSS Maintenance
Enterprise:	Water Enterprise
Organization:	Programmatic
Project Manager:	Don Lampe
Facility Category:	Program - Project
Type:	Programmatic
Description:	Maintenance of the Auxiliary Water Supply System (AWSS) requires numerous trades, materials and supplies. The original transfer of function from the San Francisco Fire Department (SFFD) to the City Distribution Division (CDD) in 2010 included 10 on-budget operating positions and $1.5 million in programmatic ACP funding. Over the last nine years the programmatic funding has been reduced to $.5 million while the staffing necessary to maintain the system has dramatically increased. A recent San Francisco Civil Grand report pointed out the ongoing maintenance needs and called for immediate action. Division spending to operate and maintain the AWSS in fiscal year 18-19 was a record $2.8 million and is expected to increase to meet the Civil Grand Jury's recommendations. The City Distribution Division requires additional positions to meet the Civil Grand Jury recommendation that can be funded by the programmatic budget. The following off-budget positions are being requested to meet these recommendations; (1) 7345 Electrician, (2) 7331 Apprentice Maintenance Machinist II and (1) 5241 Engineer. An increase in the programmatic funding to $3 million will support these positions as well as material and supplies to meet valve exercising, equipment maintenance and replacement, joint training exercises with the SFFD and engineering design support. Furthermore, improvements to the sewage collection system through the Sewer System Improvement Program (SSIP) has required the removal and realignment of AWSS pipelines that are found to transect sewage transports at a substantial cost to the division.
Justification:	The AWSS is a complex and distributed system that provides emergency firefighting water in the days and hours following a catastrophic event. The system is also used several times a year to fight large conflagrations that exceed the available supply of the potable water system. This much needed and independent firefighting system was installed in 1913 and has and is undergoing upgrades and expansion under two Emergency Safety and Emergency Response (ESER) bonds. Although the upgrades will improve and expand the system, failure to fully fund maintenance and other day to day expenses will leave the system in a less than optimal state of readiness. This was recognized in the civil grand jury's report and failure to follow through on recommendations does a disservice to the citizens of the CCSF.
Operating Impact:	Failure to fully fund maintenance and expenses of the AWSS will leave the City and County of San Francisco more vulnerable to catastrophic fires that nearly obliterated the city in 1906. It is the duty of the City Distribution Division to maintain the system in the highest state of readiness and to request the funding and manpower to do so.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 15,000	$ 1,500	$ 1,500	$ 1,500	$ 1,500	$ 1,500	$ 7,500
Total	$ 15,000	$ 1,500	$ 1,500	$ 1,500	$ 1,500	$ 1,500	$ 7,500

SFPUC Capital Project Plan
Water Enterprise
Programmatic

Authority Level 1:	19458-UW Water Resources Planning An
Authority Level 2:	17676-UW Water Resources Planning-bu
Project ID/FSP ID	PUW50201 / (N/A)
Project Title:	Water Resource Planning and Development
Enterprise:	Water Enterprise
Organization:	Programmatic
Project Manager:	Paula Kehoe
Facility Category:	Program - Project
Type:	Programmatic
Description:	Building on the findings of the Water Supply Master Plan, the SFPUC completed and adopted a water supply program to meet future demand through 2018 as part of the Phased Water System Improvement Program (WSIP). The program includes developing 20 million gallons per day (mgd) of recycled water, conservation and/or groundwater in the retail and wholesale customer service areas. In addition, the SFPUC has projected a shortfall of available water supply to meet its level of service goals and contractual obligations. Staff will report water sales projections and progress toward meeting the 20 mgd goal annually. The SFPUC continued studies on recycled water, groundwater projects, conservation and graywater in the SFPUC service area and regional desalination and purified water. Activities associated with implementation of this program, include updating water demand projections, conducting planning studies for additional recycled water, conservation and groundwater potential, updating the billing system to respond to droughts, continuing studies on dry-year water supplies and providing water supply impact analyses. Additionally, staff will study the potential water supply benefits from alternative water supplies, such as graywater, blackwater, stormwater and seepage water, Funding Allocation: 20% groundwater feasibility and resource management studies; 25% recycled water feasibility and planning studies; 35% hydrologic, climate change and demand management studies; and 20% alternative water supplies options.
Justification:	This information will be used to meet the SFPUC water supply program for WaterMAP by 2023. Additionally, this program supports critical water supply planning necessary for implementing the Phased WSIP, including additional work for groundwater and recycled water supplies. In addition, in 2020 the SFPUC will be required to update its water supply plan to demonstrate how its water supply program will meet customer demand through 2045 and significant demand and supply analysis must be conducted prior to the 2020 Urban Water Management Plan. Finally, updating the SFPUC's billing system to prepare for drought response will be to be developed by 2019.
Operating Impact:	The water supply planning budget for FY 2012/13 is to support the implementation of the Phased WSIP Variant adopted by the Commission on October 30, 2008.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,500	$ 500	$ 500	$ 500	$ 0	$ 0	$ 0
Total	$ 1,500	$ 500	$ 500	$ 500	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Programmatic

Authority Level 1:	19459-UW Treasure Island - Maintena
Authority Level 2:	17681-UW Treasure Island - Water
Project ID/FSP ID	PUW511 / (N/A)
Project Title:	Treasure Island Facilities Maintenance
Enterprise:	Water Enterprise
Organization:	Programmatic
Project Manager:	Katie Miller
Facility Category:	Program - Project
Type:	Programmatic
Description:	This project is for operating and maintaining the potable water distribution system at Treasure Island (TI) and Yerba Buena Island (YBI) on behalf of the Treasure Island Development Authority (TIDA). Potable water to TI/YBI is supplied by a transmission main from San Francisco and a backup supply from Oakland by the East Bay Municipal Utility District. The transmission mains from San Francisco and Oakland go to YBI via the western and eastern spans of the San Francisco-Oakland Bay Bridge, respectively. The potable water distribution system on TI/YBI is comprised of four reservoirs, six pump stations, and a distribution piping network. The water system operation is regulated by a water supply permit issued to the Navy by the California Department of Health Services.
Justification:	This programmatic project funds the routine maintenance required to keep the Water Facilities on Treasure Island functional. In addition this project also funds payment of the monthly water bills for all commercial and residential connections on the Island.
Operating Impact:	None.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 10,583	$ 1,350	$ 0	$ 1,431	$ 1,474	$ 1,518	$ 4,810
Total	$ 10,583	$ 1,350	$ 0	$ 1,431	$ 1,474	$ 1,518	$ 4,810

SFPUC Capital Project Plan
Water Enterprise
Programmatic

Authority Level 1:	19463-UW Retrofit Grant Program
Authority Level 2:	19740-UW Community Benefits
Project ID/FSP ID	PUW51701 / (N/A)
Project Title:	Retrofit Grant Program
Enterprise:	Water Enterprise
Organization:	Programmatic
Project Manager:	Taylor Chang
Facility Category:	Program - Project
Type:	Programmatic
Description:	The Retrofit Grant Program provides assistance to SFPUC retail customers to help reduce the consumption of SFPUC potable water. Customers can use grant funds in accordance with SFPUC guidelines for the following types of projects: 1) to collect, treat, and use alternate water sources onsite for non-potable applications such as toilet and urinal flushing, cooling tower applications, and outdoor irrigation; 2) for onsite treatment and reuse of brewery process water to reduce the consumption of SFPUC potable water; and 3) for the conversion of a customer's irrigation system to accept SFPUC recycled water. rants requests will be reviewed by SFPUC staff on a case-by-case basis, and grant awards are subject to the terms and conditions of the SFPUC. The program will be cash-funded (not bond-funded). We anticipate increased participation in the grant program as we expand the program to obtain greater SFPUC potable water offsets, as heat recovery is incorporated to make onsite water systems more energy efficient, and as development is rapidly unfolding in San Francisco. Therefore we are requesting that the funding for the program be made available sooner, which does not result in additional funding for the program.
Justification:	Unless customer sites are retrofitted in accordance with regulatory requirements, SFPUC's planned development of recycled water cannot be put to beneficial use. By providing financial assistance to our customers, we can realize the full potential of our efforts to diversify our water supplies.
Operating Impact:	None

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,682	$ 700	$ 482	$ 500	$ 0	$ 0	$ 0
Total	$ 1,682	$ 700	$ 482	$ 500	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Water Enterprise
Programmatic

Authority Level 1:	17726-GE Youth Employment & Environm
Authority Level 2:	17726-GE Youth Employment & Environm
Project ID/FSP ID	PYEAES06 / (N/A)
Project Title:	Youth Employment Project
Enterprise:	Water Enterprise
Organization:	Programmatic
Project Manager:	Carol Isen
Facility Category:	Program - Project
Type:	Programmatic
Description:	The Earth Stewards is a collaborative effort by the SFPUC, the San Francisco Sheriff's Department and the Garden Project to provide at-risk, young San Franciscans with horticultural and landscaping work experience on SFPUC properties. The program currently has capacity for 12 at-risk youth and develops an individualized 24-month program for each participant. Since inception, Earth Stewards Apprentices and Trainees participants have totaled 389. In the past the Earth Stewards have performed landscaping and maintenance services for the City Distribution Division (CDD), Hetch Hetchy, and Crystal Springs Reservoir.
Justification:	The project provides at-risk, young San Franciscans with work experience with the intent of reducing recidivism among ex-offenders and inmates of the San Francisco County Jail.
Operating Impact:	None.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 12,900	$ 1,290	$ 1,290	$ 1,290	$ 1,290	$ 1,290	$ 6,450
Total	$ 12,900	$ 1,290	$ 1,290	$ 1,290	$ 1,290	$ 1,290	$ 6,450

SFPUC Capital Project Plan
Water Enterprise
Programmatic

Authority Level 1:	19460-UW 525 Golden Gate - O & M
Authority Level 2:	17682-UW 525 Golden Gate - O & M
Project ID/FSP ID	PUW514 (WTR) / (N/A)
Project Title:	525 Golden Gate - Operations & Maintenance
Enterprise:	Water Enterprise
Organization:	Programmatic
Project Manager:	[None]
Facility Category:	525 Golden Gate
Type:	Programmatic
Description:	This project is required to cover annual operating and maintenance costs of the building and generally reflects an increase of 3.0% per year. These costs include building engineering, property management, janitorial and maintenance service contracts.
Justification:	The headquarters for the San Francisco Public Utilities Commission, 525 Golden Gate is a 13-story building plus basement for total building area of 277,500 square feet, which houses over 900 PUC employees. It is a LEED Platinum certified building that includes solar and wind renewable energy sources, an on-site wastewater system called the Living Machine, and Smart Building features with fully integrated systems.
Operating Impact:	None.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 49,388	$ 6,874	$ 4,186	$ 4,311	$ 4,441	$ 4,575	$ 25,001
Total	$ 49,388	$ 6,874	$ 4,186	$ 4,311	$ 4,441	$ 4,575	$ 25,001

SFPUC Capital Project Plan
Water Enterprise
Programmatic

Authority Level 1:	19461-UW 525 Golden Gate - Lease Pay
Authority Level 2:	17683-UW 525 Golden Gate - Lease Pay
Project ID/FSP ID	PUW515 (WTR) / (N/A)
Project Title:	525 Golden Gate - Lease Payment
Enterprise:	Water Enterprise
Organization:	Programmatic
Project Manager:	[None]
Facility Category:	525 Golden Gate
Type:	Programmatic
Description:	This project provides financing to cover the planning and construction costs for the office building housing the SFPUC.
Justification:	The headquarters for the San Francisco Public Utilities Commission, 525 Golden Gate is a 13-story building plus basement for total building area of 277,500 square feet, which houses over 900 PUC employees. It is a LEED Platinum certified building that includes solar and wind renewable energy sources, an on-site wastewater system called the Living Machine, and Smart Building features with fully integrated systems.
Operating Impact:	None.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 90,460	$ 9,167	$ 9,833	$ 9,178	$ 9,139	$ 9,063	$ 44,080
Total	$ 90,460	$ 9,167	$ 9,833	$ 9,178	$ 9,139	$ 9,063	$ 44,080

Page intentionally left blank

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

Wastewater Enterprise

Fiscal Years 2021-2030

Ten Year CIP

June 22, 2020

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15733-WW SSIP Program-wide Management
Project ID/FSP ID	CWWSIPPRPL01 / 10029732
Project Title:	SSIP Phase 1 Program Management
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	SSIP Program-Wide
Type:	Capital
Description:	This project includes the following components necessary for successful implementation of the Sewer System Improvement Program (SSIP) Program Management: condition assessment (facility inspections), technical support and evaluations, water quality studies, progression of project definition and prioritization, public outreach and education, analysis of the impacts of climate change, development of green infrastructure standards and training programs, Triple Bottom Line evaluations, site logistics coordination, sustainability evaluation and general program management tasks (program controls, change control, constructability, QA/QC, risk management, document management and evaluation study of alternate delivery systems). This project includes scope for support by an integrated team comprised of SFPUC staff and the Program Management Consultant (PMC) under a professional services contract.
Justification:	The SSIP capital program is being developed to address specific wastewater needs with prioritized projects and schedules that satisfy affordability and sustainability criteria. Asset Management, Condition Assessment, and Program Management activities will support the development and implementation of the SSIP. This project provides programmatic support to overall SSIP projects in order for them to meet the endorsed SSIP Level-of-Service (LOS) goals by providing full compliance with State and Federal regulatory requirements applicable to the treatment and disposal of sewage and storm water, and Wastewater Enterprise (WWE) goal of providing a compliant, reliable, resilient, and flexible system that can respond to catastrophic events.
Operating Impact:	The aging wastewater infrastructure needs replacement, improvements and modifications to ensure reliable performance and to meet future regulatory standards. Many of the collection system components and treatment processes have surpassed their useful lives. Failure of the wastewater system will result in non-compliance with State and Federal regulations that govern the operation of the wastewater system and will impair City's ability to properly handle and dispose of wastewater and stormwater, which can lead to risk in the areas of: water quality/environmental, public health and safety.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 23,161	$ 0	$ 0	$ 7,000	$ 10,000	$ 6,161	$ 0
Total	$ 23,161	$ 0	$ 0	$ 7,000	$ 10,000	$ 6,161	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15733-WW Ssip Program-wide Managemen
Project ID/FSP ID	Other SSIP PM / (N/A)
Project Title:	Other SSIP Program Management
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	SSIP Program-Wide
Type:	Capital
Description:	This project includes the following components necessary for successful implementation of the Sewer System Improvement Program (SSIP) Program Management: condition assessment (facility inspections), technical support and evaluations, water quality studies, progression of project definition and prioritization, public outreach and education, analysis of the impacts of climate change, development of green infrastructure standards and training programs, Triple Bottom Line evaluations, site logistics coordination, sustainability evaluation and general program management tasks (program controls, change control, constructability, QA/QC, risk management, document management and evaluation study of alternate delivery systems). This project includes scope for support by an integrated team comprised of SFPUC staff and the Program Management Consultant (PMC) under a professional services contract.
Justification:	This project includes the components necessary for successful implementation of the SSIP Program Management
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 65,982	$ 0	$ 0	$ 0	$ 0	$ 2,982	$ 63,000
Total	$ 65,982	$ 0	$ 0	$ 0	$ 0	$ 2,982	$ 63,000

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15733-WW SSIP Program-wide Management
Project ID/FSP ID	CWWSIPPRPL91 / 10029733
Project Title:	Land Reuse of 1800 Jerrold Avenue
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Shelby Campbell
Facility Category:	SSIP Program-Wide
Type:	Capital
Description:	This project includes the acquisition of this site for possible near-term and long-term SFPUC use. This 6.04 acre site on Jerrold Avenue between Quint and Rankin, is adjacent to the Southeast Plant and is currently occupied by another city department, Fleet Management under the Office of Contract Administration. The site is used as a central shop for vehicle repairs. Acquisition of the site by the SFPUC would be beneficial because there are very few empty or underutilized sites around the SEP; and, after completion of any necessary planning and environmental review, this site can serve a variety of functions to support the SEP's short and long term efforts.
Justification:	TBD
Operating Impact:	TBD

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15733-WW SSIP Program-wide Management
Project ID/FSP ID	CWWSIPPRPL92 / 10029734
Project Title:	Land Reuse of 1801 Jerrold Avenue
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Shelby Campbell
Facility Category:	SSIP Program-Wide
Type:	Capital
Description:	This project includes the acquisition of this site for SFPUC both near-term and long-term use. This 1.54 acre site is currently under the jurisdiction of the Department of Public Works. It was formerly used as an asphalt plant that has not been operational for many years. Acquisition of the site by the SFPUC would be beneficial because there are very few empty or underutilized sites around the SEP; and, after completion of any necessary planning and environmental review, this site can serve a variety of functions to support the SEP's short and long term efforts.
Justification:	TBD
Operating Impact:	TBD

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15733-WW SSIP Program-wide Management
Project ID/FSP ID	CWWBAE01 / 10015553
Project Title:	Biofuel Alternative Energy
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Carolyn Chiu
Facility Category:	SSIP Program-Wide
Type:	Capital
Description:	The Biofuel/Alternative Energy Program will determine if it is feasible and cost-effective for the SFPUC to generate bioenergy (e.g. Biofuel or cogenerated power) as a byproduct of processing the fats, oils, and grease (FOG) and/or food waste collected throughout the City. Feasibility will be determined through pilot studies and analysis that will evaluate whether adoption of Biofuel energy programs into the SFPUC's wastewater infrastructure (collection systems and/or treatment processes) would reliably and cost effectively enhance performance and sustainability.
Justification:	TBD
Operating Impact:	TBD

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15728-WW SSIP Biosolids-digester Project
Project ID/FSP ID	CWWSIPDP01 / 10015796
Project Title:	Biosolids/Digester Project
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Carolyn Chiu
Facility Category:	Treatment Facilities
Type:	Capital
Description:	This project would provide a new digester and solids handling facility replacing the existing aged and failing facility at the Southeast Plant (SEP). The new facility would include updated/modern treatment processes, producing Class A (EPA 40 CFR 503) biosolids. Biosolids treatment processes would include solids thickening, screening, pre-Thermal Hydrolysis Pretreatment (THP) dewatering, THP, digestion, post-THP dewatering, gas handling, energy generation/reuse, odor control and associated operations and maintenance facilities. The facility will promote beneficial reuse of resources for sustainability and other environmental benefits.
Justification:	The existing digester and solids handling system are extremely operation and maintenance intensive. Constructed in 1952, the SEP digesters are currently operating well beyond their useful lives. There is visible corrosion of structural elements and frequent failures of digester roof covers. Due to the aging infrastructure, the digester facility has become a known source of nuisance odors in the surrounding neighborhood. Constructing a new facility that produces biosolids meeting Class A requirements would ensure future reliable and sustainable treatment, disposal, and reuse of biosolids. Construction of a replacement facility is much needed to maintain permit compliance and reliability.
Operating Impact:	Replacement of the aging digester facility is critically needed. The failure of the digestion and/or solids handling processes would be catastrophic, resulting in large volumes of undigested sludge requiring special transport and disposal. The City's ability to treat wastewater will be compromised, resulting in severe public health, safety, regulatory, and environmental impacts. Construction of a replacement facility is much needed to maintain permit compliance and reliability.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 321,745	$ 0	$ 81,745	$ 100,000	$ 140,000	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 469,745	$ 0	$ 0	$ 0	$ 0	$ 200,000	$ 269,745
Total	$ 791,490	$ 0	$ 81,745	$ 100,000	$ 140,000	$ 200,000	$ 269,745

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15735-WW Treatment Plant Improvement
Project ID/FSP ID	CWWSIPSE02 / 10015807
Project Title:	SEP New Headworks (Grit) Replacement
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Jignesh Desai
Facility Category:	Treatment Facilities
Type:	Capital
Description:	This project involves the construction of a new all-weather 250 MGD Headworks facility, consisting of state of the art influent pumping, screening, grit removal and odor control technologies. The project will include demolishing two existing antiquated Headworks facilities and existing influent lift station. The Headworks facility will install fine screens with washer/compactor units, high efficiency grit removal units, and grit handling systems. The new odor control system will comprise of two stage odor treatment in order to minimize the odor impacts consistent with level of service goals. The project will also improve visual aesthetics of the facility. The new 250 MGD headworks will consist of three major scopes as follows: Scope I - Site Preparation - 78" Work around pipe, Northside Primary Seismic, Utilities (12kV, Security, Distributed Control System (DCS) etc), and demolition of wet weather headworks Scope II.A - BFS Upgrades and New Southeast Trench Pump Station - Lift Pumps, Bar Screens, Odor control, Influent sewer re-route, Electrical Systems, and New 50 MGD Lift Station (Scope II.B/C) with ancillary systems. Scope III - Influent Junction Structure and Influent Monitoring, Bar screens, washer-compactors, screenings handling facility,grit basins, grit washers,grit handling facility, primary influent junction box, odor control facility, electrical, instrumentation and control building
Justification:	The South East Plant (SEP) New 250 MGD Headworks project will ensure that the SEP remains operationally compliant with State and Federal regulatory requirements, increases reliability, and provides the ability to respond to a full range of operating requirements by utilizing the latest technology in treatment and instrumentation. SEP New Headworks will include architectural components and will have major odor control systems to meet the Commission endorsed Goals and Levels of Service, reducing the negative impacts to the surrounding neighborhoods.
Operating Impact:	The SEP has two existing Headworks facilities and both have reached the end of their useful service life. The existing facilities do not meet the current seismic standards. In addition, these Headworks facilities are inefficient in capturing grit. As a result, the downstream liquid and solids treatment processes get overwhelmed with grit, reducing process performance and available volume capacity.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 10,000	$ 0	$ 0	$ 0	$ 9,000	$ 1,000	$ 0
Construction	$ 22,397	$ 0	$ 0	$ 5,397	$ 12,000	$ 5,000	$ 0
Total	$ 32,397	$ 0	$ 0	$ 5,397	$ 21,000	$ 6,000	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15735-WW Treatment Plant Improvement
Project ID/FSP ID	CWWSIPSE01 / 10026824
Project Title:	SEP Oxygen Generation Plant
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Jignesh Desai
Facility Category:	Treatment Facilities
Type:	Capital
Description:	The Oxygen Generation Plant (SE01) involved installation of two packaged vacuum pressure swing absorption (V/PSA) oxygen generation systems to provide gaseous oxygen (GOX) supply.
Justification:	This project was part of a group of projects previously approved to address the liquid treatment portion of the improvements at SEP to complete some imminent upgrades to the existing digester facility until the new biosolids facility is constructed.
Operating Impact:	TBD

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15735-WW Treatment Plant Improvement
Project ID/FSP ID	CWWSIPSE03 / 10015808
Project Title:	SEP Existing Digester Roof Repairs
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Murat Bozkurt
Facility Category:	Treatment Facilities
Type:	Capital
Description:	As part of the SSIP, a new biosolids handling facility will be built to replace the existing system. However, the existing digesters and associated facilities must continue to handle all biosolids generated by primary and secondary treatment operations at SEP until all planning, design, construction, and commissioning activities for new facilities are completed. Under this project, work will be completed to maintain existing digestion facilities in operation with sufficient capacity and reliability to produce Class B biosolids until new facilities are available for service. The project consists of repairs to the existing floating roof and associated appurtenances (Digester 8), and replacement of the existing floating roofs and associated appurtenances (Digesters 4, 6, 7 and Cake Bins 3 & 4). This project is currently at the closeout stage.
Justification:	TBD
Operating Impact:	TBD

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15735-WW Treatment Plant Improvement
Project ID/FSP ID	CWWSIPSE04 / 10026825
Project Title:	SEP Primary and Secondary Clarifier Upgrades
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Jignesh Desai
Facility Category:	Treatment Facilities
Type:	Capital
Description:	This project will upgrade the mechanical, structural and electrical components at the primary and secondary sedimentation tanks (clarifiers) at SEP to address operational reliability and compliance with regulatory requirements for liquid treatment. The major upgrades taking place at the primary sedimentation tanks include replacing key mechanical and electrical equipment and addressing structural repairs such as concrete repairs and coating seven tanks and influent channel. Covers for the primary sedimentation tanks and ventilation system will also be installed. Similarly, major upgrades for the secondary clarifiers include replacing key equipment and retrofitting existing secondary clarifiers (8 of 16 included in this project). Structural repairs will also be addressed including concrete crack repairs and coating.
Justification:	TBD
Operating Impact:	TBD

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15735-WW Treatment Plant Improvement
Project ID/FSP ID	CWWSIPSE05 / 10002192
Project Title:	SEP 521/522 and Disinfection Upgr (SEP Bld Replac)
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Murat Bozkurt
Facility Category:	Treatment Facilities
Type:	Capital
Description:	This project includes upgrades to the Post-Chlorination Building as well as construction of a new building to house electrical and hydraulic controls, and replacement of valves and actuators in the Chlorine Contact Channel and stop logs at the Effluent Control Structure. The new building for electrical and hydraulic controls will be constructed to meet the Sewer System Improvement Program (SSIP) seismic reliability goals. In addition, this project will upgrade and relocate the non-potable (W3) pump system by replacing four existing W3 pumps and motors with six new higher flow capacity pumps.
Justification:	In order to meet SSIP Level of Service goals and anticipated future plant demands, the Post-Chlorination Building and electrical and hydraulic controls needed upgrades. This project will also provide higher flow capacity W3 pumps to meet future treatment plant needs.
Operating Impact:	The South East Plant (SEP) 521 and 522 facilities remain operationally compliant with State and Federal regulatory requirements.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15735-WW Treatment Plant Improvement
Project ID/FSP ID	CWWSIPSE06 / 10002220
Project Title:	SEP Primary Sludge Handling Improvements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Murat Bozkurt
Facility Category:	Treatment Facilities
Type:	Capital
Description:	The project's scope of work includes a new building to house primary sludge screens, grit removal equipment, grit washing and clarification equipment, and ancillary equipment including pumps; a new Gravity Belt Thickener (GBT), rehabilitation of the existing two GBT units; and replacement of existing odor control equipment and upgrades to existing exhaust fans. However, after design was completed, it was determined that this project is less critical than other long-term treatment improvements. Therefore, this project will complete the closeout of design and rehabilitation of critical components is to be deferred to the WWE R&R program for consideration.
Justification:	TBD
Operating Impact:	TBD

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15735-WW Treatment Plant Improvement
Project ID/FSP ID	CWWSIPSE07 / 10015809
Project Title:	SEP Facility-wide DCS Control Upgrades
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Maria Kristel Cruz
Facility Category:	Treatment Facilities
Type:	Capital
Description:	This project addresses distributed control system (DCS) upgrades within the Southeast Pollution Control Plant (SEP), Oceanside Pollution Control Plant (OSP), North Point Wet Weather Facility (NPF), Channel Pump Station (CHS), Westside Pump Station (WSS), and Bruce Flynn Pump Station (BFS). Under this project, OSP, NPF, and WSS DCS upgrades include planning/design to ensure system-wide consistency. Both hardware and software upgrades integrating field instrumentation, control devices, communications hardware, processing hardware, interface hardware, and associated software packages into a unified system are required to provide real-time, system-wide monitoring and control. Coordination of monitoring parameters in various systems will also be required to maintain compatibility and consistency of the input data used for process control.
Justification:	This project is system-wide and supports other Sewer System Improvement Program (SSIP) projects such as the new Biosolids and the new Headworks projects. Since these new SSIP projects will be replacing and upgrading about half of existing wastewater field instrumentation and processes, a compatible high performing distributed control system is required as well. This effort / fund request is being conducted to fund ongoing distributed control system work at Southeast Water Pollution Treatment plant to upgrade/replace the existing legacy control system. This effort is also to fund various DCS related work with other SSIP projects in the upcoming fiscal year/s. This project is dependent on other SSIP projects' progress and schedule.
Operating Impact:	The distributed control system is the primary control system that Waste Water Enterprise (WWE) uses in order to provide reliable combined sewer system services in San Francisco.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15735-WW Treatment Plant Improvement
Project ID/FSP ID	CWWSIPSE08 / 10015810
Project Title:	SEP Seismic Reliability and Condition Assessment I
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Murat Bozkurt
Facility Category:	Treatment Facilities
Type:	Capital
Description:	As part of the condition assessment effort, numerous seismic, conditional and operational issues associated with the existing facilities will require remedial attention before other program projects are completed. This project represents immediate improvements to the existing facilities at South East Plant (SEP) identified as part of the condition assessment effort that are not specifically included as part of another near-term Sewer System Improvement Program (SSIP) Phase 1 project. This project includes items for rehabilitation such as concrete spalling repair and seismic retrofit of priority process buildings. Seismic retrofit and structural repairs to the Sedimentation Building and channel structures (SEP 530 Contact Channel, SEP 540 Effluent Control Structure, 6' reinforced concrete pipe from SEP 540 to Booster Pump Station, Conduits C/D/E, SEP 525 Box Channel, and 9' reinforced concrete pipe to Junction Structure #5) will be completed.
Justification:	Various facilities and equipment in the SEP are exposed to highly corrosive conditions and require repair or replacement or are nearing the end of their useful life. In order to meet SSIP Level of Service (LOS) goals, this project will retrofit essential structures that are not covered in other near-term SSIP Phase 1 project.
Operating Impact:	The existing facilities do not meet the current seismic standards. At the end of this project, within 72 hours, SEP will be able to operate in dry weather mode after a major earthquake.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15735-WW Treatment Plant Improvement
Project ID/FSP ID	CWWSIPSE09 / 10036826
Project Title:	SEP Existing Digester Gas Handling Improvements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Murat Bozkurt
Facility Category:	Treatment Facilities
Type:	Capital
Description:	As part of the Sewer System Improvement Program (SSIP), a new biosolids handling facility will be built to replace the existing system. However, the existing digesters and associated facilities must continue to handle all biosolids generated by primary and secondary treatment operations at South East Plant (SEP) until all planning, design, construction, and commissioning activities for new facilities are completed. The project consists of process upgrades addressing deficiencies related to digester gas compressors, heat exchangers and controllers, combined primary activated sludge (CPAS) tank, boiler and boiler stacks, waste flare and cogeneration cooling water system, and B100 biofuel tank (EPA permit compliance). Building systems and odor control unit (OCU) upgrades such as replacing roof drains, OCUs and upgrading ventilation and OCUs, roof replacement and air compressor (BAAQMD Permit Application) will also be completed.
Justification:	Many of the facilities reached its useful life. Until the new biosolids handling facility is in operation, the existing digesters and associated facilities needs to be repaired and/or improved in order to continue to be functional and operational.
Operating Impact:	The existing digesters and associated facilities will be more reliable after completion of this project.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15735-WW Treatment Plant Improvement
Project ID/FSP ID	CWWSIPSE10 / 10002284
Project Title:	SEP Power Feed and Primary Switchgear Upgrades
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Roland Sun
Facility Category:	Treatment Facilities
Type:	Capital
Description:	The project is intended to address the deficiency of the existing medium voltage power distribution system at Southeast Plant (SEP). The objective of the project is to increase reliability, redundancy and capacity of the electrical system to meet Sewer System Improvement Program ("SSIP") level-of-service ("LOS") requirements by upgrading the existing primary power feed by PG&E and obtaining a new redundant feed by Power Enterprise. The project will construct an elevated building to house the new Primary Power Switch Station and sub-structures sized to provide adequate power to new facilities in construction under SSIP, upgrade/replace aging existing unit substations, install power monitoring and control system for additional reliability and efficiency, as well as redundant services to the nearby pump stations.
Justification:	The new power system will provide adequate power for the existing SEP electrical loads and new SSIP facilities demand and peak loads, as well as a reliable and resilient electrical system that can respond to catastrophic events. The project will enhance the ability of SEP operations to maintain full compliance with State and Federal regulatory requirements and meet the SSIP LOS goals.
Operating Impact:	The existing primary switch station and majority of substations have reached the end of their useful service life. Construction of an upgraded power system with redundant electric service and additional capacity is essential to provide SEP operations the ability to meet the power demands of treatment facilities and remain operationally compliant with State and Federal regulatory requirements.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15735-WW Treatment Plant Improvement
Project ID/FSP ID	CWWSIPSE11 / 10015811
Project Title:	SEP Oxygen Generation Plant 01
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Murat Bozkurt
Facility Category:	Treatment Facilities
Type:	Capital
Description:	The existing liquid oxygen (LOX) facility at South East Plant (SEP) does not meet current safety codes and is in need of replacement. The LOX system is a mandatory redundant system to the on-site oxygen generation to ensure full compliance with the NPDES permit. This project includes the demolition of the LOX facility (three horizontal LOX storage tanks, four vaporization systems, and ancillary equipment); demolition of SEP 270 Oxygen Generation Building; installation of structural piles; construction of concrete slabs and utility trench; and installation of a new packaged LOX system consisting of four vertical LOX storage tanks, vaporizers and an unloading station.
Justification:	This project will ensure that new LOX facility will meet the permit requirements and safety codes.
Operating Impact:	The Waste Water Enterprise (WWE) will be able to operate SEP 200 Aeration tanks in a much more reliable way in addition to meeting permit and safety requirements.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15735-WW Treatment Plant Improvement
Project ID/FSP ID	SEP-1 / (N/A)
Project Title:	SEP 550 Booster PS Condition Inspection & Interim
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	This project includes condition assessment of the influent channel and wet wells (confined space entry), as well as a budget allowance to perform concrete rehab to two wet wells and minor repairs to the influent channel. A firmer estimate to complete the repairs will depend on the results of the inspection. To inspect the influent channel, work must occur during dry weather and the plant must either be shut down or treated effluent diverted to Quint Street Outfall (QSO). Shut downs may last up to 8 hours, and coordination/approval is needed with the Regional Water Quality Board to allow diversion through QSO. Mechanical equipment rehab are also included as part of the interim improvements. These include: • Replace sump pumps • Replace water heater • Replace air relief valves • Replace (3) booster pumps (#1, 2 & 4) • Replace all Variable Frequency Drives (VFD) (4)
Justification:	Booster Pump Station was constructed in 1967 and upgraded in 2002, and operates in dry and wet weather. The pump station supplies the necessary head pressure to pump and convey up to 110 MGD of treated effluent from South East Plant (SEP) to the Bay through the Southeast Bay Outfall. During wet weather when flows exceed the design capacity of Booster Pump Station, treated effluent may also be discharged from the Quint Street Outfall located in Islais Creek. An initial look at the pump wet wells in 2015 indicated that two of the four wet wells exhibit deterioration of the below grade structural elements such as structural distress of the beams and wet well dividing walls. An in-depth interior inspection was not performed at the time due to confined space and shutdown complications. This inspection, along with as-needed structural rehab is required to meet Operational Reliability level of service (LOS) Goals (State of Good Repair).
Operating Impact:	During Construction: Plant shutdowns and/or diversions through QSO are required to perform the condition assessments and likely, subsequent improvements. Post Construction: This project involves in-kind rehabilitation and replacement, and does not impact operations once the project is completed.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 601	$ 523	$ 78	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 1,202	$ 0	$ 619	$ 583	$ 0	$ 0	$ 0
Construction Management	$ 1,181	$ 0	$ 0	$ 120	$ 614	$ 447	$ 0
Construction	$ 6,909	$ 0	$ 0	$ 1,486	$ 3,592	$ 1,831	$ 0
Total	$ 9,893	$ 523	$ 697	$ 2,189	$ 4,206	$ 2,278	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15735-WW Treatment Plant Improvement
Project ID/FSP ID	SEP-2 / (N/A)
Project Title:	SEP, Booster PS, & BFS Security Enhancements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	The project involves the following security upgrades: • Upgrading card readers and door contacts at all perimeter doors and ensuring proper operation • Replacing and furnishing gates and gate operators including structural support, electrical power and controls • Adding protective cages around outdoor chemical and electrical equipment, including an allowance for replacing/repairing the existing perimeter fence and fence support as needed • Furnishing, installing, and configuring servers for video recording, management and analytics • Configuring security fiber optic connectivity and adding video camera units and local recording • Pruning the landscaping to establish clear zones, adding new security signage, and upgrading to dusk-activated LED lighting • Establishing a visitor management system and installing turnstiles • Monitoring improvements (e.g. developing mobile tablet security video monitoring capability, establishing a security monitoring center, a tablet-based security incident response reporting template and setting up an automatic video archiving process across all Waste Water Enterprise (WWE) sites) • Providing interior intrusion detection of critical assets • Adding interior presence sensing connected to an intrusion detection panel and alarming to security • Upgrading UPS backup power to serve security components • Adding new security signage with "No Trespassing", applicable penal code and emergency contact information • Adding a main distribution frame (MDF) to BFS
Justification:	A security evaluation was performed in 2017 to identify the security risks towards WWE facilities, assets, staff, and operations from outside malevolent acts. The evaluation identified improvements at the Southeast Water Pollution Control Plant, Islais Creek (Booster) Pump Station & Bruce Flynn Pump Station (BFS). As part of the Health, Safety & Security level-of service (LOS) goal, security measures at these sites shall be enhanced to protect staff, assets, and facilities.
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 870	$ 0	$ 870	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 1,740	$ 0	$ 435	$ 1,305	$ 0	$ 0	$ 0
Construction Management	$ 1,710	$ 0	$ 0	$ 0	$ 855	$ 855	$ 0
Construction	$ 10,000	$ 0	$ 0	$ 0	$ 5,000	$ 5,000	$ 0
Total	$ 14,320	$ 0	$ 1,305	$ 1,305	$ 5,855	$ 5,855	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15735-WW Treatment Plant Improvement
Project ID/FSP ID	SEP-3 / (N/A)
Project Title:	Oxygen Generation (SEP 275) Reliability Upgrades
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	An evaluation of the VPSA oxygen generation system is required and should include a root cause analysis to determine why the existing oxygen system is not operating per design. Measures to reliably meet current oxygen demands and long-term alternatives such as adding or replacing VPSA modules, or replacing the entire system with an alternative oxygen supply system, should also be evaluated. Future projected oxygen demands should be considered, which may change based on plant operation modifications. If more stringent nutrient removal regulations are imposed in the future, South East Plant (SEP) will no longer employ a pure oxygen process. The cost allowance for the project is based on adding a third module to the current VPSA system to provide redundancy, although this is not necessarily the preferred outcome for the project.
Justification:	The vacuum pressure swing adsorption (VPSA) units at SEP 275 supply oxygen to the aeration tanks for secondary treatment. The system was designed to operate via one duty VPSA unit (with another VPSA on standby). However, the units have not been able to operate at their design capacity and accordingly, operation of both duty and standby VPSA units are needed to meet oxygen demands. The plant also has liquid oxygen (LOX) that can be used as an emergency backup. However, this system is not intended to be a dedicated standby system, as it involves continuous trucking of LOX to the site which disturbs neighboring communities and interferes with site construction work. The VPSA units cannot meet their design capacity, are unreliable, and often need to be taken offline for maintenance. To meet Operational Reliability (Provide Continued Operation, Maintenance and Regulatory Compliance) level-of-service (LOS) goals, an oxygen generation reliability upgrade is required.
Operating Impact:	During Construction: Short-term plant shutdowns and/or diversions may be required to facilitate construction work, depending on the construction scheduling and installation methods for the new oxygen system. Post Construction: Depending on the outcomes of the process evaluation, the project may have an impact on long-term future operations if a new oxygen process is selected.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 747	$ 650	$ 97	$ 0	$ 0	$ 0	$ 0
Design	$ 1,493	$ 0	$ 769	$ 724	$ 0	$ 0	$ 0
Construction Management	$ 1,467	$ 0	$ 0	$ 107	$ 763	$ 597	$ 0
Construction	$ 8,581	$ 0	$ 0	$ 1,888	$ 4,462	$ 2,231	$ 0
Total	$ 12,288	$ 650	$ 866	$ 2,719	$ 5,225	$ 2,828	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15735-WW Treatment Plant Improvement
Project ID/FSP ID	SEP-4 / (N/A)
Project Title:	SEP Facilities Interim H&S Imp (SEP 850 & 930)
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	The project at SEP 850, SEP 930 and SEP 940 involve completing health and safety improvements, including: Engineering Building (SEP 850) Health & Safety Improvements (Install power assisted door opening devices; Address leakage and structural rehabilitation works on water damaged walls and ceilings; Install fall protection where required; Replace or upgrade the HVAC system) A seismic evaluation will be undertaken at a later stage as part of the "Seismic Evaluation and Retrofit" Project, which will assess and recommend seismic improvements to SEP 850. Admin Building (SEP 930) Health & Safety Improvements (Install emergency exit lighting and other required safety equipment; Install power assisted door opening devices, if required; Install fall protection where required; Replace or upgrade HVAC system and ventilation including lab fume hoods, where required; Remove or relocate fire-corridor obstructions; Address water ponding issues) A seismic evaluation will be undertaken at a later stage as part of the "Seismic Evaluation and Retrofit" Project, which will assess and recommend seismic improvements to SEP 930. Maintenance Building (SEP 940) Health & Safety Improvements (Install emergency lighting and exit signs at access door to roll-up door; Remove tripping hazards at threshold (uneven door landing on pull side))
Justification:	A condition assessment of the SEP was completed in November 2013. The condition assessment findings, conclusions and recommendations were reviewed in detail with WWE OEM and Infrastructure staff in subsequent workshops, and input was incorporated into the Final Condition Assessment Report. The condition assessments revealed various health and safety improvement needs. Health and safety improvement needs were identified at the Operators Building & Engineering Offices (SEP 850), Administration Building (SEP 930) and Maintenance Building (SEP 940) which are occupied daily. In the long-term, these buildings are slated for replacement as part of the future SEP Campus Vision. While this long-term site programming strategy is developed the following issues need to be addressed to meet Health, Safety & Security LOS goals. Engineering Building (SEP 850):(The building does not have power assisted door opening devices; There is leakage within the building and building walls and suspended ceilings exhibit water damage; There is no fall protection for rooftop maintenance access requirements at the southwest corner of the low roof; The columns at one end of the building are potentially unsafe; The HVAC system needs replacement). Admin Building (SEP 930): (The building has insufficient emergency lighting; The HVAC roof top room has no door landing on push side which violates code; There is no fall protection at roof top hatches and equipment that are within 10 feet from the edge of the roof (per current CBC); The MCC room on the second floor has inadequate ventilation; Furniture and accessories are blocking the fire-corridor on the second floor; There is water ponding at the lower roof near the access ladder to upper roof; The lab fume hood ventilation needs to be repaired; There may be deficiencies with power assisted door opening devices). Maintenance Building (SEP 940): (The building has insufficient emergency lighting and exit signs; The building has tripping hazards)
Operating Impact:	TBD

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 159	$ 159	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 317	$ 65	$ 252	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 699	$ 0	$ 242	$ 457	$ 0	$ 0	$ 0
Construction	$ 3,825	$ 0	$ 2,747	$ 1,078	$ 0	$ 0	$ 0
Total	$ 5,000	$ 224	$ 3,241	$ 1,535	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15735-WW Treatment Plant Improvement
Project ID/FSP ID	SEP-5 / (N/A)
Project Title:	Primary Treatment (SEP 040/041) H&S Improvements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	This project involves demolition of the building superstructure at South East Plant (SEP) 040/041 and replacement of all remaining deteriorated items. To control odors, the sedimentation tanks would be covered in a similar fashion to the covers on the sedimentation tanks at SEP 042. Ventilation of the covered tanks would be required to protect concrete surfaces from deterioration, and an odor control unit would be required to treat foul air from the covered tanks.
Justification:	CEQA process needs to account for demolition of a historic building. Delaying the construction date will help with congestion in the area (BDFP & HW). Interim improvements are planned/underway under the R&R program.
Operating Impact:	Delay may prolong ventilation issues within Building 040/041.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 518	$ 518	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 2,832	$ 495	$ 2,000	$ 337	$ 0	$ 0	$ 0
Construction Management	$ 3,270	$ 0	$ 0	$ 1,298	$ 1,635	$ 337	$ 0
Construction	$ 20,762	$ 0	$ 0	$ 2,006	$ 9,561	$ 9,195	$ 0
Total	$ 27,382	$ 1,013	$ 2,000	$ 3,641	$ 11,196	$ 9,532	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15735-WW Treatment Plant Improvement
Project ID/FSP ID	SEP-6 / (N/A)
Project Title:	Secondary Clarifiers (SEP 230) Rehabilitation
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	The components of the project at South East Plant (SEP) 230 for the remaining eight clarifiers are as follows: • Perform inspections of confined spaces considering operational constraints • Concrete rehabilitation, repair & coating • Replace collector mechanisms • Replace sludge collectors and drives • Inspect mixed liquor dewatering gates • Evaluate need to replace scum gates which have corroded away • Evaluate mixed liquor system (including assessment of the ventilation; the mixed liquor channels are covered but do not have ventilation which may be causing concrete corrosion issues) • Replace area lighting with watertight fixtures (LED lighting has corroded) • Increase pedestrian safety adjoining vehicular access areas • Evaluate opportunities to prevent basins from backing up during wet weather when high tides at Islais Creek limit hydraulic capacity through the QSO
Justification:	Delaying the construction date will help with congestion in the area (BDFP & HW). Interim improvements are planned under the R&R program (install Eco-Blaster Biological Control Systems and replace flanges and shutoff valves)
Operating Impact:	Risk that clarifier arms/mechanisms may fail or impact operations due to their condition.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,046	$ 0	$ 0	$ 1,046	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 2,392	$ 0	$ 0	$ 115	$ 1,362	$ 915	$ 0
Construction Management	$ 2,389	$ 0	$ 0	$ 0	$ 0	$ 482	$ 1,906
Construction	$ 15,473	$ 0	$ 0	$ 0	$ 0	$ 3,404	$ 12,069
Total	$ 21,300	$ 0	$ 0	$ 1,161	$ 1,362	$ 4,801	$ 13,975

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15735-WW Treatment Plant Improvement
Project ID/FSP ID	SEP-7 / (N/A)
Project Title:	Replacement of SEP Building 850
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	This project will replace South East Plant (SEP) Building 850 - Engineering. The building has exceeded its useful life and maintenance on the building is a futile effort, diverting critical resources. The offices are old and inefficient and the infrastructure is in disrepair. The persistent leaking of the second floor showers on first floor office space has presented a challenge with mold in the building. The building is a tear down. Replacement of the building has become a priority due to its disrepair but also because the opportunity to capture greater economies by expanding the footprint makes it a prime candidate for a permanent warehouse required to replace temporary leasing of warehouse space. Replacement of the office space will be located above the warehouse. The additional office space will be used to relocate offices from the mezzanines in Building 940 as a lower cost alternative to bringing the mezzanines up to code. The proposed building will be three stories, with a total of approximately 75,000 square feet.
Justification:	Changes to BDFP scope may impact SEP/NPF Campus Vision. Campus Vision will continue to be developed in CWWSIPPRPL91. Interim H&S improvements in Building 850 will be completed in SEP-4.
Operating Impact:	Delay may prolong meeting seismic reliability (life safety) goals and the provision of updated People Facilities. 10-Yr CIP does not include funding for improvements from the Campus Vision.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15735-WW Treatment Plant Improvement
Project ID/FSP ID	SEP-8 / (N/A)
Project Title:	SEP Condition Improvement Projects - Part 1
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	Specific rehabilitation and mechanical equipment related work includes the following: Primary Sed Tanks (SEP 042) Rehab: • Evaluate primary effluent butterfly valves and isolation sluice gates • Repair exposed aggregate and concrete spalling on deck • Evaluate influent gates A, B & C on top of deck (gate C is leaking on Headworks construction site) • Install emergency lighting in the below grade gallery Plant Effluent Control Structure (SEP 540) Rehab: • Repair piping and evaluate mixers Sodium Bisulfite Tanks (SEP 515) Rehab: • Replace sump pumps, recirculation pump, storage tanks, valves on transfer pumps, and address corrosion on pump unit • Evaluate feasibility of relocating the system closer to the Headworks area • Assess health and safety signage on tank (was observed to be inconsistent) and replace if required • Evaluate safety barrier at top of ladder (none observed) and install if required
Justification:	N/A
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 619	$ 0	$ 0	$ 0	$ 472	$ 35	$ 112
Design	$ 823	$ 0	$ 0	$ 0	$ 238	$ 420	$ 165
Construction Management	$ 809	$ 0	$ 0	$ 0	$ 0	$ 151	$ 658
Construction	$ 10,949	$ 0	$ 0	$ 0	$ 0	$ 2,364	$ 8,586
Total	$ 13,200	$ 0	$ 0	$ 0	$ 710	$ 2,970	$ 9,521

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15735-WW Treatment Plant Improvement
Project ID/FSP ID	SEP-9 / (N/A)
Project Title:	Pipe Gallery (SEP 960) Rehab
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	Specific rehabilitation and mechanical equipment related work at South East Plant (SEP) 960 includes the following: • Repair structural deficiencies (cracks and infiltration) • Replace HVAC • Replace sump pumps • Repair all stairwell access lighting • Improve access to the gallery (access hatches are generally inaccessible and very difficult to open)
Justification:	This project represents improvements to the existing facilities at SEP 960 (Pipe Gallery) identified to address age, deterioration, and reliability of existing assets to meet the Operational Reliability level-of-service (LOS) goals (State of Good Repair).
Operating Impact:	During Construction: Short-term shutdowns or workarounds may be required to facilitate construction work. Post Construction: This project involves in-kind rehabilitation and replacement, and will not impact future operations once construction is complete.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 958	$ 0	$ 0	$ 0	$ 0	$ 0	$ 958
Design	$ 1,916	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,916
Construction Management	$ 1,883	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,883
Construction	$ 11,014	$ 0	$ 0	$ 0	$ 0	$ 0	$ 11,014
Total	$ 15,771	$ 0	$ 0	$ 0	$ 0	$ 0	$ 15,771

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15735-WW Treatment Plant Improvement
Project ID/FSP ID	SEP-10 / (N/A)
Project Title:	Aeration Tanks (SEP 200) Rehabilitation
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	The components of the rehabilitation project at South East Plant (SEP) 200 (Aeration Tanks) are as follows: • Perform in-depth inspections of the confined space to assess the condition of all eight concrete basins and the building's roof • Address structural repairs identified from the interior inspection (a budget allowance is carried, but a firmer estimate to complete repairs will depend on the results of the inspection) • Assess all interior equipment, especially mixers, paddles, and shafts and repair/replace if required • Equipment repairs, as needed (consult Waste Water Enterprise (WWE) electrical shop regarding replacing/upgrading of motors) • Evaluate the RAS splitter gates
Justification:	Built in 1981, SEP 200 consists of eight separate, parallel aeration tanks. Each tank is baffled to form six identical square compartments (stages). Dimensions for each stage are 41.5 feet by 41.5 feet with an approximately 19 foot floor-to-ceiling height clearance. A condition assessment study of SEP was implemented between 2012 and 2013, which identified structural deficiencies and needs for equipment replacement. The 2013 condition assessment identified that structural rehabilitation of the concrete structure is needed. Since the report was issued, Original Equipment Manufacturer (OEM) has continued to identify concerns with the structural condition of SEP 200, and a more in-depth external visual inspection was performed to investigate these concerns. Preliminary structural evaluations were performed by the Program Management Consultant (PMC) in 2016 to assess the structural integrity of the walls and roof slab of the basin. The evaluation revealed deterioration and spalling of the roof, areas of chemical deterioration suggesting leakage of gases and mixed liquor, and deterioration of expansion joints. In the gallery, cracking and leakage has led to deterioration of the concrete and piping. The influent channel, which was previously exposed to activated sludge, exhibited severe concrete corrosion. Although this channel is no longer in service, its condition is of concern because its condition may provide an indication of the interior condition of the SEP 200 aeration basins. The structural evaluation of the basin roof slab and walls indicated that loading may exceed structural capacity for some structural elements under some loading scenarios. It should be noted that these analyses were performed using more modern analysis methods and loading conditions and should be refined after assessment of the internal condition of the basins is performed. The 2016 evaluation of SEP 200 recommended repair of the deteriorated concrete and assessment (visual inspection and materials testing) of the interior condition of the aeration basins. To meet Operational Reliability (State of Good Repair) level of service (LOS) goals, it is recommended that these rehabilitation and condition inspection works be undertaken at SEP 200.
Operating Impact:	During Construction: Short-term shutdowns, workarounds and/or taking individual tanks offline are expected to facilitate construction work. Post Construction: This project involves in-kind rehabilitation and replacement, and will not impact future operations once construction is complete.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 3,809	$ 0	$ 0	$ 0	$ 0	$ 0	$ 3,809
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 7,618	$ 0	$ 0	$ 0	$ 0	$ 0	$ 7,618
Construction Management	$ 1,722	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,722
Construction	$ 10,070	$ 0	$ 0	$ 0	$ 0	$ 0	$ 10,070
Total	$ 23,219	$ 0	$ 0	$ 0	$ 0	$ 0	$ 23,219

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15735-WW Treatment Plant Improvement
Project ID/FSP ID	SEP-11 / (N/A)
Project Title:	SEP Condition Improvement Projects - Part 2
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	Specific rehabilitation and mechanical equipment related work includes the following: Primary Influent Channel Dewatering (South East Plant (SEP) 015) Rehab • Patch and coat vault concrete • Repair structural defects • Rehabilitate or replace equipment and pipe supports Mag Meter Vault (SEP 065) Condition Assessment • Evaluate condition of assets Junction Structure (SEP 526) Sluice Gate Replacement • Evaluate condition of sluice gates #5, #13 and #33 and rehabilitate or replace if required Emergency Generator Building (SEP 990) Rehab • Improve access to read engine data • Replace or repair access door on generator to ensure it remains closed
Justification:	This list of improvements represents improvements to the existing facilities at SEP 015 (Primary Influent Channel Dewatering), SEP 065 (Mag Meter Vault), SEP 526 (Junction Structure) and SEP 990 (Emergency Generator Building) identified to address age, deterioration, and reliability of existing assets to meet the Operational Reliability level-of-service (LOS) goals (State of Good Repair).
Operating Impact:	During Construction: Short-term workarounds may be required to facilitate construction work, however this is not expected to impact plant functions. Post Construction: This project involves in-kind rehabilitation and replacement, and will not impact future operations once construction is complete.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 723	$ 0	$ 0	$ 0	$ 0	$ 0	$ 723
Design	$ 1,446	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,446
Construction Management	$ 562	$ 0	$ 0	$ 0	$ 0	$ 0	$ 562
Construction	$ 3,286	$ 0	$ 0	$ 0	$ 0	$ 0	$ 3,286
Total	$ 6,017	$ 0	$ 0	$ 0	$ 0	$ 0	$ 6,017

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15735-WW Treatment Plant Improvement
Project ID/FSP ID	SEP-12 / (N/A)
Project Title:	Treatment Plants DCS Support & Upgrades Project
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	This project addresses distributed control system (DCS) support and upgrades within the Southeast Pollution Control Plant (SEP), Oceanside Pollution Control Plant (OSP), North Point Wet Weather Facility (NPF), Channel Pump Station (CHS), Westside Pump Station (WSS), and Bruce Flynn Pump Station (BFS). The intent of this project is to cover the support period as part of Emerson's contract for all the facilities noted above. Both hardware and software upgrades integrating field instrumentation, control devices, communications hardware, processing hardware, interface hardware, and associated software packages into a unified system are required to provide real-time, system-wide monitoring and control. Coordination of monitoring parameters in various systems will also be required to maintain compatibility and consistency of the input data used for process control.
Justification:	The distributed control system is the primary control system that Waste Water Enterprise (WWE) uses in order to provide reliable combined sewer system services in San Francisco. Under this project, OSP, NPF, and WSS DCS upgrades will ensure system-wide consistency.
Operating Impact:	During Construction: Short-term shutdowns and/or diversions are not expected, however process functions may be slightly impacted during construction and workarounds may be required to facilitate construction work. Post Construction: The new system will interface to the computerized maintenance management system (CMMS), which will allow SFPUC to better protect public assets. Maintenance planning may be based on predictive data about equipment condition and actual runtime. Control system security and simulation solutions implemented may enhance protection against cyber threats.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 303	$ 0	$ 0	$ 0	$ 0	$ 0	$ 303
Construction	$ 1,345	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,345
Total	$ 1,648	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,648

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15735-WW Treatment Plant Improvement
Project ID/FSP ID	SEP-13 / (N/A)
Project Title:	Maintenance Building (SEP 940) Interim Improvement
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	Building 940 is a critical interim project for South East Plant (SEP). This is an interim project while the long-term vision and improvements under the SEP Campus Plan is being developed. Currently these crews are shoehorned into facilities not designed for the maintenance of electronic equipment. A new robust shop area is essential to be able to maintain reliable treatment facilities. The new maintenance shops included under Biosolids Digester Facilities Project (BDFP) do not address these crews. The following improvements form the basis of this project: • Space will be modified to include interim Electrical and Instrumentation and Controls (I&C) shop areas. • HVAC Improvements including evaluation (and installation as-needed) of wet grinder filtration system, condensing unit, and welding exhaust system) • H&S Improvements (emergency lights, signs, trip hazards, safe roof access)
Justification:	N/A
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,311	$ 1,311	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 2,622	$ 636	$ 1,986	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 2,576	$ 0	$ 670	$ 1,340	$ 566	$ 0	$ 0
Construction	$ 15,068	$ 0	$ 3,269	$ 7,835	$ 3,964	$ 0	$ 0
Total	$ 21,577	$ 1,947	$ 5,925	$ 9,175	$ 4,530	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15735-WW Treatment Plant Improvement
Project ID/FSP ID	SEP-14 / (N/A)
Project Title:	Retrofit SEP 940 & Upgrade 930 (Scope 1)
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	Elements included in this project will be further defined in subsequent planning efforts, but this project has been scoped to include the following: • Retrofit of South East Plant (SEP) 940 • Built in 1981, SEP 940 is a maintenance building that allows for equipment storage and maintenance. It includes spare parts, utility water and a crane. Also included are office spaces, freight elevator, and restrooms. This project includes seismic retrofit, as well as structural rehab to extend its useful life. Equipment such as HVAC, MCC, compressor, roll-up doors, cranes, and hot water recirculation pumps will also be replaced under this project. • Upgrade SEP 930 • Also built in 1981, SEP 930 currently serves as the primary center for plant administration, laboratory services, and overall supervisory control for the plant. Once staff is relocated to 1800 Oakdale and the new Northside Facility (where SEP 850 currently is), the laboratory will be upgraded and the building will be converted to include shared spaces such as training centers and meeting rooms. This project also includes seismic retrofit of the building, as well as structural rehabilitation to extend its useful life. Equipment such as HVAC, water heater, air compressors, vacuum pumps, elevators, UPS, MCC, and sump pumps will also be replaced as needed under this project.
Justification:	Changes to BDFP scope may impact SEP/NPF Campus Vision. Campus Vision will continue to be developed in CWWSIPPRPL91. Interim H&S improvements at Buildings 930 & 940 will be completed in SEP-4 and SEP-13.
Operating Impact:	Delay may prolong meeting seismic reliability (life safety) goals and the provision of updated People Facilities. 10-Yr CIP does not include funding for improvements from the Campus Vision.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	CWWSIPTPNP01 / 10026821
Project Title:	NPF Outfall System Rehabilitation
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Kirit Bavishi
Facility Category:	Treatment Facilities
Type:	Capital
Description:	North Point Facility (NPF), North Shore Pump Station and associated outfalls improvements include: North Shore Wet Weather Pump Station Improvement and Disinfection: Includes installation of pumps and pumping system to provide redundancy for the 150 MGD wet weather station, as well as fully redundant influent channels with two redundant coarse bar screens. A 66"" forcemain connection will also be installed. NPF Outfall System Rehabilitation: Includes rehabilitation and sediment removal of four outfalls and their structural support systems to address issues with the liner, inadequate air relief, and issues with manhole covers. NPF Clarifier Improvements: Includes refurbishment of the existing clarifiers or sedimentation basins, including seismic retrofit and rehabilitation of sedimentation basins, improvements to hydraulic gates and actuators, and improvements to the primary clarification process to allow more efficient operation. Distributed Control System (DCS)/Telemetry System Upgrade: Includes upgrades to the communications, sensors, and control devices at NPF, as well as in the Treatment/Storage(T/S) structures, pump stations, and outfalls to provide real-time system-wide monitoring and control. Maintenance Facilities Relocation: Involves relocating all the maintenance functions from existing buildings 800, 870, 871, and 925 to a new maintenance facility. Other North Point Facility Reliability and Redundancy Upgrades: Includes the W2/W3 & Transport Odor Control Project to bring W2 or W3 from South East Plant (SEP) to NPF, and the Clarifier Tipping Buckets Project to install tipping buckets at the head of each clarifier for easier flushing. Security upgrades will also be completed. Redundant Wet Weather Fine Screens: Provides redundancy for wet weather fine screens by installing an additional 75 MGD fine screen. Jackson and Marina T/S Odor Control: Includes pulling air from the Jackson and Marina T/S structures and treating it at the new odor control facility. Dry Weather Grit Removal: Involves construction of a new 34 MGD gr"
Justification:	Infrastructure improvements and modifications will ensure that the North Shore Wet Weather Pump Station and North Point Facility Outfall will remain operationally compliant with State and Federal regulatory requirements.
Operating Impact:	The North Point Facility and associated facilities must be monitored and maintained to ensure reliable and safe operation during all wet weather conditions. The failure of any major component of the treatment processes could be catastrophic, compromising the City's ability to handle and treat wastewater, which could result in severe public health, safety, regulatory, and environmental impacts.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	CWWSIPTPNP02 / 10026822
Project Title:	North Shore Wet Weather Pump St Impr and Disinfect
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Kirit Bavishi
Facility Category:	Treatment Facilities
Type:	Capital
Description:	North Point Facility, North Shore Pump Station and associated outfalls improvements include: North Shore Wet Weather Pump Station Improvement and Disinfection: Includes installation of pumps and pumping system to provide redundancy for the 150 MGD wet weather station, as well as fully redundant influent channels with two redundant coarse bar screens. A 66"" forcemain connection will also be installed. NPF Outfall System Rehabilitation: Includes rehabilitation and sediment removal of four outfalls and their structural support systems to address issues with the liner, inadequate air relief, and issues with manhole covers. NPF Clarifier Improvements: Includes refurbishment of the existing clarifiers or sedimentation basins, including seismic retrofit and rehabilitation of sedimentation basins, improvements to hydraulic gates and actuators, and improvements to the primary clarification process to allow more efficient operation. DCS/Telemetry System Upgrade: Includes upgrades to the communications, sensors, and control devices at NPF, as well as in the T/S structures, pump stations, and outfalls to provide real-time system-wide monitoring and control. Maintenance Facilities Relocation: Involves relocating all the maintenance functions from existing buildings 800, 870, 871, and 925 to a new maintenance facility. Other North Point Facility Reliability and Redundancy Upgrades: Includes the W2/W3 & Transport Odor Control Project to bring W2 or W3 from SEP to NPF, and the Clarifier Tipping Buckets Project to install tipping buckets at the head of each clarifier for easier flushing. Security upgrades will also be completed. Redundant Wet Weather Fine Screens: Provides redundancy for wet weather fine screens by installing an additional 75 MGD fine screen. Jackson and Marina T/S Odor Control: Includes pulling air from the Jackson and Marina T/S structures and treating it at the new odor control facility. Dry Weather Grit Removal: Involves construction of a new 34 MGD gr"
Justification:	Infrastructure improvements and modifications will ensure that the North Shore Wet Weather Pump Station and North Point Facility Outfall will remain operationally compliant with State and Federal regulatory requirements.
Operating Impact:	The North Point Facility and associated facilities must be monitored and maintained to ensure reliable and safe operation during all wet weather conditions. The failure of any major component of the treatment processes could be catastrophic, compromising the City's ability to handle and treat wastewater, which could result in severe public health, safety, regulatory, and environmental impacts.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	NPF-1 / (N/A)
Project Title:	Sedimentation (NPF 040/041) Tanks Condition Improv
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	The project will perform condition improvements and upgrades to the sedimentation tanks, including the following components: NPF 040 & NPF 041 Sedimentation Buildings No. 1 & 2 Improvements: • Concrete structural rehabilitation (patch and coat basin concrete and repair cracks) • Replace doors that are in poor condition • Evaluate HVAC system and ventilation and install a new heating system for locker rooms • Replace building hot water system • Building structural repairs, including replacement of roof (consider the presence of solar panels) • Address NFPA 820 area classification issues in the locker room, control room & basement • Rehabilitate locker rooms. Evaluate separating personnel areas from process areas • Repair/replace deteriorated piping, equipment supports and other corroded metallic components • Upgrade non-compliant stairs and hand/guardrails.Guards noncompliant at sedimentation tanks. • Provide no-flow cutoff for sludge pumps to protect pumps from running dry • Replace building sump pumps and two (2) air compressors in NPF 041 • Upgrade NPF 041 server room to prevent foul air and water from entering • Remove all abandoned-in-place equipment NPF 043 Grease & Scum Removal Building Improvements: • Concrete structural rehabilitation (repair cracks and spalling, patch and coat areas exposed to wet conditions) • Building structural repairs, including roof replacement, general piping and corroded metal items • Replace all roll-up doors NPF 060 Sludge Control Building (including NPF 061, NPF 062, NPF 063, NPF 064) Improvements: • Concrete structural rehabilitation • Building structural repairs, including roof and door replacement, repair general piping, handrails, metal items corrosion • HVAC/ventilation upgrade • Replace doors, a dewatering pump, and sump pumps • Replace elevator (evaluate industrial-type elevator) and MCC • Remove abandoned-in-place equipment, particularly electrical and modernize control room and "lab" room
Justification:	The primary sedimentation tanks in Sedimentation Building No. 1 (NPF 040) and Sedimentation Building No. 2 (NPF 041) were constructed in the 1950s. A condition assessment of the buildings and tanks/channels was implemented as part of the North Point Facility Condition Assessment study between 2012 and 2013. The issues described above need to be addressed to meet Operational Reliability LOS goals (State of Good Repair) for NPF 040 and 041, as well as facilities that are adjacent to these two sedimentation buildings (NPF 043 Grease and Scum Removal Building and NPF 060 Sludge Control Building).
Operating Impact:	TBD

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 7,364	$ 0	$ 3,682	$ 3,682	$ 0	$ 0	$ 0
Construction Management	$ 4,742	$ 0	$ 0	$ 0	$ 0	$ 1,560	$ 3,182
Construction	$ 40,142	$ 0	$ 0	$ 0	$ 6,858	$ 9,122	$ 24,162
Total	$ 52,248	$ 0	$ 3,682	$ 3,682	$ 6,858	$ 10,682	$ 27,344

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	NPF-2 / (N/A)
Project Title:	Admin Bldg (NPF 930) Evaluation & Interim H&S Impr
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	This project involves an evaluation of NPF 930 to provide safe working conditions for employees. The interim rehabilitation components will be identified during the planning stage of the project, but as a basis, the following items are assumed: • Interim structural repairs (repair deteriorated concrete) • Replace roll-up doors and make make entrance ADA accessible • Replace UPS for the emergency lighting system • Replace elevator • Rehabilitate HVAC system (including heating, vent fans, and ducting) • Electrical improvements needed for Southside buildings to serve lower voltage applications • Assess need for crane, replace if appropriate (used to access dewatering sump pumps) • Evaluate area and use of dewatering sump pumps; replace pumps, piping, valves, EI&C, if appropriate • Inspect/replace guardrails/handrails • Install fire sprinklers/alarms and exit lighting, replace and install new lighting
Justification:	NPF was constructed in the 1950s and the function of the facility has changed over time. The administration building on the Southside (NPF 930, including all basement levels) is part of the original plant construction and is deteriorating. All process equipment in this facility has been abandoned-in-place. The facility is currently functioning as an administration building and Bureau of Environmental and Regulatory Management (BERM) laboratory. The following issues need to be addressed to meet Health, Safety & Security LOS goals for the administration building: • The building leaks and the sumps require dewatering 1-2 times per week. The dewatering pumps are in the basement and must be turned on manually which involves walking through abandoned and deteriorating building facilities. • The building basement has insufficient lighting. Staff use hand-held flashlights. Abandoned-in-place equipment creates worker safety hazards. • Some handrails and guardrails are not fully compliant or are deteriorated and not providing sufficient safety protection. • The elevator is unreliable and sometimes stops working. • The HVAC system is not functioning, the ductwork is deteriorated, and the building has no heating. • The building has no fire sprinklers or exit lights. An interim study will assess the short-term needs for the facility and include an alternatives evaluation to provide interim health and safety protection, including cordoning off abandoned areas or relocating the laboratory and employees. The evaluation will also consider the " NPF Future Facilities (Design, Demolition & Construction)" project, which is intended to provide a holistic view of all NPF facilities.
Operating Impact:	During Construction: Construction work may have an impact on day-to-day operations of staff and personnel who are stationed at the plant. Post-Construction: The project will have no impact on operations as the improvements are isolated to the administration building only, which has no process functions.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 482	$ 482	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 964	$ 198	$ 766	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 947	$ 0	$ 426	$ 521	$ 0	$ 0	$ 0
Construction	$ 5,541	$ 0	$ 2,267	$ 3,274	$ 0	$ 0	$ 0
Total	$ 7,934	$ 680	$ 3,459	$ 3,795	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	NPF-3 / (N/A)
Project Title:	Dechlorination Process (NPF 500) Evaluation & Inte
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	The interim rehabilitation components of the project at NPF 500 are as follows: • Repair deteriorated concrete surfaces • Leakage into the lower level pump room needs to be addressed • Repair or replacement of Palmer-Bowlus flume (effective flow monitoring is needed and currently not available) • Assess the dewatering system pumps and piping; dewatering pumps and suction lines to be inspected and repaired/replaced • Repair general piping, metal items corrosion • Upgrade/replace the HVAC systems • Evaluate if new sampling system is needed. If required, replace sample pumps and ISCO samplers, or provide a sampling system • Assess functional need for replacement of chlorine residual analyzers (currently not in use) • Assess disinfection (hypo contact) and dechlorination (bisulfite contact) functional needs • Evaluate condition of two seal water pumps In addition, a process evaluation of the facility should be undertaken, which will involve evaluation of the long-term plan for the facility. This will determine whether the Roundhouse should be upgraded, or eliminated and replaced by another type of disinfection & dichlorination system.
Justification:	The Roundhouse (NPF 500) serves as temporary storage for chlorinated clarified wastewater and commercial-grade sodium bisulfite (NaHSO3) solution is metered into the roundhouse outlet. At workshops in 2017, OEM staff raised concerns over the structural integrity of the Roundhouse, and noted that a strategy needs to be developed to determine if the Roundhouse should be upgraded or eliminated and replaced by another type of dechlorination system. This project aims to develop the long-term dechlorination strategy, while performing interim structural repairs at the Roundhouse. Through the condition inspection in 2013, the interim structural repairs were recommended to meet the Operational Reliability Goals (State of Good Repair). The long-term strategy for the Roundhouse will be implemented at a later stage.
Operating Impact:	During Construction: Plant shutdowns and/or diversions are not likely, as the project will be undertaken during the dry season when the plant is offline. Post Construction: Depending on the outcomes of the process evaluation, the project may have an impact on long-term future operations if a new dechlorination process is selected.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 235	$ 205	$ 30	$ 0	$ 0	$ 0	$ 0
Design	$ 470	$ 0	$ 243	$ 227	$ 0	$ 0	$ 0
Construction Management	$ 462	$ 0	$ 0	$ 102	$ 240	$ 120	$ 0
Construction	$ 2,703	$ 0	$ 0	$ 528	$ 1,405	$ 770	$ 0
Total	$ 3,870	$ 205	$ 273	$ 857	$ 1,645	$ 890	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	NPF-5 / (N/A)
Project Title:	NPF & NSS Security Enhancements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	The components of the project are as follows: • Upgrade continental card reader access control • Replace and furnish gate and gate operator including structural support, electrical power and controls • Add protective cages around outdoor equipment, & repair/replace perimeter fence • Furnish, install and configure servers • Configure security fiber optic connectivity & add video camera units • Add signage, lighting and prune landscaping • Provide interior presence sensing connected to intrusion detection panel
Justification:	A security evaluation was performed in 2017 to identify the security risks towards WWE facilities, assets, staff, and operations from outside malevolent acts. The evaluation identified improvements at the North Point Facility & North Shore Pump Station. As part of the Health, Safety & Security LOS goal, security measures at these sites shall be enhanced to protect staff, assets, and facilities.
Operating Impact:	During Construction: None Post Construction: None

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 535	$ 0	$ 535	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 1,070	$ 0	$ 267	$ 802	$ 0	$ 0	$ 0
Construction Management	$ 1,051	$ 0	$ 0	$ 0	$ 526	$ 526	$ 0
Construction	$ 6,149	$ 0	$ 0	$ 0	$ 3,074	$ 3,074	$ 0
Total	$ 8,805	$ 0	$ 802	$ 802	$ 3,600	$ 3,600	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	NPF-6 / (N/A)
Project Title:	NPF DCS Upgrades (Construction)
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	This project will replace the aging control system infrastructure at NPF as the existing DCS equipment are obsolete. The needed upgrades include converting all existing DCS control systems to Emerson-based systems as specified by the Facility-Wide DCS Control Upgrades Project, and upgrades to the aging control panels, annunciator panels, sensors, disconnect switches, bare grounding wiring and control devices. The DCS supplier will provide the following design services: • Network configuration and architecture design • Equipment location and layout design • DCS panel layouts and wiring diagrams • Loop drawing development • Control narrative development support • Human Machine Interface (HMI) screen standards development • DCS application software development The DCS supplier will provide the following equipment: • Process control module panels • Remote I/O (RIO) panels • Server equipment and racks • Main fiber distribution rack panels • Marshalling panels or "B" panels • Fiber optic patch panels and terminal panel • Network switches and routers
Justification:	In order to provide real-time, system-wide monitoring and control, upgrades and improvements must be made to the Distributed Control System (DCS) system at the North Point Facility (NPF).
Operating Impact:	During Construction: It is assumed that the project will be undertaken during the dry season when the facility is offline, and therefore no impacts to the control system are expected. Post Construction: None

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 2,034	$ 0	$ 366	$ 366	$ 386	$ 366	$ 549
Construction	$ 9,039	$ 0	$ 1,627	$ 1,627	$ 1,717	$ 1,627	$ 2,440
Total	$ 11,073	$ 0	$ 1,993	$ 1,993	$ 2,103	$ 1,993	$ 2,989

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	NPF-7 / (N/A)
Project Title:	NPF Future Facilities (Design, Demolition & Constr
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	Specific recommendations and strategies presented in the preceding studies will be implemented through this project. The current budget is based on an allowance. This project will address the following facilities: • Admin Building • Materials Testing Lab • Maintenance Facilities • Roundhouse/Dechlorination • Tunnels connecting the 'southside' of the plant with the 'northside' This project includes design, demolition and construction.
Justification:	NPF was originally constructed in the 1950s, but the function of the facility has changed once it was converted to operate only during wet-weather. As a result, there are a number of abandoned and/or repurposed facilities at NPF that have happened organically overtime. With age, many of these facilities have deteriorated and now pose health and safety risks. This project includes a comprehensive assessment and programming of staff facilities, including evaluation of the long-term needs for the abandoned and repurposed facilities, with the goal of identifying and prioritizing "people program" upgrades and projects that are required to create a safe and healthy work environment for WWE staff.
Operating Impact:	During Construction: Plant shutdowns and/or diversions are not likely, as the project impacts mainly staff facilities. Post Construction: Depending on the outcomes of the dechlorination process evaluation, the project may have an impact on long-term future operations if a new process is selected.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	NPF-8 / (N/A)
Project Title:	North Shore PS (WW) Improvements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	North Shore Pump Station (NSS) is located between Bay Street and North Point Street, and extends inside the property lines of the North Point Wet Weather Facility (NPF). NSS is designed to handle the raw sewage and storm runoff accumulated from the Jackson Street and Marina T/S and Beach Street Sewers. In dry weather, flows are conveyed to Channel Pump Station. In wet weather, flows are conveyed to NPF. A project in SSIP Phase 1 (CWWSIPTPNP02) is underway to provide operational reliability and shared redundancy during an unplanned outage. While the Phase 1 project addresses facility-wide improvements, the focus of the project is for dry weather operation. This project aims to address the Operational Reliability LOS goal (state of good repair) that may not be covered in the Phase 1 project.
Justification:	A condition assessment of the NSS should be performed at the start of this project, once the Phase 1 project is completed. The following improvements are carried as allowances, and should be confirmed during the project's planning phase: • Replace the existing wet weather bar screen, screening washer, and slide gate • Reconfigure the emergency generator and dry weather pump MCC to permit one of the dry weather pumps to be run on the generator • Enhance effluent flow monitoring • Replace air compressor for bubbler system • Replace air compressors (2) for service air system • Replace No.2 Water piping • Replace blowers for channel aeration system and install piping for testing and startup of new blowers. • Evaluate electrical equipment, hydraulic system components, washdown pumps, flushing pumps and sump pumps, which may reach the end of their useful life within the project time frame
Operating Impact:	During Construction: Facility shutdowns and/or diversions are not likely, as the project predominantly involves the wet weather facilities, and construction will be undertaken during the dry season when the wet weather facilities are not in use. Post Construction: None

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,111	$ 0	$ 0	$ 0	$ 0	$ 1,111	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 2,222	$ 0	$ 0	$ 0	$ 0	$ 178	$ 2,044
Construction Management	$ 2,184	$ 0	$ 0	$ 0	$ 0	$ 0	$ 2,184
Construction	$ 12,770	$ 0	$ 0	$ 0	$ 0	$ 0	$ 12,770
Total	$ 18,287	$ 0	$ 0	$ 0	$ 0	$ 1,289	$ 16,998

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	NPF-9 / (N/A)
Project Title:	North Point Outfall Diffuser Rehab
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	The condition assessment and repair work of the North Point Outfall should include: • External inspection of the outfall's cathodic protection system and the outfall pipes located beneath the piers, including any sediment removal that may be required to make a complete external inspection and diffuser pipe removal and replacement possible. • Removal of sediments from within the pipeline in preparation of the removal of the diffuser pipes and pipe supports. • Fabrication and installation of new diffuser pipes and pipe supports. Careful coordination with the San Francisco Port Authority is required since the diffuser pipes and pipe supports are connected to the Port's two piers.
Justification:	The North Point Outfall originates downstream of the NPF Dechlorination Building (NPF 500). Effluent discharges over a weir, then through a closed channel conduit before transitioning to a 96-inch diameter reinforced concrete sewer, sending primary effluent flow eastward under Bay Street. The 96-inch sewer then splits into two 72-inch diameter reinforced concrete sewers under the intersection of Bay Street and the Embarcadero. One of the 72-inch diameter reinforced concrete sewers conveys effluent toward Pier 33; the other one conveys effluent toward Pier 35. Prior to reaching the bulkhead wall (seawall), each 72-inch diameter reinforced concrete sewer subsequently divides into two 48-inch diameter reinforced concrete sewers under the Embarcadero. The four 48-inch diameter reinforced concrete sewers transition to 48-inch cast iron pipes near the seawall under Piers 33 and 35. The cast iron pipes, which hang below the pier decks, extend approximately 900 to 1150 feet into the San Francisco Bay toward the end of its respective pier. In the 1970s, four diffuser pipes, approximately 85 feet long each, were added to meet regulatory discharge requirements. Each diffuser pipe includes eighteen, 10-inch diameter ports, located 4.5 feet apart with staggered centers to promote dilution. The diffuser pipes are aligned under both piers and supported by steel beams fastened to pier structural piles. The North Point Outfall System Rehabilitation Project which was completed in 2018 upgraded the aged and deteriorated outfall system in order to restore its hydraulic capacity, increase its reliability, and maintain its functionality for 30 years (to 2047). The Project as originally scoped included the complete replacement of the four existing diffuser pipes and pipe supports with new 48-inch diffuser pipes and pipe supports. However, the project was unable to replace the existing diffuser pipes and their supports. The sediment overlaying and surrounding the diffusers was removed, the sediment within the diffusers was removed through the diffuser ports, and the flanges at the end of the diffusers were removed to allow a diver to enter the diffusers and remove any remaining sediment. Since the North Point Outfall System Rehabilitation Project was unable to replace the four existing diffuser pipes and associated pipe supports which are over 40 years old, this project includes a limited condition assessment of the outfall and replacement of the four diffuser pipes and pipe supports in order to ensure the outfall's functionality through 2047.
Operating Impact:	During Construction: Plant shutdowns and/or diversions are not likely, as the project will be undertaken during the dry season when the plant is offline. Post Construction: None

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,587	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,587
Design	$ 3,174	$ 0	$ 0	$ 0	$ 0	$ 0	$ 3,174
Construction Management	$ 3,120	$ 0	$ 0	$ 0	$ 0	$ 0	$ 3,120
Construction	$ 18,243	$ 0	$ 0	$ 0	$ 0	$ 0	$ 18,243
Total	$ 26,124	$ 0	$ 0	$ 0	$ 0	$ 0	$ 26,124

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	NPF-10 / (N/A)
Project Title:	NPF Condition Improvement Projects
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	Water Pump Station (NPF 925) Improvements: The Water Pump Station (NPF 925) contains a storage tank and water pumps for the No. 2 (W2) Water system at NPF. Major plant water uses of W2 water at the plant include primary clarifier washdown after a wet weather event, screen rinses, and seal flush. To maintain system reliability, the equipment will need to be replaced or rehabilitated. The improvement needs include: • Replace all valves and pumps • Replace all equipment/tanks • Provide redundant backflow preventer for each system, to aid annual certification • Replace roll-up doors • Replace starters, wiring, and water tanks Receiving Structure (NPF 019) Rehabilitation The receiving structure at NPF is the headworks facility that receives influent wastewater and screens the influent to protect downstream equipment. The fine screening facility includes two bar screens. Material removed by the fine screens drops onto an inclined conveyor which transports the collected screenings to the adjacent extension structure for compaction and deposit into a dumpster. The facility includes HVAC equipment and ducting for ventilation. The foul air exhaust from the building, including the dumpster enclosure, is captured and treated using and odor control unit (OCU). To maintain system reliability, the equipment will need to be replaced or rehabilitated. Concrete exposed to wet conditions should be patched and coated to extend life. The improvement needs include: • Patch & coat concrete and rehab deficiencies • Replace HVAC equipment • Rehabilitate bar screens • Rehabilitate compact dumpsters • Replace air diffuser blowers • Rehabilitate screening conveyors
Justification:	This list of improvements represents improvements to the existing facilities at the NPF to address age, deterioration, and reliability of existing assets to meet the Operational Reliability LOS goals (State of Good Repair).
Operating Impact:	During Construction: Plant shutdowns and/or diversions are not likely, as the project will be undertaken during the dry season when the plant is offline. Post Construction: This project involves in-kind rehabilitation and replacement, and does not impact operations once the project is completed.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 576	$ 0	$ 0	$ 0	$ 0	$ 0	$ 576
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 1,152	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,152
Construction Management	$ 1,132	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,132
Construction	$ 6,622	$ 0	$ 0	$ 0	$ 0	$ 0	$ 6,622
Total	$ 9,482	$ 0	$ 0	$ 0	$ 0	$ 0	$ 9,482

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	NPF-11 / (N/A)
Project Title:	Sedimentation Tanks (NPF 040/041) Flushing System
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	This project involves AAR, CER, design and construction of a flushing system for the sedimentation tanks. The AAR phase of this project should confirm the most appropriate flushing solution. As a cost basis, this project assumes tipping buckets will be installed at the upstream end of each sedimentation tank at NPF. A fabricated metal bucket spanning the sedimentation tank section and mounted on an eccentric axis will tip when filled with water and quickly dump the contents to flush the tank floor. It is assumed that there will be twelve 30' x 10' self-actuated tipping buckets in NPF 040 and another twelve units in NPF 041. Structural supports and tank slope modifications may be required as well.
Justification:	At present, the sedimentation tanks are manually flushed with hoses after a wet weather event. In order to make the flushing process more efficient and less labor-intensive, this project includes design and construction of a flushing system for the sedimentation tanks at NPF (040 & 041).
Operating Impact:	During Construction: Plant shutdowns and/or diversions are not likely, as the project will be undertaken during the dry season when the facility is offline. Post Construction: Depending on the outcomes of the AAR, this project may impact future operations if a new flushing system is selected.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 511	$ 0	$ 0	$ 0	$ 0	$ 0	$ 511
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 1,023	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,023
Construction Management	$ 1,005	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,005
Construction	$ 5,878	$ 0	$ 0	$ 0	$ 0	$ 0	$ 5,878
Total	$ 8,417	$ 0	$ 0	$ 0	$ 0	$ 0	$ 8,417

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	CWWSIPTPOP02 / 10029736
Project Title:	Westside Pump Station Reliability Improvements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Brian Carlomagno
Facility Category:	Treatment Facilities
Type:	Capital
Description:	The project consists of screening improvements including replacement of existing bar screens, and addition of screening washing and compaction systems. The project also includes replacing existing wet-weather pumps to provide pump redundancy. The construction would take place within the existing structure and includes four new submersible pumps and 200 linear feet (LF) of discharge force main. Other improvements include increasing the power feeder capacity at WSS to account for additional wet weather pumping capacity and provide a reliable redundant power source, and replacing existing odor control units at the WSS with dilution ventilation fans and ducting.
Justification:	The efficacy evaluation of WSS identified several issues associated with the pump station including inadequate cooling of the variable frequency drives (VFDs), dry and wet weather screen operational issues including excessive vibration, inefficient and labor intensive handling, lack of screen redundancy, and accumulation and deposition of grit at the pump station and transport boxes. There is also no backup power service. These issues will be addressed to ensure that the applicable level of service (LOS) goals are met. Details include: Replacement of existing pretreatment barscreens, addition of screening washing and compaction systems; New HVAC system (cooling / ventilation improvements) to manage rejected heat from electrical equipment; Replacement of main wet-weather pumps with four new submersible pumps, associated force main, increased power feeder capacity, dilution ventilation improvements supply/exhaust fans, and ducting.
Operating Impact:	Construction Phase Impacts: During construction, the project improvements will occur sequentially and phased in such a way that pumping and preliminary treatment functions remain available at the pump station facility at all times. Seasonal outages and special coordinated system outages will allow Contractor access to inactive areas of the facility to perform selective project improvements without interruption. As a result of Contractor construction activities, it is anticipated that increased vehicle and pedestrian traffic flow in the vicinity of and on site are anticipated. The Contractor will be required to stage materials and park off-site to facilitate access to process areas that are to remain in operation during construction. City staff day-to-day operations impacts will trigger modifications to existing site security protocols pertaining to: perimeter site controls, staff badging/identification, procedures to access to the site. Service Life: The Westside Pump Station must be monitored and maintained to ensure reliable and safe operation during all weather conditions. The failure of any major components of the pump station facility could be catastrophic, compromising the City's ability to handle and convey wastewater, which could result in severe public health, safety, regulatory, and environmental impacts. As a result of the reliability improvement project, the site will achieve increased reliability and redundancy for critical wastewater process and conveyance functions including: on-site electrical redundancy, replacement of bar screens and providing a cross-connection channel for redundancy, replacement ventilation equipment and improvements, and redundant wet-weather discharge force main.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	CWWSIPTPOP04 / 10029738
Project Title:	Westside Pump Station Redundant Force Main Impr
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Brian Carlomagno
Facility Category:	Treatment Facilities
Type:	Capital
Description:	Flow from the Westside Pump Station (WSS) is transported through an existing force main with no reliable redundancy. The purpose of this project is to ensure operational flexibility and reliability of critical force main infrastructure functions. This is accomplished by providing a redundant force main pipeline and supporting valving sized to maximum treatment plant capacity. This project includes planning, design, environmental review and construction of a redundant new force main from the WSS to the OSP. Major components of this project include installation of 6,400 linear feet of new force main on Sloat Blvd and Highway 35, as well as street pavement demolition and restoration, traffic control, and relocation of impacted utilities. However during the planning phase of this project, it was determined that this project may be deferred with accepted risks to SSIP Phase 2.
Justification:	TBD
Operating Impact:	TBD

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	CWWSIPTPOP01 / 10029735
Project Title:	OSP Fine Screen and Grit Removal Enhancements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Brian Carlomagno
Facility Category:	Treatment Facilities
Type:	Capital
Description:	The purpose of this project is to maximize solids/grit removal efficiencies at the plant headworks thereby reducing grit throughout the wastewater treatment facility processes; minimize potential grit impacts to biosolids processes and reduce O&M costs associated with grit wear on treatment process equipment. The project includes planning, design and environmental review of the following major components: controls improvements of the three existing □-inch fine screens; evaluation/upgrade of the three existing Pista-type grit removal units with higher efficiency new fine grit removal units such as the hydraulically-induced vortex-type (Headcell□) or other high-efficiency technologies that remove fine grit, and structural modifications to the influent channels/headworks structure to suite new grit removal units. The construction phase of this project is proposed in SSIP Phase 2. However, the SSIP re-prioritization in 2016 has resulted in the deferral of remaining efforts in planning, design and environmental review to Phase 2.
Justification:	TBD
Operating Impact:	TBD

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	CWWSIPTPOP03 / 10029737
Project Title:	OSP Digester Gas Utilization Upgrade
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Brian Carlomagno
Facility Category:	Treatment Facilities
Type:	Capital
Description:	In this project, the gas storage vessel and digester gas conditioning equipment will be replaced. The existing cogeneration Internal-Combustion units (IC engines) and controls will also be replaced. Other improvements include providing an ancillary exhaust gas conditioning and heat exchanger systems to comply with regulatory air board requirements. Improved reliability and redundancy of hot water and electrical energy production systems, as well as, ventilation upgrades will maximize process efficiency within the energy recovery building. The electrical gear at Sub-Station No. 5 will be replaced to provide parallel electrical gear and power system reliability.
Justification:	The condition assessment of the existing digester gas storage and conditioning system revealed significant corrosion of the equipment. The gas conditioning system is over 20 years old and has reached the end of its useful life. The existing gas holder at Ocean Side Point (OSP) is showing significant signs of corrosion. The system operates inefficiently and impacts the beneficial use of biogas. As a result of poor gas conditioning and on-going mechanical issues, the two internal combustion (IC) engines run infrequently. The engines have also reached the end of their useful life and require replacement. It is therefore necessary to replace the equipment to meet the level of service (LOS) of 100% beneficial use of biogas. Gas conditioning system: The gas cleaning system includes a 350 cfm system for moisture, H2S, and siloxanes removal. The project includes replacement of the gas holder storage tank assembly. Cogeneration IC Engines: The existing IC engines will be replaced by three new 630 kW IC engines to accommodate the amount of digester gas anticipated during peak gas production conditions.
Operating Impact:	Construction Phase Impacts: During project construction, the project improvements are to occur sequentially and phased in such a way that biogas will continue to be used all times during the construction period either that being thru on-site flares, digester gas fired boilers and cogeneration engines. Special coordinated system outages will allow Contractor access to inactive areas of the facility to perform selective project improvements without interruption of process operations. As a result of Contractor construction activities, it is anticipated that increased vehicle and pedestrian traffic flow in the vicinity of and on site are anticipated. The Contractor will be required to stage materials with limited parking in designated areas on-site only and off set staff parking off-site to facilitate access to process areas that are to remain in operation during construction. City staff day-to-day operations impacts will trigger modifications to existing site security protocols pertaining to: perimeter site controls, staff badging/identification, procedures to access to the site. The health and safety considerations of all staff (including City and Contractor) on site shall include site vehicle restrictions, emergency response plans, safety and security training, and site safety coordination. These impacts will require modified access to facilitate essential wastewater process treatment and regulatory compliance functions during construction. Service Life: The Oceanside Plan digester gas complex and energy recover functions must be monitored and maintained to ensure reliable and safe operation during all weather conditions. The failure of any major components of the Oceanside Water Pollution Control Plant could be catastrophic, compromising the City's ability to provide wastewater treatment, which could result in severe public health, safety, regulatory, and environmental impacts. As a result of the digester gas utilization project, the site will achieve level of service goal of full utilization of biogas produced on site. increased reliability and redundancy for critical digester gas utilization processes including: improved biogas conditioning systems, replacement of biogas storage / holder tank, replacement cogeneration engines and ancillary systems, relocation of gas fired boilers and ancillary systems, on-site stand-by power and ancillary systems.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	CWWSIPTPOP05 / 10029739
Project Title:	OSP Condition Assessment Repairs
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Brian Carlomagno
Facility Category:	Treatment Facilities
Type:	Capital
Description:	The Ocean Side Plant (OSP) Condition Assessment Repairs project will include major improvements to the plant, aimed to address the reliability of existing assets that have deteriorated over the years. This project includes planning, design and environmental review of improvements to address the age, deterioration and reliability of existing assets at OSP that are not specifically included in the other Sewer System Improvement Program (SSIP) projects. This project includes rehabilitation of building structures, rehabilitation or replacement of mechanical and electrical equipment, and seismic retrofit of process tanks and buildings. Improvements focus on maintaining operational reliability and extending the service life of buildings that are required to remain in operation for 30 years or more.
Justification:	The majority of the facilities at OSP will remain in service for at least 30 years and will require improvements to maintain operational reliability, improve seismic performance and extend useful life. A number of SSIP projects will implement process enhancements and rehabilitation of specific process areas. This project includes improvements to address age, deterioration and reliability of existing assets at the plant that are not specifically included in the other SSIP projects. As part of the condition assessment effort, seismic, condition and operational issues associated with the existing facilities will require remedial attention while other program projects are completed. This project represents improvements to the existing facilities at OSP identified as part of the condition assessment effort. This project includes rehabilitation of building structures, rehabilitation or replacement of mechanical and electrical equipment, and seismic retrofit. Improvements focus on maintaining operational reliability and extending the service life of buildings that are required to remain in operation for 30+ years. A preliminary evaluation identified improvements to be addressed in various phases of the project, including those at the following buildings: 011 - Pretreatment/Solids, 042 - Primary Clarifiers, 200 - Aeration Basins, 510 - Chemical Storage, 530 - Chlorine Contact Channels, 620 - Digester Operations, 800 - Cogeneration, 821 - Gas Burner, 930 - Administration and Lab The construction/implementation/improvements are proposed to continue in SSIP Phase 2 and Phase 3.
Operating Impact:	The condition assessment repairs project is a long-term, phased project, that provides facility seismic retrofit and equipment repair/replacement improvements and modifications will ensure that the OSP facilities remain operationally compliant with State and Federal regulatory requirements. The majority of the facilities at OSP will remain in service for at least 30 years and will require improvements to maintain operational reliability, improve seismic performance and extend useful life. A number of SSIP projects will implement process enhancements and rehabilitation of specific process areas. The operating impact of the project will provide improvements to address age, deterioration and reliability of existing assets at the plant that are not specifically included in the other SSIP projects. The final design and continued construction implementation are proposed in subsequent phases of the SSIP program.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	CWWSIPTPOP06 / 10029740
Project Title:	OSP Odor Control Optimization
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Brian Carlomagno
Facility Category:	Treatment Facilities
Type:	Capital
Description:	Although the odor control facilities at OSP have been effective at collecting and treating odors generated in various locations throughout the facility, the efficacy evaluation of the process identified inherent inefficiencies that can result in opportunities for significant O&M cost reduction. Currently, the air from the entire building is exchanged and scrubbed for odor. In order to significantly reduce the volume of air treated for odor, the primary clarifiers may be covered and only air from the primary clarifier basins would be scrubbed. The main components of this project includes planning, design, environmental review and construction/upgrades of new covers for the five primary clarifiers and duct work to connect the head space in each clarifier basin to the odor control system. Current plans involve the completion of an odor control study as part of the Alternative Analysis Report (AAR) planning phase. Depending on the results of the alternative analysis, the project might forego covering the primary clarifiers and/or implement other optimization measures in its place.
Justification:	The odor optimization project will provide improvements and modifications will ensure that the OSP facilities remain operationally compliant with State and Federal regulatory requirements. The improvements proposed are focused on optimizing energy efficiency, while maintaining equipment reliability by replacing/modifying key odor control process equipment and improving treatment process odor control efficiency by utilizing the latest technology in treatment and instrumentation.
Operating Impact:	The operating impact of the project will provide further odor control process control/optimization features, while modifying existing treatment plant odor control equipment without compromising reliability or other increasing any existing operation functions.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	OSP-1 / (N/A)
Project Title:	Westside FM Reliability Project
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	Planning up to development of the Alternatives Analysis Report (AAR) for the Westside Pump Station Redundant Force Main Improvements Project (CWWSIPTPOP04) was part of Phase 1 of the SSIP. This project advances the project through the rest of planning, design, and construction. Prior to the planning and design of a redundant new force main, early rehab work of the existing force main shall be performed to ensure continued reliable operation. A segment of 48-inch diameter pipe is being purchased under the R&R Program, and shall be installed in this project. For the redundant force main, the proposed alignment from AAR is Alternative 1, which will be approximately 2,765 total linear feet and requires a short overall pipe line length. This alignment mainly runs west from the connection point then south and parallel: either west of the existing force main within the paved outer northbound lane in the Great Highway or east of the existing force main within the east shoulder of the Great Highway, then turns east to connect to the headworks at OSP 011. This alternative would lie within the City of San Francisco's right-of-way and would not require acquisition of land or easements. A Memorandum of Agreement (MOA) between SFPUC and Park and Recreation department would be required. This provides the simplest alignment and is anticipated to have minimal utility conflicts. However, underground obstructions are anticipated at the OSP west entrance retaining wall. Open cut construction is anticipated with a trench depth ranging from approximately 3 feet near WSS and up to 60 feet near OSP. The required street restoration will be significant as the alignment is in the Great Highway. Significant earthwork is anticipated near OSP for all alternatives due to the built up embankment. The project should be coordinated with the Ocean Beach Adaptation Project, which includes work on the Great Highway in the vicinity of the force main during the same time frame.
Justification:	A new force main is needed between Westside Pump Station (WSS) and OSP to provide reliable conveyance between these two facilities, and to mitigate the potential failure of the existing pre-stressed concrete cylinder pipe (PCCP) force main. The existing 48-inch diameter force main is the only connection between WSS and OSP. The objective of the project is to provide operational improvements that will increase the reliability/redundancy of the essential infrastructure and to address the needs noted.
Operating Impact:	During Construction: The early rehab work to replace a segment of the existing 48" force main may require shutdowns and/or diversions, and would occur during dry weather. Tie-in of the new redundant force main would need to be coordinated and likely to occur during the dry season. Post Construction: Flow balancing should be undertaken to determine if any changes to the wet weather operating strategy is needed.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 1,391	$ 0	$ 0	$ 1,391	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 26,185	$ 0	$ 0	$ 0	$ 1,424	$ 1,374	$ 23,387
Total	$ 27,576	$ 0	$ 0	$ 1,391	$ 1,424	$ 1,374	$ 23,387

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	OSP-2 / (N/A)
Project Title:	Solids Thickening (OSP 011) Process Upgrade
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	Depending on the status of the R&R project (CWWRNRTFA8) to replace the GBT with RDT, an alternatives evaluation should be performed to confirm the selected thickening technology. As a basis, this project assumes replacement of the two remaining GBTs and installation of two new RDTs that can thicken a combination of primary sludge, waste activated sludge, and secondary scum. The scope of the project also includes the replacement of corroded pipe, room fixtures, demolition of the existing units and ventilation improvements as detailed below: 1.Demolish/remove the two (2) existing GBTs. 2.Install two (2) new 2 RDTs and associated controls. 3.Replace the three (3) existing washwater booster pumps, piping and appurtenances to meet the RDT flushing requirements. 4.Install hot water lines to supply hot water for flushing the RDTs. 5.Install a redundant primary scum skimmer. 6.Redesign the drains on existing and new drum screens to improve venting and add flushing connections. 7.Install a new ultrasonic pulsar level sensor in the TPAS tank and improve the mixing system in the tank. 8.Replace the three (3) thickened sludge pumps 42P6-1,2&3. 9.Replace all corroded pipe, and all rusted window frames and doors. 10.Replace floor grates and tiles. 11.Upgrade electrical components and DCS control of the new system. 12.Install a new ventilation system, including exhaust fans and duct work for both the new and existing RDTs, and improve the ventilation in both the sludge thickening and sludge dewatering rooms. Coordinate work with the OSP Ventilation Upgrades Project. 13.Install two fixed hydrogen sulfide sensors in the Gravity Belt Thickener Room (OSP 01-028). Address any residual thickening area odor issues that were not addressed by the OSP Ventilation (HVAC) Upgrades Project.
Justification:	The mechanical condition of the existing gravity belt thickeners (GBTs) at the Oceanside Water Pollution Control Plant (OSP) needs to be addressed to meet the Health, Safety & Security LOS goals, as well as the Operational Reliability LOS goals (Meet Performance Requirements and State of Good Repair). OSP Operations, Engineering and Maintenance (OEM) staff have noted that the current system generates significant amounts of aerosols within the thickening room that operators find difficult to work in. There are currently three GBTs, although there is a JOC Task Order (CWWRNRTFA8) that will remove one of the GBTs (GBT No. 1) and replace it with a similarly sized rotary drum thickener (RDT) unit. There is another JOC Task Order that will rehabilitate one of the GBTs that is currently out of service. The enclosed design of the RDTs should provide for a more effective way to capture the contaminated gases/aerosols emitted by the thickening process. In addition, the existing GBTs are currently used to co-thicken primary sludge and waste activated sludge. Capacity issues were identified with the GBTs over the SSIP planning horizon, and should be considered in the planning and design of an upgraded solids thickening system.
Operating Impact:	During Construction: Facility shutdowns and/or diversions are not likely as there is at least one standby thickening unit that may be used. However, construction work may impact the day-to-day operations of plant staff; and system tie-tin would require coordination. Post Construction: A new solids thickening technology will be installed and may require training and O&M plan updates.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,229	$ 1,068	$ 161	$ 0	$ 0	$ 0	$ 0
Design	$ 2,457	$ 0	$ 1,264	$ 1,193	$ 0	$ 0	$ 0
Construction Management	$ 2,414	$ 0	$ 0	$ 531	$ 1,256	$ 627	$ 0
Construction	$ 14,122	$ 0	$ 0	$ 2,749	$ 7,343	$ 4,030	$ 0
Total	$ 20,222	$ 1,068	$ 1,425	$ 4,473	$ 8,599	$ 4,657	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	OSP-3 / (N/A)
Project Title:	OSP Plant-wide Ventilation (HVAC) Upgrades
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	A wide range of HVAC-related improvements were identified as part of the OSP Condition Assessment Repairs Project. It was determined that a plant-wide air handling performance evaluation be conducted in order to determine if the ventilation systems are meeting code requirements and to better identify needed HVAC improvements. Specific HVAC-related work includes the following: Plant-Wide Air Handling Performance Evaluation: Conduct a plant-wide air handling performance evaluation. OSP 011: • Replace inadequate duct supports in OSP 011 hallway areas. • Duct supports within exhaust fan room at OS70EF1-1 thru -3 and OS70EF1-5 and -6 needs to be refastened / replaced. • Coordination HVAC evaluation, design and construction under the OSP Solids Thickening Process Upgrades project. OSP 530: Look at ventilation issues if keeping the temporary chemical station from the Recycle Water Project. OSP 620: • Replace all HVAC equipment. Based on results of the plant-wide air handling performance evaluation, make provisions for increasing air ventilation rates in order to declassify area from Class 1 Division 1 to Class 1 Division 2. • Replace FRP ducts in digester basement serving fans 70EF19-1, 2. OSP 042: Replace HVAC ductwork. OSP 230: Replace HVAC supply ductwork. OSP 930: Replace all HVAC equipment.
Justification:	The deteriorated state of many of the heating, ventilation, and air conditioning (HVAC) systems located throughout the Oceanside Water Pollution Control Plant (OSP) poses health and safety risks, and should be addressed to meet the Health, Safety & Security LOS Goal. These hazards include: • Ventilation system performance that may not meet code requirements • Inadequate/deteriorating ducts and duct supports.
Operating Impact:	During Construction: Construction work may impact the day-to-day operations of plant staff; however no plant shutdowns and/or diversions are expected. Post Construction: The plant-wide ventilation strategy, including air balancing, will be modified through this project.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 447	$ 389	$ 58	$ 0	$ 0	$ 0	$ 0
Design	$ 894	$ 0	$ 460	$ 434	$ 0	$ 0	$ 0
Construction Management	$ 877	$ 0	$ 0	$ 193	$ 457	$ 228	$ 0
Construction	$ 5,135	$ 0	$ 0	$ 1,000	$ 2,670	$ 1,465	$ 0
Total	$ 7,353	$ 389	$ 518	$ 1,627	$ 3,127	$ 1,693	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	OSP-4 / (N/A)
Project Title:	OSP Condition Improvement Projects - Phase 2
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Brian Carlomagno
Facility Category:	Treatment Facilities
Type:	Capital
Description:	The OSP Condition Assessment Repairs project will include major improvements to the plant, aimed to address the reliability of existing assets that have deteriorated over the years. This project includes planning, design and environmental review of improvements to address the age, deterioration and reliability of existing assets at OSP that are not specifically included in the other SSIP projects. This project includes rehabilitation of building structures, rehabilitation or replacement of mechanical and electrical equipment, and seismic retrofit of process tanks and buildings. Improvements focus on maintaining operational reliability and extending the service life of buildings that are required to remain in operation for 30 years or more.
Justification:	The majority of the facilities at OSP will remain in service for at least 30 years and will require improvements to maintain operational reliability, improve seismic performance and extend useful life. A number of SSIP projects will implement process enhancements and rehabilitation of specific process areas. This project includes improvements to address age, deterioration and reliability of existing assets at the plant that are not specifically included in the other SSIP projects. As part of the condition assessment effort, seismic, condition and operational issues associated with the existing facilities will require remedial attention while other program projects are completed. This project represents improvements to the existing facilities at OSP identified as part of the condition assessment effort. This project includes rehabilitation of building structures, rehabilitation or replacement of mechanical and electrical equipment, and seismic retrofit. Improvements focus on maintaining operational reliability and extending the service life of buildings that are required to remain in operation for 30+ years. A preliminary evaluation identified improvements to be addressed in various phases of the project, including those at the following buildings: OSP011 - Pretreatment/Solids OSP042 - Primary Clarifiers OSP 200 - Aeration Basins OSP510 - Chemical Storage OSP530 - Chlorine Contact Channels OSP620 - Digester Operations OSP800 - Cogeneration OSP821 - Gas Burner OSP930 - Administration and Lab The construction/implementation/improvements are proposed to continue in subsequent phases of the SSIP program.
Operating Impact:	The condition assessment repairs project is a long-term, phased project, that provides facility seismic retrofit and equipment repair/replacement improvements and modifications will ensure that the OSP facilities remain operationally compliant with State and Federal regulatory requirements. The majority of the facilities at OSP will remain in service for at least 30 years and will require improvements to maintain operational reliability, improve seismic performance and extend useful life. A number of SSIP projects will implement process enhancements and rehabilitation of specific process areas. The operating impact of the project will provide improvements to address age, deterioration and reliability of existing assets at the plant that are not specifically included in the other SSIP projects. The final design and continued construction implementation are proposed in subsequent phases of the SSIP program.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 10,000	$ 0	$ 0	$ 10,000	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 36,442	$ 0	$ 0	$ 0	$ 6,000	$ 6,000	$ 24,442
Total	$ 46,442	$ 0	$ 0	$ 10,000	$ 6,000	$ 6,000	$ 24,442

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	OSP-5 / (N/A)
Project Title:	OSP Odor Control Upgrades
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	Specific work includes the following: Primary Odor Control System Improvements: 1.Covering of the influent and effluent channels in OSP 042. The primary clarifiers would remain open and uncovered. 2.Refurbishment of the existing Odor Control Units (OCUs) serving OSP 042. 3.Installation of heating coils to be used to pre-heat the foul air extracted from below the covered channels, OSP 042 building space, and the aeration basin channels prior to treatment through the OCUs. 4.Other miscellaneous improvements include new variable frequency drives (VFDs) at the supply fans, new odor control fans with VFDs, duct repairs at odor control fans, replacement of fan differential pressure switches and automated ventilation modulation. Secondary Odor Control System Improvements: 1.Sealing the inlet weir channel openings and effluent channel openings with aluminum checker plate hatch covers. The secondary clarifiers would remain open and uncovered. 2.The air from the channel head spaces would be extracted and treated by two existing OCUs. 3.The room air will contain very low odor/moisture concentrations and will be transferred to OSP 530 as makeup air and then exhausted outdoors without treatment. 4.A heating coil will be installed to pre-heat the foul air prior to the OCUs. 5.Other miscellaneous improvements include new VFDs at supply fans, a new odor control fan, new space exhaust fans with VGDs, rebalancing existing odor control fans, blank-off plates at existing ductwork, replacement of motor control center (MCC) exhaust fan along with associated ductwork and disconnect switch, replacement of fan differential pressure switches and automated ventilation modulation. Replacement of High Head Loss Fittings: 1.Replacement of two rectangular elbows in a Z-type configuration which supply HVAC supply air to the second floor Gravity Belt Thickening Area in OSP 011 with two smooth radius elbows with a splitter vane.
Justification:	The condition of existing odor control units at the Aerations Tanks (OSP 200) and Secondary Clarifiers (OSP 230) need to be refurbished to meet Operational Reliability LOS goals (State of Good Repair). There is also an opportunity to improve the foul air collection and overall ventilation in OSP 042, OSP 200, OSP 230 and OSP 530 by covering the primary clarifiers, and secondary clarifier influent and effluent channels.
Operating Impact:	During Construction: Construction work may impact the day-to-day operations of plant staff; however no plant shutdowns and/or diversions are expected. Post Construction: The plant-wide odor control strategy will be modified through this project.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,170	$ 0	$ 1,170	$ 0	$ 0	$ 0	$ 0
Design	$ 2,340	$ 0	$ 187	$ 1,357	$ 795	$ 0	$ 0
Construction Management	$ 2,299	$ 0	$ 0	$ 0	$ 506	$ 1,196	$ 598
Construction	$ 13,446	$ 0	$ 0	$ 0	$ 2,958	$ 6,992	$ 3,496
Total	$ 19,255	$ 0	$ 1,357	$ 1,357	$ 4,259	$ 8,188	$ 4,094

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	OSP-6 / (N/A)
Project Title:	OSP Communication & Safety Monitoring Upgrades
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	Fixed Gas Monitoring Systems: • Fixed gas monitoring is to be added within the following OSP process areas. The systems should follow the standards and specifications included in Project WW-559R - SEP Fixed Gas Monitor Upgrades, and will include DCS connections, horns, beacon lights and other notifications. OSP 011: • Install two (2) fixed hydrogen sulfide sensors in the Influent Channel Room (OSP 011-107). • Install two (2) fixed ammonia sensors in the Screw Press Room (OSP 011-207). OSP 042: • Install four (4) fixed hydrogen sulfide monitors in the Primary Clarifier Building. OSP 230: • Install Two (2) fixed hydrogen sulfide sensors in the Secondary Clarifier Building. OSP 620: • Relocate fixed gas monitoring system notification locations which are currently considered to be located to close to potential gas sources. Public Address System / Emergency Evacuation Notification System: • Replace the existing Public Address System at OSP which is old and in disrepair. • Replace the existing Emergency Evacuation Notification System at OSP which is old and in disrepair. Fire Alarm System: • Replace the existing Fire Alarm System at OSP and WSS which are old and in disrepair.
Justification:	To further protect Wastewater Enterprise (WWE) staff from potentially dangerous process-related gases (specifically hydrogen sulfide, ammonia and explosive atmospheres), WWE is requiring changes to its fixed gas monitoring systems. The scope of the fixed gas monitoring improvements at the Oceanside Water Pollution Control Plant (OSP) is covered under this project. Public Address System, Emergency Evacuation Notification System and Fire Alarm System upgrades and communication infrastructure improvements at OSP and the Westside Pump Station (WSS) are also covered under this project. These improvements will help address the Health, Safety and Security LOS goals.
Operating Impact:	During Construction: None Post Construction: None

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 747	$ 0	$ 0	$ 747	$ 0	$ 0	$ 0
Design	$ 985	$ 0	$ 0	$ 119	$ 866	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 10,556	$ 0	$ 0	$ 0	$ 0	$ 1,500	$ 9,056
Total	$ 12,288	$ 0	$ 0	$ 866	$ 866	$ 1,500	$ 9,056

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	OSP-7 / (N/A)
Project Title:	Admin Bldg (OSP 930) Health & Safety Improvements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	A wide range of health and safety related improvements were identified as part of the Oceanside Plant (OSP) Condition Assessment Repairs Project. Specific work includes the following: Repair concrete deficiencies, water infiltration, and drainage issues within OSP 930 per conceptual engineering report (CER) "Concrete Surface Condition Assessment and Repair TM". Replace the three (3) OSP 930 building sump pumps. Replace the nine (9) Laboratory Fume Hoods. Replace the laboratory and freight elevators (freight elevator is higher priority).
Justification:	This project represents improvements to the existing Administration Building (930) at the Oceanside Water Pollution Control Plant (OSP) identified as part of the OSP Condition Assessment Repairs Project to address health and safety issues.
Operating Impact:	During Construction: Construction work may impact the day-to-day operations of plant staff; however no plant shutdowns and/or diversions are expected. Post Construction: None

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 347	$ 193	$ 154	$ 0	$ 0	$ 0	$ 0
Design	$ 694	$ 0	$ 366	$ 328	$ 0	$ 0	$ 0
Construction Management	$ 681	$ 0	$ 0	$ 170	$ 341	$ 170	$ 0
Construction	$ 3,986	$ 0	$ 0	$ 933	$ 1,993	$ 1,060	$ 0
Total	$ 5,708	$ 193	$ 520	$ 1,431	$ 2,334	$ 1,230	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	OSP-8 / (N/A)
Project Title:	OSP DCS Upgrade (Construction)
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	This project will replace the aging control system infrastructure at OSP and other satellite wastewater facilities like WSS as the existing DCS equipment are obsolete. The upgrades include converting all existing DCS, Wonderware HMI, and programmable logic controllers (PLCs) to Emerson-based systems as specified by the Facility-Wide DCS Control Upgrades Project, and upgrades to OSP's aging control panels, annunciator panels, sensors, disconnect switches, bare grounding wiring and control devices. The DCS supplier will provide design and installation services. In addition to the needed DCS upgrades to the specified Emerson-based systems, a wide range of DCS-related improvements were identified as part of the OSP Condition Assessment Repairs Project. These are listed below, but should be further evaluated during planning and design by the DCS Contractor. OSP 011 Building • Replace local control panels LP-02-2, LP-03-3, LP-12-1. Replace control panels CS-02/03-1, CS-47-1 and CS-47-3. Replace panel FP12-1. Refurbish CP-1, CP-9, CP-10, CP-12, CP-14, CP-15 and CP-19. Replace 25 standard disconnect switches in the Bar Screen Room. Replace 20 Class 1/Division 1 disconnect switches in the Bar Screen Room. OSP 042 Primary Clarifiers • Replace 21 disconnect switches and all bare copper grounding wire. OSP 200 Aeration Tanks • Replace/Refurbish control panels CP-2 and CP-3 with new annunciator panels and LED lights. • Replace existing FP-10-1 next to CP-3. This aeration panel has a PLC and internal relay boards that are identical to the FP12-1. OSP 230 Secondary Clarifiers • Replace local control panel (CP-13) and refurbish the annunciator panel. OSP 620 Digestion Operations • Replace control panels CP-22, LP-47-20 and Day Tank Bubbler Panel for code compliance. Please note that these control panels may not require replacement if ventilation improvements are made which result in an electrical reclassification of the OSP 620 area. Recycled Water Facility • Interface with the PLC
Justification:	In order to provide real-time, system-wide monitoring and control, upgrades and improvements must be made to the Distributed Control System (DCS) system at the Oceanside Water Pollution Control Plant (OSP) and other satellite pump stations, such as the Westside Pump Station (WSS).
Operating Impact:	During Construction: Short-term shutdowns and/or diversions are not expected, however process functions may be slightly impacted during construction and workarounds may be required to facilitate construction work. Post Construction: The new system will interface to the computerized maintenance management system (CMMS), which will allow SFPUC to better protect public assets. Maintenance planning may be based on predictive data about equipment condition and actual runtime. Control system security and simulation solutions implemented may enhance protection against cyber threats.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction Management	$ 8,255	$ 0	$ 1,486	$ 1,486	$ 1,568	$ 1,486	$ 2,229
Construction	$ 36,687	$ 0	$ 6,604	$ 6,604	$ 6,971	$ 6,604	$ 9,906
Total	$ 44,942	$ 0	$ 8,090	$ 8,090	$ 8,539	$ 8,090	$ 12,135

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	OSP-9 / (N/A)
Project Title:	OSP & WSPS Security Enhancements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	The project involves the following security upgrades: Upgrading card readers and door contacts at all perimeter doors and ensuring proper operation Replacing and furnishing gate and gate operator including structural support, electrical power and controls Adding protective cages around outdoor chemical and electrical equipment, including an allowance for replacing/repairing the existing perimeter fence and fence support as needed Furnishing, installing, and configuring servers for video recording, management and analytics Configuring security fiber optic connectivity and adding video camera units and local recording Establishing prune landscaping, adding new security signage, and upgrading lighting to dusk-activated LED lighting Adding interior presence sensing connected to an intrusion detection panel and alarming to security
Justification:	A security evaluation was performed in 2017 to identify the security risks towards WWE facilities, assets, staff, and operations from outside malevolent acts. The evaluation identified improvements at Oceanside Water Pollution Control Plant and Westside Pump Station. As part of the Health, Safety & Security LOS goal, security measures at these sites shall be enhanced to protect staff, assets, and facilities.
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 435	$ 0	$ 435	$ 0	$ 0	$ 0	$ 0
Design	$ 870	$ 0	$ 218	$ 653	$ 0	$ 0	$ 0
Construction Management	$ 855	$ 0	$ 0	$ 0	$ 428	$ 428	$ 0
Construction	$ 5,000	$ 0	$ 0	$ 0	$ 2,500	$ 2,500	$ 0
Total	$ 7,160	$ 0	$ 653	$ 653	$ 2,928	$ 2,928	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	OSP-10 / (N/A)
Project Title:	OSP Condition Improvement Projects - Part 3
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	A wide range of mechanical equipment related improvements were identified as part of the OSP Condition Improvement Project. Specific structural and mechanical equipment related work includes the following: Secondary Clarifiers (230) Structural Refurbishment • Patch and coat concrete areas and address structural defects per CER "Confined Space Wetted Concrete Condition Assessment and Repair Report" Secondary Clarifiers (230) Mechanical • Replace the two (2) mixed liquor blowers and motors • Replace spray, recirculation and discharge valves • Replace the seven (7) sludge collectors, motor drives and sludge piping and check valves • Replace the seven (7) scum collector components and seven (7) scum troughs • Evaluate sizing and replace the eleven (11) RAS pumps and resolve leakage at piping/check valves • Assess clarifier influent and effluent sluice gates for possible deterioration) and replace as necessary • Replace drainage sump pumps and dewatering pumps
Justification:	This list of improvements represents improvements to the existing facilities at the Oceanside Water Pollution Control Plant (OSP) identified as part of the OSP Condition Assessment Repairs Project to address age, deterioration, and reliability of existing assets to meet the Operational Reliability LOS goals (State of Good Repair).
Operating Impact:	During Construction: Construction work may impact the day-to-day operations of plant staff; however no plant shutdowns and/or diversions are expected. Post Construction: None

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 3,915	$ 0	$ 0	$ 0	$ 0	$ 0	$ 3,915
Design	$ 7,830	$ 0	$ 0	$ 0	$ 0	$ 0	$ 7,830
Construction Management	$ 7,695	$ 0	$ 0	$ 0	$ 0	$ 0	$ 7,695
Construction	$ 45,000	$ 0	$ 0	$ 0	$ 0	$ 0	$ 45,000
Total	$ 64,440	$ 0	$ 0	$ 0	$ 0	$ 0	$ 64,440

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	OSP-11 / (N/A)
Project Title:	Gaseous Oxygen System (OSP 011) Upgrades
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	The appropriate technology and alternative would be explored in the project's planning phase, but as a basis for this project, replacement of the PSA units with vacuum pressure swing adsorption (VPSA) units is assumed. PSA reduces the desorption pressure compared to VPSA, which allows for a higher percentage of available oxygen to be recovered and less air to be processed. This project includes the replacement/upgrade of the existing gaseous oxygen (GOX) system at OSP as detailed below: 1. Demolish/remove the three (3) existing 10 ton per day PSAs 2. Install two (2) new 10 ton per day VPSAs 3. Replace the GOX line connecting the VPSAs to the OSP 200 Aeration Basins
Justification:	The existing secondary process at Oceanside Water Pollution Control Plant (OSP) uses a high purity oxygen system consisting of three 10-ton-per-day pressure swing adsorption (PSA) units and a backup liquid oxygen (LOX) storage system. The PSA units are nearing the end of their useful lives and require frequent maintenance by staff. The GOX line connecting the VPSAs to the OSP 200 Aeration Basins needs to be replaced due to its condition. Improvements are needed to address the Operational Reliability LOS goals (State of Good Repair), and through this major renewal process, also provides an opportunity to modernize the system's technology and efficiency.
Operating Impact:	During Construction: Impacts are not anticipated as OSP has a redundant oxygen system through the LOX system. Post Construction: Based on this alternative, a new oxygen generation technology will be installed and may require training and O&M plan updates.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,358	$ 0	$ 801	$ 557	$ 0	$ 0	$ 0
Design	$ 2,716	$ 0	$ 0	$ 0	$ 1,086	$ 1,629	$ 0
Construction Management	$ 2,669	$ 0	$ 0	$ 0	$ 0	$ 0	$ 2,669
Construction	$ 15,608	$ 0	$ 0	$ 0	$ 0	$ 0	$ 15,608
Total	$ 22,351	$ 0	$ 801	$ 557	$ 1,086	$ 1,629	$ 18,277

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	OSP-12 / (N/A)
Project Title:	Grit Removal (OSP 011) Upgrades
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	While the OSP Grit Removal (011) Upgrades Project is a continuation of the efforts previously completed through the OSP Fine Screen and Grit Removal Enhancements Project, an analysis should be completed at the start of this project to confirm the design alternative selected. This analysis would also take into account any recent sedimentation assessment and cleaning program. Through discussions with WWE OEM in 2019, the project budget and alternative is based on the following (excerpt from AAR): AAR Alternative 1 - Install S&L Baffle System to Existing PISTA® 270 Units • S&L has recently launched the OPTIFLOW 270TM Baffle System for improving grit removal efficiencies of 270 degree vortex grit chambers, including the PISTA® 270 units installed at OSP. The proposed baffle fits inside the grit chamber at the exit, directing the flow toward the grit hopper for an additional pass along the grit chamber floor for improved grit removal. • Depending on the minimum flow conditions, a 270TM LFB Low Flow Baffle may also be installed as part of the baffle system, bisecting the influent channel, to maintain optimum influent channel velocity of 2 to 3.5 ft/sec for grit transport and providing proper entry velocity into the grit chamber. • S&L claims that the OPTIFLOW 270TM Baffle System increases the grit removal efficiency to 95% removal of grit of 100 mesh (150 micron) on any 270 degree grit chambers at all flow conditions. This compares to the PISTA® 270 units' expected removal efficiency of 65% for 150 micron grit. • In this alternative, the existing channels and grit chambers would not require any structural modifications. The existing vortex grit system is maintained through the long term. All worn out mechanical components such as grit pumps, classifiers, and cyclones will be replaced in the near term, via the WWE project, OSP Grit Classifier System Replacement. • Due to Building 011's access hatch restrictions (3 feet by 3 feet), S&L has stated that the baffle can be constructed in several smaller pieces and assembled inside the grit chamber. According to S&L, up to 1 foot of headloss may be incurred by the baffle system. This will be confirmed with S&L pending additional OSP measurements to be supplied to S&L. The hydraulics at the headworks will need to be verified to ensure that the installation of the baffle system does not cause flow backup of the influent channel at peak flow conditions.
Justification:	A significant amount of grit passes through the grit removal system at the Oceanside Water Pollution Control Plant (OSP) which is carried over to downstream processes including the primary sedimentation tanks and the digesters. This has resulted in additional wear and tear of the solids handling equipment and its presence reduces the solids handling capacity of the digesters. The existing grit removal system requires improvements to meet the Operational Reliability LOS goals (Meet Performance Requirements).
Operating Impact:	During Construction: Facility shutdowns and/or diversions are not likely if work is undertaken during dry weather, as there are 1 duty and 2 standby grit units. Post Construction: Based on this alternative, additional ongoing maintenance may be required for the new baffle system.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 376	$ 0	$ 0	$ 376	$ 0	$ 0	$ 0
Design	$ 752	$ 0	$ 0	$ 60	$ 436	$ 256	$ 0
Construction Management	$ 739	$ 0	$ 0	$ 0	$ 0	$ 104	$ 636
Construction	$ 4,325	$ 0	$ 0	$ 0	$ 0	$ 605	$ 3,719
Total	$ 6,192	$ 0	$ 0	$ 436	$ 436	$ 965	$ 4,355

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	OSP-13 / (N/A)
Project Title:	Biosolids Cake Hopper (OSP 011) Reliability Upgrad
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	Specific mechanical equipment related work includes the following: 1.Conduct a pilot study to address existing material bridging issues in the biosolids cake hoppers (potential solutions include the provision of vibrators, installation of hopper liners, installation of a different type of hopper gate) 2.Refurbish the three (3) biosolids cake hoppers, including replacement of the discharge gates and actuators (type of gate to be determine by pilot study), load cells and ultrasonic level instrumentation
Justification:	The existing dewatering screw presses at Oceanside Water Pollution Control Plant (OSP) are used to dewater the thermally phased anaerobic digested biosolids. When OSP was originally constructed, the Belt Filter Presses (BFPs) were utilized to dewater the mesophilic digested sludge. As part of the TPAD conversion project, the plant replaced the existing three BFPs with two (one duty and one standby) screw presses. Each screw press is capable of dewatering between 10 and 15 dry tons of digested biosolids per day at an inlet solids concentration of 1.5 percent or higher. Therefore, the maximum feed flow rate will vary with the digested biosolids inlet concentration. Currently, the screw presses thicken greater than 25% solids, causing solids to stick to the sides of the hoppers. Overall improvements to the cake hoppers are needed to meet the Operational Reliability LOS goals.
Operating Impact:	During Construction: Construction work may impact the day-to-day operations of plant staff; however no plant shutdowns and/or diversions are expected. Post Construction: None

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 217	$ 0	$ 0	$ 0	$ 217	$ 0	$ 0
Design	$ 435	$ 0	$ 0	$ 0	$ 35	$ 252	$ 148
Construction Management	$ 428	$ 0	$ 0	$ 0	$ 0	$ 0	$ 428
Construction	$ 2,500	$ 0	$ 0	$ 0	$ 0	$ 0	$ 2,500
Total	$ 3,580	$ 0	$ 0	$ 0	$ 252	$ 252	$ 3,076

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	OSP-15 / (N/A)
Project Title:	Admin Bldg (OSP 930) Seismic Retrofit
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	From the 2017 Seismic Analysis and Evaluation Report (refer to document for plans and details): Site prep (demo potion of floor slab, light weight backfill, excavation) Install FRP around columns (624 SF) Install 12" thick shotcrete wall (110 CY) Install 18" thick shotcrete above opening (1 CY) Install 18" thick shotcrete wall (46 CY) Install 6" thick shotcrete wall (7 CY) Install 6" thick shotcrete floor slab (4 CY) Install 6" thick shotcrete above opening (14 CY) Install 30" thick shotcrete above opening (2 CY) 24" x 48" straight continuous footing (6 CY) Mechanical and electrical alterations
Justification:	To meet Seismic Reliability Goals (provide treatment within 72 hours of an earthquake, provide life safety protection for occupied facilities), the Administration Building requires seismic retrofits. A seismic analysis was performed by STRUCTUS Engineering and Carollo in 2017, and the findings form the basis of the scope of this project. The Administration Building is a three-level structure, with two full levels plus a partial basement level. It is approximately 135 ft. X 258 ft. in plan, including the Parking Area which is structurally a part of Administration Building. The building is structurally separated via a one-inch wide expansion joint from the Primary Clarifiers Building to the north; and a two-inch expansion joint from West Tunnel/Parking structure to the west. The east side of the building and portions of the north side of the building is buried directly against soil and retaining approximately 40 ft. of soil. Except for the sloping roof over parking where the roof is supporting approximately 6 ft. of soil, the entire roof of the building is overlain by approximately 9 inches of soil over drain rock, sand, insulation and waterproofing. The lower level of the building houses shops, storage, a mechanical room and parking, while the upper level houses operation control rooms, offices and laboratories. At the south west corner of the building, there is a pre-cast double T concrete bridge that connects the Administration Building to a concrete site stair structure.
Operating Impact:	During Construction: Construction work may impact the day-to-day operations of plant staff; however no plant shutdowns and/or diversions are expected. Post Construction: None

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 406	$ 0	$ 0	$ 0	$ 0	$ 0	$ 406
Design	$ 535	$ 0	$ 0	$ 0	$ 0	$ 0	$ 535
Total	$ 941	$ 0	$ 0	$ 0	$ 0	$ 0	$ 941

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	OSP-16 / (N/A)
Project Title:	Pretreat. & Solids Bldg (OSP 011) Struct. & Seismi
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	Pre-Treatment & Solids Building is a three-level structure, approximately 106 feet by 264 feet in plan. The building is structurally separated by a 2-inch wide expansion joint from the Chemical Storage Building to the west; and separated from the Digester Building underground pipe gallery by an expansion joint (without any width noted on Section P Drawing 620-S-20) at the northeast corner. The south side of the building is buried directly against soil and retaining approximately 40 feet of soil above the first-floor level. The entire roof of the building is overlain by 9 inches of soil over 4 inches of drain rock, 2 inches of concrete topping, and waterproofing. The basement level houses three vortex grit tanks, with concrete channel structures hung from the first-floor structure. The first-floor houses polymer and sodium hypochlorite tanks, pure oxygen generation system, HVAC Room, Electrical Room, etc. The second-floor houses Operations Room, Sludge Thickening, Sludge Dewatering, HVAC Rooms, Electrical Rooms and other functions. From the 2017 Seismic Analysis and Evaluation Report (refer to document for plans and details): • Install FRP around columns (400 SF) • Install 6" thick shotcrete wall (105 CY) 30" straight wall >8' high (163 CY) • Install 6" shotcrete against ex. beam (13 CY) Mechanical alterations • Electrical alterations
Justification:	To meet Seismic Reliability Goals (provide treatment within 72 hours of an earthquake, provide life safety protection for occupied facilities), the Pretreatment & Solids Building requires seismic retrofits. A seismic analysis was performed by STRUCTUS Engineering and Carollo in 2017, and the findings form the basis of the scope of this project.
Operating Impact:	During Construction: Construction work may impact the day-to-day operations of plant staff; however no plant shutdowns and/or diversions are expected. Post Construction: None

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 711	$ 0	$ 0	$ 0	$ 0	$ 0	$ 711
Design	$ 939	$ 0	$ 0	$ 0	$ 0	$ 0	$ 939
Total	$ 1,650	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,650

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	OSP-17 / (N/A)
Project Title:	Primary Clarifier (OSP 042) Structural & Seismic R
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Treatment Facilities
Type:	Capital
Description:	Primary Clarifiers is a one-story building constructed around 1977. It is rectangular Primary Clarifier Building is a two-level structure, approximately 230 ft. X 230 ft. in plan. The building is structurally separated via one-inch wide expansion joints from the Chlorine Contact Channels Building, and West Tunnel/Parking structure to the west; from Secondary Clarifiers Building and Aeration Basin Building to the north; and from West Tunnel/Parking structure to the south. The east side of the building is buried directly against soil and retaining 33.5 ft. of soil. The entire roof of the building is overlain by a minimum of 6 ft. of soil. The lower level houses primary clarifiers, launders and spray piping and support systems, as well as an effluent channel and pump galleries which are depressed from the clarifiers' level. The Operation Level does not have a complete floor diaphragm as major floor openings occupy more than 80% of the projected floor area. An influent channel and monorail hang from the sloping Operation Level floor at the west side of the building where the West Surface Gallery is located. The North Surface Gallery floor is essentially flat. As hydro-dynamic forces will be very significant part of the seismic response, careful modeling of contained liquid and inclusion of various combinations of full and empty tanks will be needed to capture the most critical load cases against dividing walls and perimeter walls of the clarifiers. From the 2017 Seismic Analysis and Evaluation Report (refer to document for plans and details): The total scope of the proposed structural component strengthening is summarized as follows: • Site prep (demo potion of floor slab, light weight backfill, excavation) • Install 6" thick shotcrete roof slab (274 CY) Install 6" thick shotcrete wall (84 CY) • Install 6" thick shotcrete against ex. beam (116 CY) Install FRP around beam (220 SF) • Install FRP around wall (15,232 SF) Mechanical alternations • Electrical alterations
Justification:	To meet Seismic Reliability Goals (provide treatment within 72 hours of an earthquake, provide life safety protection for occupied facilities), the Primary Clarifiers requires seismic retrofits. A seismic analysis was performed by STRUCTUS Engineering and Carollo in 2017, and the findings form the basis of the scope of this project.
Operating Impact:	During Construction: Construction work may impact the day-to-day operations of plant staff; however no plant shutdowns and/or diversions are expected. Post Construction: None

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 741	$ 0	$ 0	$ 0	$ 0	$ 0	$ 741
Design	$ 978	$ 0	$ 0	$ 0	$ 0	$ 0	$ 978
Total	$ 1,719	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,719

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15727-WW Central Bayside System Impr
Project ID/FSP ID	CWWSIPCT01 / 10002102
Project Title:	Central Bayside System Improvement Project (CBSIP)
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Manfred Wong
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	The Central Bayside System Improvements Project (CBSIP) will provide collection system enhancement to the Channel & Islais Creek urban watersheds, including needed redundancy for the existing 66-inch Channel Force Main, infrastructure improvements to sewers/pump stations, and stormwater management through elements of both green and grey infrastructure. Major components of the project consist of a tunnel to transport, via gravity, dry and wet-weather flows from the Channel and North Shore watersheds to the Southeast Water Pollution Control Plant (SEP), a large all-weather pump station to lift the flows into the SEP, improvements to Channel Pump Station, and green/gray infrastructure improvements within the watersheds.
Justification:	The existing conveyance system from Channel Pump Station (CHS) to SEP is via the 66-inch diameter Channel Force Main. CHS is over 30 years old and requires an ongoing effort to upgrade/maintain the mechanical and electrical equipment. Evaluations of the 66-inch, 2.12 mile Channel Force Main have shown that portions are vulnerable to damage from a major earthquake and long term settlement. There is no redundancy to this asset and the SFPUC does not have the ability to take the Channel Force Main out of service for inspection and repair. The Channel and Islais Creek urban watersheds are also challenged with localized flooding during significant storm events. This project will provide redundancy to an aging force main, manage stormwater, ensure long term regulatory compliance, and provide benefits to adjacent communities. The $64M SSIP Phase 1 program budget was previously fully appropriated. Therefore, there is no additional funding need until SFPUC Commission and Senior Management authorize the final design efforts.
Operating Impact:	The CBSIP will provide needed redundancy to the Channel Force Main. If a failure occurs, there is no equivalent redundant back-up and the SFPUC would not be able to effectively collect, transport, and treat its wastewater and stormwater within the Bayside system. Failure of this asset can result in negative public health, safety, regulatory, and environmental impacts and lead to violation of the operating/discharge permits issued by the Regional Water Quality Control Board.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15727-WW Central Bayside System Impr
Project ID/FSP ID	PS-6 / (N/A)
Project Title:	Channel FM Reliability Project
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Manfred Wong
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	According to the Operational Reliability LOS Goals, all major dry weather force mains (Average Dry Weather Flow (ADWF) ≥ 1 mgd) should have the operational flexibility to perform maintenance, and dry weather force mains conveying to treatment plants shall also have provisions to convey design flows following an unplanned outage. The objective of this project is to improve the reliability of the Channel Force Main to meet the Operational Reliability LOS Goal outlined above. This project involves construction of the Channel Force Main Reliability Project. Planning and design will be undertaken as a separate project and will involve alternatives analysis to select a preferred alternative.
Justification:	The project is scheduled to start upon completion of the CHFM Intertie Improvements (LDS-1) which will allow for DW flow diversion from the last third of the CHFM at to the ICT box. Preliminary condition assessment results have indicate that the force main's existing condition could support this schedule.
Operating Impact:	Delay may prolong operational and seismic reliability risks associated with the existing Channel Force Main.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 5,000	$ 0	$ 0	$ 0	$ 5,000	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 479,400	$ 0	$ 0	$ 0	$ 0	$ 10,000	$ 469,400
Total	$ 484,400	$ 0	$ 0	$ 0	$ 5,000	$ 10,000	$ 469,400

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPCSCD01 / 10002299
Project Title:	Richmond Transport/Storage Tunnel Rehabilitation
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Saed Toloui
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	Under the Richmond Transport Modeling Project, recommendations for handling the reported issues within this system were developed. The purpose of this project is to execute the recommendations of the Modeling Project. The scope of this project includes the evaluation of rehabilitation methods for the Richmond/Transport Storage Tunnel to confirm the previous findings and recommendations included in the physical modeling performed by PMC and presented in October 2013 to resolve historical surge issues identified. The model identified the causes of geysering through vent holes and dislodged manhole covers in various areas, and included modification recommendations including odor solutions that will be verified during the Planning Phase of this project.
Justification:	This project meets the endorsed Level of Service (LOS) goals of the SSIP by improving and restoring the Transport Storage (T/S) and near shore Combined Sewer Discharge (CSD) structures to a state of good repair. Loss of T/S or CSD structures or the failure/upset of the secondary treatment processes due to saltwater intrusion at the wastewater treatment plants can have serious implications in terms of public health, safety, regulatory and environmental compliance. This project would allow Waste Water Enterprise (WWE) to maintain compliance with the Regional Water Quality Control Board's National Pollutant Discharge Elimination System (NPDES) permit and other State and Federal requirements by bringing the T/S and CSD structures into a state of good repair.
Operating Impact:	Wastewater Enterprise relies on critical system components like T/S and CSD structures to maintain compliance with the NPDES operating permits. The immediate concerns are to address function and capacity deficiencies through structural/corrosion improvements, and to protect the secondary/biological treatment processes by preventing saltwater intrusion. If saltwater intrusion is not controlled, the elevated chloride levels from the intrusion could lead to process upsets and potential non-compliance with the NPDES permits, which could translate into fines or other actions from the State and/or Federal regulators.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPCSCD02 / 10002300
Project Title:	Baker/Laguna/Pierce CSD & Outfall
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Saed Toloui
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	Project has been deferred to Phase 2.
Justification:	This project meets the endorsed Level of Service (LOS) goals of the SSIP by improving and restoring the Transport Storage (T/S) and near shore Combined Sewer Discharge (CSD) structures to a state of good repair. Loss of T/S or CSD structures or the failure/upset of the secondary treatment processes due to saltwater intrusion at the wastewater treatment plants can have serious implications in terms of public health, safety, regulatory and environmental compliance. This project would allow WWE to maintain compliance with the Regional Water Quality Control Board's NPDES permit and other State and Federal requirements by bringing the T/S and CSD structures into a state of good repair.
Operating Impact:	Wastewater Enterprise relies on critical system components like T/S and CSD structures to maintain compliance with the NPDES operating permits. The immediate concerns are to address function and capacity deficiencies through structural/corrosion improvements, and to protect the secondary/biological treatment processes by preventing saltwater intrusion. If saltwater intrusion is not controlled, the elevated chloride levels from the intrusion could lead to process upsets and potential non-compliance with the NPDES permits, which could translate into fines or other actions from the State and/or Federal regulators.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPCSCD03 / 10002303
Project Title:	Beach and Sansome Street CSD Rehabilitation
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Saed Toloui
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	A program-wide assessment was performed of the combined sewer discharge (CSD) structures through the Collections System Reliability (CSR) programmatic effort. Inspections and analysis provided specific information about lack of or deficient baffles to control floatables per the National Pollutant Discharge Elimination System (NPDES) permit. Scope of work for these CSDs are based on historical performance and Waste Water Enterprise (WWE) Operations video inspection records and include several items at both Beach Street and Sansome Street CSDs. Under this project, cleaning and specific condition assessment of the CSDs will be completed, including preliminary seismic evaluation in order to further scope rehabilitation at the Beach Street CSD. Inspection of baffles and weirs will be performed, and necessary repairs or replacements will be made accordingly. Corroded metal ceiling will also be repaired. Similar improvements will be carried out for the Sansome Street CSD. Concrete cracks and spalling, exposed rebar, and I-beam will be repaired along with replacement of butterfly valve seals.
Justification:	This project meets the endorsed Level of Service (LOS) goals of the SSIP by improving and restoring near shore Combined Sewer Discharge (CSD) structures to a state of good repair. Loss of T/S or CSD structures or the failure/upset of the secondary treatment processes due to saltwater intrusion at the wastewater treatment plants can have serious implications in terms of public health, safety, regulatory and environmental compliance. This project would allow WWE to maintain compliance with the regulatory permits by bringing the CSD structures into a state of good repair.
Operating Impact:	Wastewater Enterprise relies on critical system components like CSD structures to maintain compliance with the NPDES operating permits. The immediate concerns are to address function and capacity deficiencies through structural/corrosion improvements, and to protect the secondary/biological treatment processes by preventing saltwater intrusion. If saltwater intrusion is not controlled, the elevated chloride levels from the intrusion could lead to process upsets and potential non-compliance with the regulatory permits, which could translate into fines or other actions from the State and/or Federal regulators.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPCSCD04 / 10002344
Project Title:	CSD Backflow Prevention and Monitoring
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Saed Toloui
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	Collection system assets that contribute to saltwater intrusion fall into two categories: conveyance and CSD structures. A component of this project involves developing and implementing a CSD and conveyance monitoring plan to gather data on the salinity in the whole collection network to be able to locate potential infiltration sources in the collection system and then verify performance once improvements (implemented through SFPUC's R&R Program) have been completed. The scope also includes planning, design and installation backflow preventers at selected CSD outfalls. Backflow preventers will be installed in a phased and monitored approach, with the following priority CSD outfalls considered based on locations with the potential for highest inflow in the system for the same tide: 17 Jackson Street, 10 Pierce Street, 29 Mariposa Street, 13 Beach Street, 15 Sansome Street, 24 Fifth Street, 25 Sixth Street, 26 Division Street, 18 Howard Street, 31A Islais Creek North, 32 Marin Street, 33 Selby Street, and 41 Yosemite. The project scope will be fluid and subject to change based on monitoring results.
Justification:	This project meets the endorsed Level of Service (LOS) goals of the SSIP by improving and restoring near shore Combined Sewer Discharge (CSD) structures to a state of good repair. Loss of T/S or CSD structures or the failure/upset of the secondary treatment processes due to saltwater intrusion at the wastewater treatment plants can have serious implications in terms of public health, safety, regulatory and environmental compliance. This project would allow WWE to maintain compliance with the regulatory permits by bringing the CSD structures into a state of good repair.
Operating Impact:	Wastewater Enterprise relies on critical system components like CSD structures to maintain compliance with the NPDES operating permits. The immediate concerns are to address function and capacity deficiencies through structural/corrosion improvements, and to protect the secondary/biological treatment processes by preventing saltwater intrusion. If saltwater intrusion is not controlled, the elevated chloride levels from the intrusion could lead to process upsets and potential non-compliance with the regulatory permits, which could translate into fines or other actions from the State and/or Federal regulators.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPCSCD05 / 10002378
Project Title:	5th, North 6th and Division Street CSD Rehab
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Saed Toloui
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	A program-wide assessment was performed of the CSD structures through the Collections System Reliability (CSR) programmatic effort. Based on video inspections by WWE Operations personnel, three CSD structures, CSD 24, 25, and 26 (5th, North 6th, and Division Street) were identified as priority structures due to their age (built in 1947, 1934, and 1963, respectively), the importance of the CSD structure based on amount of discharge and sensitivity of the receiving water body, structural conditions, compliance with permit requirements, and other operational deficiencies. These CSDs were combined into one project due to proximity and hydraulic interconnectedness. Hydraulic modeling of the three CSDs will be performed as their functions are related. Scope of work for these CSDs are based on historical performance and WWE Operations video inspection records and include cleaning and specific condition assessment of the asset, including preliminary seismic evaluation, provide necessary ventilation and repair necessary concrete crack, spalling and exposed rebar. Additionally, the project will also aim to provide safe access, replace the flap gate at 5th St. CSD and North 6th St. CSD, refurbish flap gate at Division CSD, and repair the baffle at Division CSD.
Justification:	This project meets the endorsed Level of Service (LOS) goals of the SSIP by improving and restoring near shore Combined Sewer Discharge (CSD) structures to a state of good repair. Loss of T/S or CSD structures or the failure/upset of the secondary treatment processes due to saltwater intrusion at the wastewater treatment plants can have serious implications in terms of public health, safety, regulatory and environmental compliance. This project would allow WWE to maintain compliance with the regulatory permits by bringing the CSD structures into a state of good repair.
Operating Impact:	Wastewater Enterprise relies on critical system components like CSD structures to maintain compliance with the National Pollutant Discharge Elimination System (NPDES) operating permits. The immediate concerns are to address function and capacity deficiencies through structural/corrosion improvements, and to protect the secondary/biological treatment processes by preventing saltwater intrusion. If saltwater intrusion is not controlled, the elevated chloride levels from the intrusion could lead to process upsets and potential non-compliance with the regulatory permits, which could translate into fines or other actions from the State and/or Federal regulators.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPCSSR_N02 / 10033745
Project Title:	SSIP Sewer Improvements Projects
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Bessie Tam
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	The project purpose is to rehabilitate and/or replace large-diameter sewers after the scope of work is defined through the condition assessment efforts from the Collection System Condition Assessment Project (Project CWWSIPCSSR02). Based on the condition assessment efforts, approximately 1-mile of large diameter sewers over 100-years old and located on Mission Street, between 16th and Cesar Chavez Streets, were confirmed to be in need of rehabilitation. This project will include the design, environmental review, right-of-way, bid and award, construction, project management, and construction management support to complete the rehabilitation work. In addition, funding for the planning efforts for two additional projects will be funded through this project. At the end of the planning effort, the two projects will be completed through a separate wastewater capital project, the Large Diameter Sewer Rehabilitation and Condition Assessment. When this project is completed, approximately 4,350 feet of large-diameter sewers would be rehabilitated, with an extended useful life of at least 50-years. In addition, two conceptual engineering reports would be generated for the next two large-diameter sewer rehabilitation project.
Justification:	This project helps meet the SSIP Level-of-Service (LOS) by providing full compliance with State and Federal regulatory requirements applicable to the treatment and disposal of sewage and storm water, and Wastewater Enterprise (WWE) goal of providing a compliant, reliable, resilient, and flexible system that can respond to catastrophic events.
Operating Impact:	The project will have a positive operating impact. When completed, the rehabilitated sewers will have additional 50-year life. Therefore, it reduces the risk of failure and associated potential operating costs to address emergency failures and monitoring of the existing 100-year-old sewers.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPCSSR_N03 / 10033106
Project Title:	Geary BRT Sewer Improvements Phase 2
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Manfred Wong
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	Phase 2 of SFMTA's Geary Bus Rapit Transit (BRT) Project includes the addition of center-running BRT lanes on Geary Boulevard between Palm Avenue and 27th Avenue, followed by dedicated BRT lanes along each sides of the street between 27th and 34th Avenue. The center-running BRT lanes on Geary Boulevard would be located directly above the existing sewer lines and severely impact SFPUC's ability to perform future maintenance, repair and/or replacement. The purpose of the Phase 2 sewer work is to coordinate with Geary BRT Project to relocate (or replace as needed) main sewers outside of the transit lanes, platforms and bulb-outs. SFPUC had determined sewer conditions along this segment (Stanyan Street to 34th Avenue) and approximately 2.2 miles of aging sewers have been identified as possibly needing replacement. Any sewer work required, whether it is sewer relocation, sewer rehabilitation or sewer replacement, will be undertaken as part of SFMTA's project. Only initial costs for planning and design has been allocated for this project within the SSIP Phase 1 Re-Baselined Program budget.
Justification:	This group of projects helps meet the SSIP Level-of-Service (LOS) by providing full compliance with State and Federal regulatory requirements applicable to the treatment and disposal of sewage and storm water, and Wastewater Enterprise (WWE) goal of providing a compliant, reliable, resilient, and flexible system that can respond to catastrophic events. The Interdepartmental projects will further benefit the City by integrating sewer improvements into transit improvement projects.
Operating Impact:	Many of San Francisco's sewers are at or nearing the end of their useful life and are critically in need of upgrades. In addition, our sewer system was not built to withstand a major earthquake or impacts of climate change. Thus, it is important to invest now in these assets to avoid more costly future emergency repairs and potential regulatory fines.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPCSSR01 / 10002554
Project Title:	Richmond Transport Modeling
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Bessie Tam
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	Historically, geysering and blown manholes have been observed in the Richmond Transport/Storage Tunnel and upstream sewer system during large storms. Various hydraulic models were performed using InfoWorks and some physical improvements to the system have been made over the last 15 years. The hydraulic modeling performed could not account for air pockets or potential bores in the system; therefore, WWE and DPW/Hydraulics agreed that consultant support was needed to provide numeric modeling that can stimulate the known situation and provide recommendations for capital improvements to address the system issues. This project included the review of two separate models: the InfoWorks Integrated Catchment Model of the San Francisco collection system, and a Transient Analysis Program model of the Richmond Transport/Storage Tunnel and associated sewers and amenities. Recommendations for improving the system and addressing the identified issues were developed in a technical memorandum. Since the completion of the TM, a new project was initiated to evaluate and determine which recommendations from the TM would be implemented through construction.
Justification:	Project completed and closed-out.
Operating Impact:	Project completed and closed-out.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPCSSR02 / 10002641
Project Title:	Collection System Condition Assessment
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Bessie Tam
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	There are over 80-miles of major sewers that have been in service for over 100-years. Using Collection System Asset Management Program (CSAMP) data, major sewers were prioritized by expanding the existing consequence of failure scores. Using this method, approximately 13-miles of the 80-miles major sewers that were considered to be the most critical with an average age of 127-years. The project completed the condition assessment of approximately 10-miles of these critical large-diameter sewers. The project included condition assessment of large-diameter sewers at various locations throughout San Francisco, and fulfill the Needs Assessment effort in the Planning Phase. Upon completion of the condition assessment, the means and methods of rehabilitation or replacement will be used to initiate sewer improvement projects in SSIP Sewer Improvement Projects.
Justification:	Project completed - no additional funding is requested.
Operating Impact:	Project completed - no additional funding is requested.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPCSSR03 / 10002652
Project Title:	Kansas and Marin Streets Sewer Improvements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Bessie Tam
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	The purpose of this project is to increase the wet weather flow conveyance for a minor drainage basin within the Islais Creek Watershed Basin to meet the Level of Service storm. The project consists of land acquisition for sewer construction and permanent sewer easement, temporary construction easement for construction of the new sewer and relocation assistance associated with sewer easement and displacements of existing lease-holders who occupy SFPUC's property above the C-Box Transport Storage Structure (Lot 031). Additionally, it will include construction of a new 365 linear-feet, 102-inch diameter reinforced concrete sewer within a proposed permanent sewer easement. This will be constructed between two existing sewers, 8.5-foot by 10.5-foot reinforced concrete basket-handle sewer and an existing 20-foot by 30-foot Box Sewer. Two new reinforced concrete junction structures will also be constructed to connect with the existing sewers, along with surface restoration work associated with construction and installation of the above assets.
Justification:	Upstream improvements have been completed; therefore, this project is necessary to complete the hydraulic capacity increase for this portion of the Islais Creek watershed system.
Operating Impact:	The project will have an overall positive impact to operations. The tunnel will provide additional hydraulic capacity to minimize flood risk to the surrounding areas; therefore, reduce the need for wastewater staff to respond to flooding complaints or issues.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPCSSR04 / 10002664
Project Title:	Van Ness BRT Sewer Improvements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Manfred Wong
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	The Van Ness Bus Rapid Transit (BRT) Project is lead by SFMTA in conjunction with the Van Ness BRT Sewer Improvements Project, which is part of the SFPUC's SSIP Phase 1 Program. SFPUC will replace and relocate existing sewer utilities within Van Ness Avenue, between Lombard Street and Mission Street, from the center of the street to outside of the BRT right-of-way. This will allow for future sewer service maintenance and repair/replacement without impacting SFMTA's BRT operations. The scope of the project includes constructing approximately 20,000 linear feet (LF) of 12-inch to 54-inch diameter Vitrified Caly Pipt (VCP), Reinforced Concrete Pipe (RCP) or High Density Pslyethylene) HDPE (in steel casing) sewer mains and associated manholes, catch basins and culverts; and retrofitting and connecting existing sewer laterals and catch basins to the aforementioned new sewer mains. Closed-circuit television (CCTV) technology will be used to inspect the newly constructed sewer mains, sewer laterals and culverts. Abandoned sewers (approximately 1,800 LF) will be plugged-and-filled.
Justification:	This project meets the SSIP Level-of-Service (LOS) by providing full compliance with State and Federal regulatory requirements applicable to the collection of sewage and storm water, and Wastewater Enterprise (WWE) goal of providing a compliant, reliable, resilient, and flexible system that can respond to catastrophic events. The Interdepartmental projects will further benefit the City by integrating sewer and water improvements into transit improvement projects. The SSIP Phase 1 Re-Baselined Program budget is $21.1M. Due to the significant claims on this SFMTA construction contract, a revised budget of $25M is requested to cover project wide claim related cost sharing. The funding request for FY20-21 is for an additional $4,200,205 to cover claim costs and extended CM/ESDC services.
Operating Impact:	Many of San Francisco's sewers are at or nearing the end of their useful life and are critically in need of upgrades. In addition, our sewer system was not built to withstand a major earthquake or impacts of climate change. Thus, it is important to invest now in these assets to avoid more costly future emergency repairs and potential regulatory fines.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPCSSR05 / 10002667
Project Title:	Better Market Street Sewer Improvements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Manfred Wong
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	San Francisco Public Works Department's vision for a Better Market Street (BMS) is a comprehensive program to reconstruct the City's premier boulevard and the region's most important transit corridor from Octavia Boulevard to The Embarcadero. The program is a series of interdependent projects (BMS Core Capacity Improvements, BMS Streetscape Enhancements, and BMS State of Good Repair) that will advance several key City policies: Transit First, Complete Streets, the SF Pedestrian Strategy/Walk First and the SF Bicycle Plan. The BMS State of Good Repair Project (a.k.a. BMS Sewer Improvements) will be completed under SSIP to replace aging sewer infrastructure beneath Market Street, especially the brick sewers that are over 100 years old. The requesting funding is for project cost of the Phase 1A contract from 5th Street to 8th Street, and for design budget of the entire corridor.
Justification:	This group of projects helps meet the SSIP Level-of-Service (LOS) by providing full compliance with State and Federal regulatory requirements applicable to the treatment and disposal of sewage and storm water, and Wastewater Enterprise (WWE) goal of providing a compliant, reliable, resilient, and flexible system that can respond to catastrophic events. The Interdepartmental projects will further benefit the City by integrating sewer improvements into transit improvement projects.
Operating Impact:	Many of San Francisco's sewers are at or nearing the end of their useful life and are critically in need of upgrades. In addition, our sewer system was not built to withstand a major earthquake or impacts of climate change. Thus, it is important to invest now in these assets to avoid more costly future emergency repairs and potential regulatory fines.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPCSSR06 / 10002670
Project Title:	Geary BRT Sewer Improvements Phase 1
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Manfred Wong
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	SFMTA's Geary BRT Project will improve the 38-Geary bus services, accessibilities, and pedestrian safety. The project includes collaboration from SFPUC, SFPW, and San Francisco County Transportation Authority (SFCTA). Phase 1 of the SFMTA Geary BRT Project is comprised mostly of transit and pedestrian bulbs. The addition of concrete and/or curb alignment change may trigger the needs to relocate existing catch basins, side sewers vents, and manholes. SFPW and SFPUC have determined the condition of water and sewer utilities along the Geary Corridor. Approximately 2.5 miles of aging sewers (6-inch to 18-inch diameter circular sewers and 3-foot by 5-foot egg-shaped brick sewers) along the Geary corridor and nearby cross streets will be rehabilitated or replaced. The purpose of the Geary Blvd Sewer and Water Improvements Project is to coordinate with the Geary BRT Project in relocating/replacing main sewers and water mains outside of the transit lanes along the Geary Corridor from Van Ness Avenue to Stanyan Street.
Justification:	This group of projects helps meet the SSIP Level-of-Service (LOS) by providing full compliance with State and Federal regulatory requirements applicable to the treatment and disposal of sewage and storm water, and Wastewater Enterprise (WWE) goal of providing a compliant, reliable, resilient, and flexible system that can respond to catastrophic events. The Interdepartmental projects will further benefit the City by integrating sewer improvements into transit improvement projects. The $12.9M SSIP Phase 1 Re-Baselined budget is fully appropriated. There is no anticipated need for additional appropriation.
Operating Impact:	Many of San Francisco's sewers are at or nearing the end of their useful life and are critically in need of upgrades. In addition, our sewer system was not built to withstand a major earthquake or impacts of climate change. Thus, it is important to invest now in these assets to avoid more costly future emergency repairs and potential regulatory fines.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPCSSR07 / 10002672
Project Title:	Central Subway Sewer Improvements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Manfred Wong
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	This project is related to the SFMTA Central Subway Phase 2 of the Third Street Long Range Transportation Plan Project that will extend rail service from Fourth and King Streets to a northern terminal at Stockton and Jackson Streets. The purpose of this project is to include sewer improvements to avoid conflicts with the proposed light rail scope and to minimize future repair and replacement impacts. The sewer improvement project includes reconstructing existing 78-inch sewer (Fourth Street between Brannan Street and King Street), and relocating/ replacing existing 30-inch force main (Fourth Street between Bryant Street and King Street) and 48-inch gravity sewer (Fourth Street between Bryant Street and Brannan Street).
Justification:	Project was fully funded with pre-FY2018-2019 funding. This project helps meet the SSIP Level-of-Service (LOS) by providing full compliance with State and Federal regulatory requirements applicable to the collection of sewage and storm water, and Wastewater Enterprise (WWE) goal of providing a compliant, reliable, resilient, and flexible system that can respond to catastrophic events. The Interdepartmental projects will further benefit the City by integrating sewer improvements into transit improvement projects. Sewer construction on this project was completed in 2018. Staff is currently negotiating with SFMTA on project closeout. No additional funding is requested.
Operating Impact:	Many of San Francisco's sewers are at or nearing the end of their useful life and are critically in need of upgrades. In addition, our sewer system was not built to withstand a major earthquake or impacts of climate change. Thus, it is important to invest now in these assets to avoid more costly future emergency repairs and potential regulatory fines.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPCSSR08 / 10002687
Project Title:	Mission Bay Loop Sewer Improvement
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Bessie Tam
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	SFMTA's Mission Bay Loop Project will install light rail track on Illinois Street between 18th and 19th Streets. The improvements will support the future operations of the Third Street Light Rail in anticipation of the activation of the new Central Subway segment. The existing gravity sewers and force mains on Illinois Street will need to be relocated and/or replaced to avoid future conflicts with light rail operations. This sewer improvement project includes planning, environmental review, design, and construction phases.
Justification:	Funded by pre-fiscal year 2017-2018
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPCSSR09 / 10002689
Project Title:	Drumm and Jackson Streets Sewer System Improvement
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Bessie Tam
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	Under this project, 800 linear-feet of the Drumm Street Box Sewer (between Commercial and Jackson Streets) and 200 linear-feet of the Jackson Street Box Sewer (between Drumm Street and the Embarcadero) will be rehabilitated. Increasing the reliability of these major assets help meet the NPDES permit requirement to maximize use of the collection system for storage and to maximize flows to the wastewater treatment plant. Associated work for rehabilitation will include performing necessary cleaning for trenchless rehabilitation, bypassing sewer flow by damming and piping through the existing box sewer and performing surface restoration. Coordination will also be needed with WWE to ensure worker safety and preventing wet-weather impacts. CEQA approval and public outreach for the project will also be required. As needed, a Memorandum of Understanding (MOU) with SF Port for work near the intersection of the Embarcadero and Jackson Street may be executed. The project includes planning, environmental approval, design, and construction phases.
Justification:	Fully funded before FY20-21
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPCSSR10 / 10002695
Project Title:	Masonic Avenue Sewer Improvements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Manfred Wong
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	SFPW's Masonic Avenue Complete Streets Project will take place on Masonic Avenue between Geary Boulevard and Fell Street. The project includes sidewalk and streetscape improvements; median and bicycle lane additions on Masonic Avenue; construction of a small park on the southwest corner of Geary Boulevard and Masonic Avenue; and incorporation of public art elements along this corridor. In conjunction with the aforementioned SFPW Masonic Avenue Complete Streets Project, the Masonic Avenue Sewer Replacement Project includes rehabilitating/ realigning existing sewers as well as constructing new sewer mains, manholes, side sewers and catch basins. The sewer scope includes approximately 4,700 linear feet of sewers ranging from 12-inch to 24-inch in diameter.
Justification:	This project helps meet the SSIP Level-of-Service (LOS) by providing full compliance with State and Federal regulatory requirements applicable to the collection of sewage and storm water, and Wastewater Enterprise (WWE) goal of providing a compliant, reliable, resilient, and flexible system that can respond to catastrophic events. The Interdepartmental projects will further benefit the City by integrating sewer improvements into transit improvement projects. The SSIP Phase 1A Re-Baselined Budget is $3,921,000. The project was fully funded by previous appropriations. Staff is currently negotiating with SFPW on final cost sharing for project closeout. No additional funding is requested.
Operating Impact:	Many of San Francisco's sewers are at or nearing the end of their useful life and are critically in need of upgrades. In addition, our sewer system was not built to withstand a major earthquake or impacts of climate change. Thus, it is important to invest now in these assets to avoid more costly future emergency repairs and potential regulatory fines.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPCSSR11 / 10002760
Project Title:	Cargo Way Sewer Box Odor Reduction
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Bessie Tam
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	This project will construct a new force main (flushing line) that conveys secondary effluent from the existing Booster Pump Station to the existing 7-foot diameter sewer located on Cargo Way, near Mendell Street. The new force main will introduce approximately 1.5 million-gallon-per day (MGD) of flow back into the sewer system to minimize solids from settling to the bottom of the sewer; thereby, reducing odors from forming and escaping from the sewers into the atmosphere. In addition, mechanical, electrical, and instrumental controls will be installed inside the Booster Pump Station that would allow operation staff to turn on and off (or throttle) flows into this flushline.
Justification:	The Bay Area Air Quality Management District (BAAQMD) and the public have filed several odor complaints against SFPUC for the reported odors near the project vicinity. This project will address the odor complaints from BAAQMD and the public. As the surrounding areas are being developed by the City, more people are expected to be present in the area and an increased number of odor complaints would be expected.
Operating Impact:	Operations will need to continue to respond to odor complaints, monitor odors, and install temporary odor-control measures in manholes.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPCSSR12 / 10002767
Project Title:	Rutland Sewer Improvements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Raphael Garcia
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	Under this project, the hydraulic capacity of the sewers in the project area will be increased to meet the SSIP Level of Service storm. The project consists of multiple improvements along Rutland Street (from Visitacion Avenue to Sunnydale Avenue) including replacing the existing sewer with a larger reinforced concrete pipe, constructing a wet weather diversion structure, and conveying water passing over a weir inside this underground structure during a large storm event through new piping and discharging into a deep wet weather tunnel (Sunnydale Sewer Tunnel). To minimize construction impacts to the community, this sewer work will be constructed with the Visitacion Valley Green Nodes Project.
Justification:	N/A
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPCSSR13 / 10002776
Project Title:	Taraval Sewer Improvements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Manfred Wong
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	SFMTA has proposed a pedestrian safety and transit improvements project along Muni's "L Taraval" route. The project includes construction/extension of boarding islands, addition of dedicated transit-only lanes, and replacement of aging tracks, overhead wires, and trolley poles. The Taraval Sewer Improvements Project will relocate existing sewer facilities from the center of the street to outside of the tracks to allow for ease of maintenance and repair/replacement without impacting future SFMTA's Muni operations. The scope of the sewer work includes replacing approximately 19,000 LF of 12-inch to 36-inch diameter ISP, Vitrified Clay Pipe (VCP), Reinforced Concrete Pipe (RCP), or concrete sewers along Taraval Street between 15th Avenue and 46th Avenue, and Ulloa Street between Forest Side Avenue and 15th Avenue for a twin sewer system. Most of the sewers to be replaced are close to 100 years old. Project is split into two construction contracts. Segment A is from Zoo to Sunset Blvd. and construction was initiated in 7/19. Segment B is from Sunset Blvd. to West Portal and that construction contract is expected to NTP in early 2020.
Justification:	This group of projects helps meet the SSIP Level-of-Service (LOS) by providing full compliance with State and Federal regulatory requirements applicable to the treatment and disposal of sewage and storm water, and Wastewater Enterprise (WWE) goal of providing a compliant, reliable, resilient, and flexible system that can respond to catastrophic events. The Interdepartmental projects will further benefit the City by integrating sewer improvements into transit improvement projects.
Operating Impact:	Many of San Francisco's sewers are at or nearing the end of their useful life and are critically in need of upgrades. In addition, our sewer system was not built to withstand a major earthquake or impacts of climate change. Thus, it is important to invest now in these assets to avoid more costly future emergency repairs and potential regulatory fines.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	LDS-1 / (N/A)
Project Title:	Large Diameter Sewer Initial Projects
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Bessie Tam
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	The project purpose is to rehabilitate and/or replace large-diameter sewers based on condition assessment efforts completed by staff. This project will fund approximately 35,000-feet of rehabilitation or replacements of large-diameter sewers that are over 100-years-old in various parts of San Francisco. In addition, a 66-inch diameter pressurized pipe (or the Channel Force Main) was identified to be in need of rehabilitation or replacement; however, since the force main is almost always in service to meet regulations, a major sewer bypass is needed in order to perform a thorough inspection. This project will construct a bypass, or the Channel Force Main Tee, that will connect the existing force main to a nearby sewer transport/storage structure. When complete, approximately one-third of the existing force main can be taken out of service for rehabilitation and/or repair during the dry-weather seasons. In addition, this bypass will provide long-term operational flexibility to Wastewater Enterprise since flows from the Channel Force Main can be diverted away from the headworks area of Southeast Treatment Plant during dry weather seasons. When complete, this project will fund multiple construction contracts to rehabilitate and/or repair approximately 35,000-feet of large-diameter sewers, and a bypass will be installed that would allow future condition assessment and/or rehabilitation of one-third of the Channel Force Main.
Justification:	Over 80-miles of large-diameter sewers (sewers greater than 36-inches in diameter) have been in service for 100-years or more and are in need of rehabilitation before failure occurs. Since these are large diameter sewers, any failures could have significant impacts to the public health and safety.
Operating Impact:	This project will have a positive operating impact, as it reduces the risk of sewer failures in the aging sewer system. The bypass, or the Channel Force Main Tee, will provide a means for one-third of the existing Channel Force Main to undergo condition assessment or rehabilitation while maintaining regulatory compliance; and the bypass will provide operational flexibility that allows dry weather flows to be diverted away from headworks during dry weather seasons.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 2,200	$ 0	$ 2,200	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 27,305	$ 0	$ 1,347	$ 5,375	$ 7,570	$ 10,976	$ 2,038
Construction	$ 32,015	$ 0	$ 7,875	$ 14,625	$ 9,515	$ 0	$ 0
Total	$ 61,520	$ 0	$ 11,422	$ 20,000	$ 17,085	$ 10,976	$ 2,038

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	LDS-4 / (N/A)
Project Title:	Judah Street Twin Sewer Construction Project
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	In line with SSIP's strategy to work with other City and County agencies on projects they initiated to protect value and function of wastewater facilities, the Judah Street Twin Sewer Construction Project would be completed in SSIP. This interdepartmental sewer project would replace aging infrastructure such as the sewers which are made of bricks and are over 100 years old. In a coordination effort to evaluate the existing sewer infrastructure within the N Judah Rapid Transit Project limits, the available age, materials, and past condition assessment of sewers were taken into consideration to determine the proposed sewer replacement scope. It is assumed in the case of the N Judah Street improvements, SFPUC would prefer replacing all aging brick sewers and other structurally inadequate sewers in need of repair or replacement. Preliminary project estimate costs are based on the assumption that 78% of the existing sewers are recommended in need of replacement, where 34% of the existing sewers are over 100 years old. Condition assessment of the remaining 22% of sewers will be performed and replacement needs will be determined; project cost will be adjusted accordingly. Sewer replacement work is recommended along Judah corridor and the cross streets intersecting Judah Street. About 9% of the sewers have been identified for replacement and half of these segments are currently under construction. The proposed replacement work is assumed with open trench construction technique ("open-cut") using equivalent pipe sizes. Hydraulic analysis would be performed to determine the appropriate proposed sizes and project scope/estimate will be adjusted accordingly. The existing sewers along Judah Street within the project limit are mainly between and beneath the light rail vehicle tracks. And the MUNI Overhead Contact System (OCS) is active and currently in service for the N-Judah operation on Judah Street. Sewer access for construction, inspection, cleaning and maintenance will require de-energization of the OCS and may be conducted when trains are not in service (during late night or early morning hours). Two alternatives were assumed for the cost analysis: 1) in-situ open-cut replacement and 2) relocate the main sewer completely outside of the tracks by construction of a twin collection system on each side of the tracks. Although Alternative 1 is more cost effective in overall construction cost, Alternative 2 would reduce long-term maintenance costs, and benefit both SFMTA and SFPUC by ensuring minimal impacts to SFMTA operations from periodic sewer maintenance and repair activities while allowing SFPUC access to sewer infrastructure without disrupting the rapid transit service.
Justification:	MTA's Judah project schedule is unknown
Operating Impact:	Re-evaluate project schedule in conjunction with Judah Muni project improvements with MTA.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 4,250	$ 0	$ 0	$ 0	$ 4,250	$ 0	$ 0
Design	$ 8,500	$ 0	$ 0	$ 0	$ 2,125	$ 6,375	$ 0
Construction Management	$ 8,354	$ 0	$ 0	$ 0	$ 0	$ 0	$ 8,354
Construction	$ 48,851	$ 0	$ 0	$ 0	$ 0	$ 0	$ 48,851
Total	$ 69,955	$ 0	$ 0	$ 0	$ 6,375	$ 6,375	$ 57,205

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	LDS-6 / (N/A)
Project Title:	Geary BRT Sewer Improvements - Phase 2
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	This project includes planning, design and construction of the proposed sewer work in coordination with the Geary BRT Phase 2 project. Currently, the 38 Geary bus service delivery is relying on motor coach with bus stations closer to the curbs. The proposed center-running dedicated lanes on Geary Boulevard will be directly above some existing sewers. The proposed sewer replacement alignment is mostly recommended with a twin system outside of the new transit platforms and center-running BRT lanes for ease of future maintenance and prevention of service disruption to MUNI operation. There are approximately 22% of the street blocks within the project limit have existing twin collection system. The existing sewer infrastructure within the Geary BRT Phase 2 limits, the available age, materials and past condition assessment of sewers were taken into consideration to determine the proposed sewer replacement scope. It is assumed in the Geary BRT Phase 2 project improvements, SFPUC would prefer replacing all aging brick sewers and other structurally inadequate sewers in need of repair or replacement. The preliminary project estimated costs are based on the assumption that 78% of the existing sewers are recommended in need of replacement, where 40% of the existing sewers are over 90 years old. Replacement need of the remaining 22% of the sewers will be determined by condition assessment; project cost will be adjusted accordingly. Sewer replacement work is recommended along Geary corridor and the cross streets intersecting Geary Boulevard. Some of the sewers along the cross street avenues (2nd, 3rd, 10th, 11th, 27th, 28th and 30th) were replaced on or after 1997. About 11% of the sewers have been identified for replacement. The proposed replacement work is assumed with open trench construction technique using equivalent pipe sizes. It is recommended that condition assessment is performed on all sewers along the Geary corridor within the project limit for trenchless rehabilitation assessment. Hydraulic analysis will be performed to determine the appropriate proposed sizes and project scope/estimate will be adjusted accordingly.
Justification:	Interdepartmental sewer projects are projects initiated by other City and County agencies that can be strategically coordinated with SSIP projects. These synergies are also a factor considered when prioritizing sewer improvements. The proposed center-running BRT lanes on Geary Boulevard will be directly above the existing sewer currently located along the centerline of Geary Boulevard. The proximity of the existing sewer to the proposed BRT lane location may impact SFPUC's ability to perform future maintenance, repair and/or replacement. In addition, approximately 70% of the pipe segments within the Geary BRT Phase 2 limits are over 50 years old and 37% of the segments are 100-year or older. The purpose of the sewer work is to coordinate with Geary BRT Project Phase 2 to relocate main sewers outside of the transit lanes and locations of platforms and bulb-outs along the Geary Corridor. In line with SSIP's strategy to work with other City and County agencies on projects they initiated to protect value and function of wastewater facilities, the Geary BRT Sewer Replacement Project would be completed in SSIP.
Operating Impact:	During Construction: Bypass and/or diversions may be required to facilitate construction work. Post Construction: This project involves in-kind rehabilitation and replacement, and will not impact operations once the project is completed.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction Management	$ 5,899	$ 0	$ 0	$ 0	$ 0	$ 3,008	$ 2,890
Construction	$ 26,216	$ 0	$ 0	$ 0	$ 0	$ 13,370	$ 12,846
Total	$ 32,115	$ 0	$ 0	$ 0	$ 0	$ 16,378	$ 15,736

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	TS-3 / (N/A)
Project Title:	T/S Box Seismic Evaluation
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	This evaluation would include evaluation of seismic vulnerabilities, assessment of seismic reliability, identification of deficiencies and potential conceptual improvement strategies of these Treatment/Storage (T/S) facilities: Marina T/S, Jackson T/S, Channel T/S, Mariposa T/S, Islais Creek T/S, Yosemite T/S, Sunnydale T/S, Richmond T/S, Westside T/S, Lake Merced T/S As part of the T/S Box Tier 1 Condition Assessment, potential vulnerabilities will be identified through a desktop review of drawings. Although the range of these potential seismic issues will be identified upon completion of that study, some examples of vulnerabilities are anticipated to include: • Ground shaking • Ground deformation (e.g. liquefaction) • Interactions with other structures • Points of connection with other wastewater assets The T/S boxes were constructed with a range of configurations, from single box sections to tunnels and multi-box monolithic structures. Due to this variability in configuration and the types of seismic vulnerabilities, the analytical approach would be developed specifically for each T/S box. A general scope of work may include the following steps: 1. Review of available drawings 2. Review of geotechnical information, basis of design / design criteria 3. Review of results of Tier 1 condition assessment and other prior condition assessment information 4. Development of analytical approach 5. Evaluation of seismic vulnerabilities 6. Analysis of select representative structural cross sections 7. Determination of seismic reliability, deficiencies and potential improvement strategies 8. Preparation of engineering report
Justification:	After a major earthquake, the Transport / Storage boxes (T/S Boxes) will be required to be functional to collect and store wastewater and to convey it to the treatment plants, per Seismic Reliability LOS Goals. In addition, many of the T/S boxes provide a connection point to the system's combined sewer discharge structures. Although the T/S boxes are considered to be some of the more recently constructed assets in the collection system, most were not designed using current seismic practices. A seismic evaluation of the T/S boxes is needed to assess their vulnerability, identify deficiencies and determine if improvements are required for them to remain functional following a major earthquake
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,350	$ 0	$ 0	$ 1,161	$ 189	$ 0	$ 0
Design	$ 1,260	$ 0	$ 0	$ 0	$ 454	$ 542	$ 265
Total	$ 2,610	$ 0	$ 0	$ 1,161	$ 643	$ 542	$ 265

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	TS-4 / (N/A)
Project Title:	T/S Box Improvements (Initial Allowance)
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	This project includes an allocation of funding to perform improvements to Treatment/Storage (T/S) boxes identified following Tier 2 field inspections. Information from Tier 2 work will be used to identify needs, develop, and prioritize projects. Due to the wide range in asset sizes, type of construction, field conditions, and level of deterioration, improvement costs will be highly variable. Due to the size and current life cycle state of the T/S boxes, it is anticipated that improvements will consist primarily of rehabilitation of internal defects using trenchless methods. Examples of potential improvements may include restoration of internal concrete and reinforcement, structural repairs, equipment repairs, and flushing systems.
Justification:	San Francisco has approximately 17 miles of T/S structures around its perimeter, varying in size up to 25 feet wide and up to 52 feet deep. T/S boxes store and convey combined sanitary and stormwater flow to SFPUC's treatment plants. These assets were constructed between the late 1970's to early 1990's, making the oldest structures currently over 40 years old. Given the corrosive environment within these facilities, as well as their importance and value, improvements may be needed to maintain reliability. To protect SFPUC investments it may be more effective to address defects before accelerated deterioration least to more costly repairs in the future. This project involves SFPUC's transport/storage box (T/S Box) facilities, including the following assets: • Marina T/S • Jackson T/S • Channel T/S • Mariposa T/S • Islais Creek T/S • Yosemite T/S • Sunnydale T/S • Richmond T/S • Westside T/S • Lake Merced T/S
Operating Impact:	During Construction: Minor workarounds may be required to facilitate construction work, however major shutdowns and/or diversions are not likely required. Post Construction: This project involves in-kind rehabilitation and replacement, and will not impact operations once the project is completed.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 482	$ 0	$ 0	$ 0	$ 0	$ 0	$ 482
Design	$ 328	$ 0	$ 0	$ 0	$ 0	$ 0	$ 328
Total	$ 810	$ 0	$ 0	$ 0	$ 0	$ 0	$ 810

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CSD-1 / (N/A)
Project Title:	Brannan (019) CSD Gate & Baffle Rehab
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	The components of the project at Brannan Combined Sewer Discharge (CSD) involve the following, as recommended in the 2019 AAR: • Replace the butterfly valve and hydraulic actuator • Replace the two sensors and corroded metal stilling wells • Replace the flap gate with an inline check valve • Install baffle for floatables control • Conduct concrete patching and repair works and repair exposed rebar • Replace the access ladder
Justification:	The Brannan St Combined Sewer Discharge ("Brannan CSD") is located at Brannan St and The Embarcadero. Brannan CSD was originally constructed in 1912. The outfall structure consolidates flows from the Brannan St and Beale St sewers and interfaces with the Channel Transport/Storage (T/S) Box. The following issues need to be addressed to meet Operational Reliability LOS goals (State of Good Repair): • Butterfly Valve: Unlike most outfalls, the Brannan CSD does not have an overflow weir. A rectangular butterfly valve with a hydraulic actuator controls combined sewer overflows. The valve is controlled by level measurement from a stilling well located under the pier measuring tidal flows ("tide sensor") as well as a stilling well located within the T/S box ("sewer sensor"). The sensors are not currently in service. The 2019 inspections noted severe corroding on the stilling well of the sensors. The controls and power unit for the valve are located on the opposite sidewalk, Embarcadero South (west side of street), with the connecting utilities traversing under the MUNI light rail railway. The butterfly valve also prevents seawater and sea life from entering the sewer system. The butterfly valve is old, corroded, and past its useful life. The butterfly valve no longer functions and is stuck in the closed position. As a result, the Brannan CSD is not currently functioning. • Flap Gate: The outfall has a flap gate along the sea wall that is intended to prevent seawater and sea life from entering the discharge tunnel during high tide. During the construction of the Embarcadero promenade, concrete was demolished and dropped on the existing gate. This damaged the frame and gate, preventing seating of the gate against the wall and damaging the flap. The gate no longer functions in restraining seawater and sea life from entering the sewer. • Baffle: Brannan CSD does not currently have a baffle for floatables control. The 2019 AAR recommended installation of a baffle. • Structural Rehab: Annual inspection of the outfall has revealed that the structure exhibits concrete degradation and spalling, exposed rebar and biological growth. The following issues need to be addressed to meet Health, Safety & Security LOS goals: • The access ladder into the outfall is missing the bottom rungs Conceptual design is completed under the R&R Project TF76.
Operating Impact:	During Construction: This project will have no impact to operations during construction, as the project will be undertaken during the dry season when the asset is not in use. Post Construction: This project involves in-kind rehabilitation and replacement, and does not impact operations once the project is completed.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 300	$ 300	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 600	$ 37	$ 450	$ 113	$ 0	$ 0	$ 0
Construction Management	$ 589	$ 0	$ 0	$ 389	$ 200	$ 0	$ 0
Construction	$ 3,446	$ 0	$ 0	$ 2,161	$ 1,285	$ 0	$ 0
Total	$ 4,935	$ 337	$ 450	$ 2,663	$ 1,485	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CSD-2 / (N/A)
Project Title:	Baker (009) Baffle Improvements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	The components of the project at Baker CSD involve the following: • Install a baffle on the east overflow weir • Repair or replace western array of valves to stop leaking • Repair eastern array of valves to prevent leaking • Repair or replace deteriorated metal plumbing pipes • Repair minor defects including missing aggregate and infiltration in connecting sewer • Patch and coat minor exposed aggregate in former DAF chamber
Justification:	Baker CSD (CSD 009) is located at the northern end of Baker St, adjacent to the Little Marina Green Picnic Area. Baker CSD was originally constructed in 1971. During storm events when the treatment and storage (T/S) in the system is maximized, the structure allows combined sanitary sewer and stormwater runoff from the Marina T/S box to discharge to the Bay. The following issue needs to be addressed to meet Operational Reliability LOS goals (Performance Requirements): • East Baffle Wall: Baker CSD was originally constructed in 1971 and has a weir elevation of -4.0 feet. The CSD has two weirs: the "east overflow weir" and the "west overflow weir". Each weir is approximately 39 feet in length. While the west overflow weir has a wooden baffle that is noted to be in good condition, recent inspections have noted that the baffle adjacent to the east overflow weir is missing. The following issues need to be addressed to meet Operational Reliability LOS goals (State of Good Repair): • LCV Check Valves: In 2015, LCV Check Valves (flap gates) were installed on each (east and west) weir to prevent tidal backflow into the sewer system. There are six check valves on each weir (12 in total). Recent inspections have noted that the western array of check valves may leak during king tides due to the adhesive peeling away from the concrete. The adhesive on the eastern array of check valves are also showing signs of deterioration in a similar fashion. • Structural Rehab: Annual CSD inspections have also revealed minor structural deficiencies at Baker CSD, such as deteriorated metal plumbing pipes (≤2 inch diameter) at one end of the discharge structure, minor missing aggregate, stains and patched circumferential cracks in the rectangular portion of the connecting sewer, and minor exposed aggregate in the former DAF chamber.
Operating Impact:	During Construction: This project will have no impact to operations during construction, as the project will be undertaken during the dry season when the asset is not in use. Post Construction: This project involves in-kind rehabilitation and replacement, and does not impact operations once the project is completed.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 76	$ 76	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 153	$ 10	$ 115	$ 28	$ 0	$ 0	$ 0
Construction Management	$ 150	$ 0	$ 0	$ 150	$ 0	$ 0	$ 0
Construction	$ 878	$ 0	$ 0	$ 878	$ 0	$ 0	$ 0
Total	$ 1,257	$ 86	$ 115	$ 1,056	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CSD-3 / (N/A)
Project Title:	System-wide CSD & T/S Monitoring Equipment Assessm
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	The project involves a system-wide assessment of WWE's CSD monitoring equipment for wet weather operations and reporting. The assessment may provide recommendations for replacement or relocation of sensors, calibration needs, technology upgrades, transfer from hard-wired to radio, new installations, additional access, or other recommendations. As an allowance, the project cost assumes replacement and conversion to wireless communication for existing sensors at the following CSD locations: CSD 001 – Lake Merced (3 sensors), CSD 002 – Vicente (3 sensors), CSD 003 – Lincoln (3 sensors), CSD 005 – Seacliff 1 (3 sensors), CSD 007 – Seacliff 2 (2 sensors), CSD 009 – Baker (1 sensor, relocated from Pierce CSD), CSD 025 – 6th Street (1 sensor), CSD 029 – Mariposa (3 sensors), CSD 031A – Islais Creek (1 sensor), CSD 041 – Yosemite (1 sensor) and CSD 043 – Sunnydale (1 sensor). An additional allowance of $2,0000,000 is also included for reliability improvements of sensors at other CSD locations based on the assessment results.
Justification:	Monitoring equipment is used by Original Equipment Manufacturer (OEM) for wet weather operations and reporting. Monitoring equipment typically involves sensors installed at T/S boxes or at outfalls, conveying information through either wireless networks or through distributed control system (DCS) hard-wired networks. SFPUC's sensor network typically consists of level sensors, but there are also other sensors in the system such as pressure sensors. To ensure reliable wet-weather operations and to comply with reporting requirements, it is necessary to have monitoring equipment at the outfalls that are capable of reliably generating data that can be used to determine the start and end time of discharges from each CSD outfall. This information should be available to operators in real-time to ensure that the system is operating reliably during wet weather. The reliability of data that is conveyed from the sensors depends on a number of factors, including: the location of the probe, the suitability of technology to the particular application, the reliability of the communication line, calibration of the sensors, the condition of the sensors, and reliable power supply (e.g. battery pack or hard-wired power). Access to the monitoring equipment is also a factor in a reliable monitoring network, as easy access is needed for condition assessment, calibration and trouble-shooting. OEM has also noted issues in the past with hard-wired sensors, as the lengthy and exposed cables can be susceptible to damage. Recent 3-D scanning of the CSD outfalls is currently underway which will provide up-to-date information on the locations of the sensors and elevations of the probes. A system-wide assessment is recommended to assess the condition of the sensors and evaluate system-wide network communication approaches (e.g. wireless vs. DCS).
Operating Impact:	During Construction: This project will have no impact to operations during construction, as the project will be undertaken during the dry season when the asset is not in use. Post Construction: None

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 655	$ 0	$ 655	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 8,634	$ 0	$ 0	$ 655	$ 2,055	$ 3,950	$ 1,975
Total	$ 9,289	$ 0	$ 655	$ 655	$ 2,055	$ 3,950	$ 1,975

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CSD-4 / (N/A)
Project Title:	CSD Structure Rehab & Upgrades - Part 1
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	A detailed condition inspection should be undertaken prior to design to confirm the scope of structural rehabilitation works. The components of the projects at Laguna (CSD 011), Howard (CSD 018), Fourth St N (CSD 023), Mariposa (CSD 029), Evans (037), Lake Merced (001) and Lincoln (003) are detailed as follows. Laguna CSD Consolidation: This project involves planning, design and construction of Laguna CSD consolidation. For costing purposes, it is assumed that Laguna CSD will be filled with lightweight cellular concrete, with a bulkhead installed at the Marina T/S box and at the sea wall. The following general project elements are assumed: clean and prepare the pipe for decommissioning; remove debris and loose materials, and seal infiltration cracks and holes; demolish existing items as required to facilitate construction activities; relocate and/or cap any existing utilities into the CSD; install a permanent bulkhead at the seawall and a permanent bulkhead at Marina T/S box; apply anticorrosive coating to all exposed ferrous metals; perform dewatering within the CSD as required; install lightweight cellular concrete; remove access manholes and backfill Howard CSD Rehab: Improve floatables control on flows discharging through the butterfly valve; repair leaking butterfly valve; replace conduit for valve control; patch and coat concrete defects and exposed rebar; investigate potential void and repair; repair missing bricks and mortar; seal major cracks and fractures Fourth St North CSD Rehab: Patch and coat concrete defects and exposed rebar; investigate potential pipe sag; repair missing bricks and mortar; seal major cracks and fractures Mariposa CSD Rehab: Patch and coat concrete defects and exposed rebar; seal infiltration cracks and holes; repair major cracks and fractures; repair or replace manhole cover and ladder rungs; replace monitoring line brackets Evans (037) CSD Rehab: Seal infiltration cracks and holes; patch and repair concrete defects; patch and repair exposed rebar and missing aggregate; repair or replace baffle brackets if necessary Lake Merced (001) CSD Rehab: Seal infiltration cracks and holes; patch and coat concrete defects and exposed rebar Lincoln (003) CSD Rehab: Seal infiltration cracks and holes, patch and coat concrete defects and exposed rebar; seal major cracks and fractures, remove abandoned-in-place flow monitoring equipment and cables
Justification:	This project encompasses condition assessment and improvements at the following seven CSD Structures: Laguna (011) , Howard (018), Fourth St. North (023), Mariposa (029), Evans (037), Lake Merced (001), and Lincoln (003). Improvements on the CSD structures are required to meet Operational Reliability LOS goals (Performance Requirements and State of Good Repair).
Operating Impact:	During Construction: This project will have no impact to operations during construction, as the project will be undertaken during the dry season when the asset is not in use. Post Construction: None

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 2,210	$ 0	$ 70	$ 395	$ 782	$ 964	$ 0
Design	$ 4,421	$ 0	$ 0	$ 302	$ 971	$ 1,908	$ 1,240
Construction Management	$ 4,344	$ 0	$ 0	$ 0	$ 100	$ 1,264	$ 2,981
Construction	$ 25,405	$ 0	$ 0	$ 0	$ 584	$ 7,389	$ 17,432
Total	$ 36,380	$ 0	$ 70	$ 697	$ 2,437	$ 11,525	$ 21,653

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CSD-5 / (N/A)
Project Title:	Islais Creek (031A) CSD Rehab & Backflow Preventio
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	The components of the project at Islais Creek North CSD involve the following: • Condition assessment of the CSD structure • Install check valve on all weir openings for backflow prevention • Patch and coat concrete defects • Seal infiltration cracks A hydraulic study should be completed in the planning stage to review head loss and ventilation impacts of a backflow prevention device at Islais Creek North CSD. For preliminary scoping purposes, it is assumed that overflow check valves (composed of a stainless steel mounting frame with a flexible rubber flap attached to the top of the mounting plate) will be anchored to the creek-side of all weir openings to provide backflow prevention. The appropriate backflow prevention technology for this CSD configuration should be explored during AAR.
Justification:	Islais Creek North CSD (031A) was originally constructed in 1994. The CSD is located adjacent to Tulare St in between Indiana St and Tennessee St. During storm events when the treatment and storage (T/S) in the system is maximized, the structure allows combined sanitary sewer and stormwater runoff from the Islais Creek T/S box to discharge into receiving waters at Islais Creek and ultimately into the Bay. The following issue needs to be addressed to meet Operational Reliability LOS goals (Performance Requirements): • Backflow Prevention: Islais Creek North CSD is the largest outfall structure in the City based on weir length. The weir at Islais Creek North CSD is at an elevation of -3.0 feet. Due to the low elevation of the weir, the CSD currently experiences tidal breaching during king tides (very high astronomical tides typically occurring 2-3 times per year). The CSD has a total effective weir length of 600 feet and the CSD is susceptible to seawater intrusion. To meet the Operational Reliability LOS goals (Performance Requirements), installation of a backflow prevention device would mitigate seawater intrusion into the sewer system and protect the CSD structure against accelerated concrete degradation. The following issue needs to be addressed to meet Operational Reliability LOS goals (State of Good Repair): • Structural Rehab: The 2019 CSD inspection also revealed structural deficiencies at Islais Creek North CSD, including multiple cracks and infiltration. The inspection of the weir revealed hairline cracks on the weir in multiple places. It is recommended that structural rehabilitation works be conducted to repair cracks and seal sources of infiltration to meet the Operational Reliability LOS goals (State of Good Repair).
Operating Impact:	During Construction: This project will have no impact to operations during construction, as the project will be undertaken during the dry season when the asset is not in use. Post Construction: None

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 564	$ 0	$ 0	$ 0	$ 564	$ 0	$ 0
Design	$ 1,129	$ 0	$ 0	$ 0	$ 90	$ 655	$ 384
Construction Management	$ 1,109	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,109
Construction	$ 6,486	$ 0	$ 0	$ 0	$ 0	$ 0	$ 6,486
Total	$ 9,288	$ 0	$ 0	$ 0	$ 654	$ 655	$ 7,979

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CSD-6 / (N/A)
Project Title:	CSD Structure Rehab & Upgrades - Part 2
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	A detailed condition inspection should be undertaken prior to design to confirm the scope of structural rehabilitation works. The components of the projects at Sixth St S (CSD 027), Selby (CSD 033), Third St S (CSD 035), Third St N (CSD 031), Marin (CSD 032) and Mile Rock (CSD 004) are detailed as follows. Sixth St S (027) CSD Rehab: • Patch and coat concrete defects • Seal infiltration cracks • Clean influent sewer that appears to be clogged Selby (033) CSD Backflow Prevention: • Install check valve on all weir openings for backflow prevention Third St S (035) CSD Rehab and Backflow Prevention: • Install check valve on all weir openings for backflow prevention • Repair concrete surfaces Third St N (031) CSD Rehab: • Repair and patch exposed aggregate and rebar • Repair damaged mortar on weir wall Marin (032) CSD Rehab and Backflow Prevention: • Install check valve on all weir openings for backflow prevention Mile Rock (004) CSD Rehab: • Seal infiltration cracks and holes
Justification:	This project encompasses improvements at the following six structures: Sixth St S (CSD 027), Selby (CSD 033), Third St S (CSD 035), Third St N (CSD 031), Marin (CSD 032) and Mile Rock (CSD 004). Improvements on the CSD structures are required to meet Operational Reliability LOS goals (Performance Requirements and State of Good Repair).
Operating Impact:	During Construction: This project will have no impact to operations during construction, as the project will be undertaken during the dry season when the asset is not in use. Post Construction: None

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 946	$ 0	$ 0	$ 0	$ 0	$ 0	$ 946
Design	$ 1,476	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,476
Construction Management	$ 601	$ 0	$ 0	$ 0	$ 0	$ 0	$ 601
Construction	$ 3,514	$ 0	$ 0	$ 0	$ 0	$ 0	$ 3,514
Total	$ 6,537	$ 0	$ 0	$ 0	$ 0	$ 0	$ 6,537

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPNC01 / 10002138
Project Title:	North Shore to Channel F M Drainage Improvement
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Bessie Tam
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	North Shore Force Main (NSFM) provides critical conveyance of combined sewage and stormwater flows and before this project, the force main did not have any redundancy. Approximately 2,750 LF of the 8,000 LF of this force main were located in The Embarcadero Roadway and either constructed of steel pipe or ductile iron pipe (both are susceptible to corrosion). After emergency repairs in 2008, a project was initiated under the Wastewater Capital Improvement Program to construct a redundant force main (North Shore to Channel Force Main [NSCFM]), so the 2,750 LF of the existing NSFM may be taken out of service for a complete repairs.
Justification:	TBD
Operating Impact:	TBD

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPCSPS01 / 10002417
Project Title:	Hudson Ave Pump Station and Outfall Improvements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Bessie Tam
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	This project involves working with other City departments as necessary to request two affected property owners to install sewer laterals from their properties to the sewer main on Innes Avenue. The project also involves working with other City departments to determine the feasibility and possibility of implementing a loan program or other financial assistance to the property owners for their construction of the lateral connection to the sewer main. After the affected properties have sewer lateral connections to the sewer main in place on Innes Avenue, the Hudson Avenue Pump Station and the 1-block of 8-inch easement sewer will be deactivated by plugging and capping the pipe with light weight concrete. Coordination with SFPW will be required on sidewalk encroachment issues related to one of the affected properties. External outreach will also be needed to implement the solution, in coordination with SFPUC Communications. The project assumes that the property owners will hire and pay for their own contractor to install necessary pumps or laterals to make a connection to the sewer on Innes Avenue.
Justification:	Project Completed - no additional funding needed
Operating Impact:	Project Completed - no additional funding needed

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPCSPS02 / 10002419
Project Title:	Force Main Rehab at Embarcadero and Jackson Street
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Bessie Tam
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	The purpose of this project is to rehabilitate or replace the portion of the existing North Shore Force Main (NSFM) that is most susceptible to failure. At the completion of this project, the entire portion of the NSFM located outside the Jackson Street Transport/Storage Box (JST) will have complete redundancy. NSFM provides critical conveyance of the combined sewage and stormwater flows from the northeastern quadrant of San Francisco to the Southeast Treatment Plant. Before 2015, this force main did not have any redundancy and can only be taken out of service for no more than 22-hours to meet the National Pollutant Discharge Elimination System (NPDES) permit requirements. In 2014, approximately 2,500-feet of the NSFM was rehabilitated, but approximately 240-feet could not be rehabilitated due to limited shutdown time. By 2016, a redundant force main was installed (the North Shore to Channel Force Main), and the combined sewage flows are now diverted to the NSCFM, allowing this project to proceed. This project consists of rehabilitating the remaining 240-feet of NSFM, which is most susceptible to failure, by either installing a 28-inch outside diameter HDPE pipe into the existing 36-inch diameter steel force main, or replacing the 36-inch pipe with a new 28-inch pipe. In addition, the project will include construction of a new valve-vault and associated mechanical and electrical equipment, refurbishment of mechanical and electrical equipment inside an existing valve-vault, and installation of a new electrical pedestal and control units aboveground. Together, these mechanical and electrical equipment will allow Waste Water Enterprise Operations to direct combined sewage flows to either the NSFM or to the NSCFM. A Memorendum of Undersanding (MoU) and a Permit to Enter will be established with SF Port and its tenant for the temporary staging area needed for the construction contract. An existing MOU is already in place for the permanent facilities that will be installed. California Environmental Quality Act (CEQA) approval (MND) has been approved by City Planning. Extensive public outreach to the community will also be conducted, including stakeholders along SF Port's waterfront area.
Justification:	North Shore Force Main conveys combined sewage flows from the North Shore and Channel Watershed Basins to the Southeast Treatment Plant for treatment, and needs to be in service all the time to meet regulatory compliance.
Operating Impact:	WWE will need to operate and maintain new aboveground and underground assets constructed under this project, including 1) one new underground valve-vaults (with mechanical valve and associated components inside) that allow combined sewage flows to be diverted either to the NSCFM or the to NSFM, and 2) new electrical and controls cabinets located on The Embarcadero.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPCSPS03 / 10026828
Project Title:	Mariposa Dry-Weather Pump Station & Force Main Imp
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Bessie Tam
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	The project will increase the current 3.6 MGD dry weather capacity of the Mariposa dry-weather pump station and dry-weather force main to accommodate the peak design flow rate of 6.0 MGD. The scope consists of demolishing the existing pump station building, underground structure, wet well, electrical system, and associated assets to make room for a new pump station. CEQA approval will also be needed along with other necessary permits (such as BCDC, Maher Ordinances etc.) to construct the improvements. A new pump station building, underground structures, and wet well, along with new MCCs, DCS, PLC, panels, power service, level monitoring system, HVAC and Odor Control system will be constructed. The existing dry-weather force main will be replaced with a larger diameter force main downstream of the new dry-weather pump station. Utility coordination and/or relocation may be necessary with the replacement of the force main. A Memorendum of Undersanding (MoU) (or encroachment permit) will be established for temporary construction easement within SF Port's jurisdiction. Public outreach to the community will be conducted, including SF Port and its stakeholders.
Justification:	Mariposa Dry-Weather Pump Station was originally designed and built in 1954 with a capacity of 1.2 million-gallon-per-day (MGD). In anticipation of recent developments from the upstream area (Mission Bay, Dogpatch, Potrero Hill areas), temporary changes were made to increase the capacity to 3.6 MGD. However, the projected flows from the full build-out of the upstream areas are anticipated to be 5.0 MGD; therefore, the pump station needs to be upsized to meet the operating plan that is part of the NPDES permit.
Operating Impact:	At the end of the project, Wastewater Enterprise will be operating a new dry-weather pump station.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPCSPS04 / 10026829
Project Title:	Cesar Chavez Pump Station
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Bessie Tam
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	Under this project, stormwater and groundwater that collects under the Cesar Chavez freeway underpass within a bounded area will be conveyed to SEP. As this is not an all-weather pump station, WWE determined that this project is a lower priority than other all-weather pump stations. The remaining needs of the project may be added to the WWE R&R program list for consideration. After the NAR and the Draft AAR were completed, it was determined that this project is less critical than other dry-weather or all-weather pump station improvements. Therefore, this project will complete the Draft AAR and any remaining work is to be deferred to the WWE R&R program for consideration. This SSIP project will end at the Draft AAR phase.
Justification:	Phase 1 work completed; therefore, no additional funding request under SSIP Phase 1.
Operating Impact:	Phase 1 work completed; therefore, no additional funding request under SSIP Phase 1.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPCSPS05 / 10002465
Project Title:	Marin Street Sewer Replacement
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Bessie Tam
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	Project completed and fully funded, no additional funding is being requested in FY20-21 The project will upsize the 24-inch diameter sewer (located between the intersection of 3rd Street and Marin Street and the Marin Street Outfall Structure) and associated sewers to handle the additional dry-weather flows projected from the tributary area. The wet-weather conveyance associated with this sewer system would also be evaluated but any identified scope for addressing wet-weather conveyance issues is not included in this project. Hydraulic studies of the watershed area will be performed to determine the hydraulic adequacy of the pipelines in the area based on expected flows from approved developments, as well as to confirm the necessary pipe size. The existing 24-inch diameter sewer in the vicinity of Marin Street, between Indiana Street and Marin Street CSD (located under southbound Highway 280) will also be upsized. The existing 24-inch diameter sewer on Marin Street, between 3rd street and Indiana Streets, will be replaced with a larger diameter sewer.
Justification:	Project completed and fully funded, no additional funding is being requested.
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	CWWSIPCSPS06 / 10002485
Project Title:	Griffith Pump Station Improvements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Bessie Tam
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	The aging mechanical and electrical systems at Griffith Pump Station will be refurbished and its expected service life will be extended. The facility will also be modernized, which would reduce energy use and future maintenance requirements. The scope of the project includes replacing the dry weather pumps and rebuilding the wet weather pump, installing new sump pumps to maintain the existing capacity of 11.5 MGD and 120 MGD, new bar screens, two new bridge cranes in the manifold room and main pump area, and a new tamper-proof roof access ladder. The bar rack room crane will be replaced with a new monorail system. Structural modifications, as necessary, will be performed in support of mechanical systems installations. The project will also involve construction of two canopy systems to protect outdoor equipment, including chemical tanks, metering pumps, ultraviolet light, and associated deteriorating elements.
Justification:	Griffith Pump Station is an all weather facility that serves as the primary sewage and stormwater pumping facility conveys flows from the southeastern area of San Francisco to the Southeast Treatment Plant. The station is over 20-years old and many mechanical and electrical components have reached the end of its useful lives, and are in need of replacement or refurbishment in order to keep the facility operational.
Operating Impact:	Many of the components inside this pump station will be replaced or refurbished. Initially, there may be some learning curve for Wastewater Enterprise to adapt to new controls, but eventually, O&M costs are expected to decrease with the project improvements.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	PS-1 / (N/A)
Project Title:	Seacliff No. 1 PS & FM Upgrade
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	Due to its age, condition, and opportunity for water quality benefits through upsizing the station's capacity, it is recommended that Seacliff No.1 Pump Station and force main be replaced. This would include: • Replacement of pump station • Replacement of 8-inch force main (930 LF) • Installation of flow monitoring devices for post-storm evaluation • Installation of floatable controls at the overflow structure to CSD 005 • Connection from new pump station to CSD 005 • Consider installing a redundant pump for 'n+1' redundancy during wet weather and consider provisions for wet well isolation for maintenance and inspection, if feasible As the current site is partially on Federal/GGNRA property, locating a suitable site may require additional coordination activities with the Real Estate Division.
Justification:	Seacliff No.1 PS was constructed in 1929 and operates in dry and wet weather via two pumps. An 8-inch diameter force main (930 LF) connects the pump station to a sewer on El Camino Del Mar Drive that drains to the Richmond Transport Tunnel. Overflows from the sump drain to China Beach via CSD 005. The pump station has deteriorated and the following issues need to be addressed to meet Operational Reliability LOS Goals (State of Good Repair): • Controls and communication equipment are in need of repair or replacement • Electrical systems are aging, with surface rusting due to harsh marine environment • Leakage from manhole cover and wall penetration on the uphill side • Piping system is old and in need of repair or replacement As the overflow structure for CSD 005 is located within Seacliff No. 1 Pump Station, the following are opportunities to meet the Operational Reliability LOS Goal (Performance Requirements & Water Quality): • Improve floatables control in the overflow chamber • Upsize the station's conveyance capacities to enhance combined sewer discharge control and reduce discharge in the typical year. The deteriorated state of the pump station poses health and safety risks, and should be addressed to meet the Health, Safety & Security LOS. These hazards include: • HVAC ventilation fans are in need of replacement • Wet well cover is rusting and deteriorated • There is difficulty accessing the building due to topography, narrow steps to entry door, lack of site lighting, etc.
Operating Impact:	During Construction: Depending on the location of the new pump station, shutdowns and/or diversions may be required. Post Construction: This project involves upsizing the pump station, and is therefore not a replace-in-kind project. Future operations may differ slightly from current operations.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 794	$ 386	$ 408	$ 0	$ 0	$ 0	$ 0
Design	$ 1,587	$ 0	$ 108	$ 524	$ 524	$ 431	$ 0
Construction Management	$ 1,559	$ 0	$ 0	$ 0	$ 0	$ 218	$ 1,341
Construction	$ 9,122	$ 0	$ 0	$ 0	$ 0	$ 1,148	$ 7,974
Total	$ 13,062	$ 386	$ 516	$ 524	$ 524	$ 1,797	$ 9,315

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	PS-2 / (N/A)
Project Title:	Seacliff No. 2 PS & FM Upgrade
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	Pump Station Scope of Work: • Electrical equipment, power service, generator system, level monitoring system • Process equipment • Buildings, underground structures, wet wells, and surrounding site
Justification:	Seacliff No.2 Pump Station was constructed in 1940 and conveys dry and wet weather flows via three submersible pumps. An 8-inch diameter force main (1,060 LF) connects the pump station to a sewer on El Camino Del Mar Drive that drains to the Richmond Transport Tunnel. Overflows from the sump drain to Baker Beach via CSD 007. The pump station has deteriorated and the following issues need to be addressed to meet Operational Reliability LOS Goals (State of Good Repair): • Structural condition is in need of rehab – concrete visible above water line in wet well area indicate surface deterioration, and the roof is leaking. An R&R contract (J37-06) is in progress to address concrete spalling; however, this contract is not inclusive of all needs and structural rehab is still required. • Harsh marine environment has led to deterioration of wet well/sump pit metal cover and metal surfaces inside and outside building show deterioration • Electrical and communication (fiber optic cables) systems are aging and need to be replaced • HVAC ventilation system (fans and ducting) are in need of repair or replacement • Mechanical equipment (submersible pumps, bubbler system, and crane) are in need of repair or replacement As the overflow structure for CSD 007 is located within Seacliff No. 2 Pump Station, the following are opportunities to meet the Operational Reliability LOS Goal (Performance Requirements & Water Quality): • Upsize the station's force main conveyance capacities to enhance combined sewer discharge control and reduce discharge in the typical year. The deteriorated state of the pump station poses health and safety risks, and should be addressed to meet the Health, Safety & Security LOS. These hazards include: • HVAC ventilation system performance may not meet code requirements • Roof above electrical equipment is leaking • Exterior concrete structure is damaged (including walkways, stairs, retaining walls, and roof) There is a rented portable emergency generator that is stored at Seacliff No. 2 PS. A long-term solution is needed to determine if the generator should be purchased and where it should be stored, but as this equipment is part of an overall pump station emergency power plan, the scope of this work is carried in the PS Emergency Power Preparedness Project.
Operating Impact:	TBD

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,023	$ 637	$ 386	$ 0	$ 0	$ 0	$ 0
Design	$ 2,045	$ 0	$ 483	$ 839	$ 723	$ 0	$ 0
Construction Management	$ 2,011	$ 0	$ 0	$ 0	$ 342	$ 844	$ 824
Construction	$ 11,757	$ 0	$ 0	$ 0	$ 1,787	$ 4,938	$ 5,032
Total	$ 16,836	$ 637	$ 869	$ 839	$ 2,852	$ 5,782	$ 5,856

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	
Project ID/FSP ID	PS-3 / (N/A)
Project Title:	Sunnydale PS Safety Improvements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	The scope of this project aims to address the following health, safety, and security issues at Sunnydale PS: • Address Safety Risks from Groundwater Intrusion o Repair all structural deficiencies observed including repair of cracks and leaks o Upgrade/ repair manifold room (including: piping, PRVs, lighting, instruments, equipment) o Address water leakage in manifold room and Motor Control Center (MCC) o Repair leaking door o Perform electrical repairs o Replace HVAC equipment that are corroded due to water intrusion • Address Security Concerns o Install new security signage and upgrade lighting to dusk-activated LED lighting o Upgrade card readers and door contacts at all perimeter doors o Add interior presence sensing, connected to an intrusion detection panel and alarming to security o Furnish, install and configure video recording servers, management server and analytic servers including uninterruptable power supplies (UPS) o Install video camera units and local recording • Address Other Safety Concerns o Evaluate gas detection system and provide if necessary o No site lighting; egress from either vault hatch or emergency exit tower is hazardous without lighting o Evaluate area to designated for pump maintenance (currently, road needs to be blocked off when lifting out the pumps for maintenance)
Justification:	Sunnydale Pump Station is a below grade pump station constructed in 1991, and serves the Sunnydale drainage basin during wet-weather. The station is prone to groundwater intrusion, which has corroded the building structure, electrical equipment, and mechanical equipment (including the HVAC system). Additionally, the exposure of electrical equipment to water (e.g. a leak is evident above the 480 Volt main breaker station) has made the working conditions hazardous. Security risks to the facility are also a concern. This project aims to address improvement needs to mitigate health, safety, and security risks to meet the Health, Safety, & Security LOS Goal. Longer-term improvements at this station are in a separate project and scheduled later in the capital improvement program.
Operating Impact:	During Construction: Shutdowns and/or diversions will not be required as the work can be undertaken during dry weather when the pump station is offline. Post Construction: This project involves replacement-in-kind and will not affect future operations.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 306	$ 306	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 611	$ 38	$ 459	$ 115	$ 0	$ 0	$ 0
Construction Management	$ 601	$ 0	$ 0	$ 601	$ 0	$ 0	$ 0
Construction	$ 3,513	$ 0	$ 0	$ 3,513	$ 0	$ 0	$ 0
Total	$ 5,031	$ 344	$ 459	$ 4,229	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	PS-4 / (N/A)
Project Title:	Pump Station Security Upgrades (Cesar Chavez, GFS,
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	The scope of security upgrades at the four pump stations is provided below – refer to "SFPUC WWE Security Evaluation Matrix (September 2017)" for further details. Cesar Chavez Pump Station: Upgrade card readers and door contacts at all perimeter doors; Add interior presence sensing, connect to an intrusion detection panel and alarm security; Provide allowance for replacing / repairing existing perimeter fence and fence support as needed; Add protective cage around outdoor chemical and electrical equipment; Furnish, install and configure video recording servers, management server and analytic servers including uninterruptable power supplies (UPS); Configure security fiber optic connectivity back to South East Plant (SEP) to enable live video connection; Upgrade lighting to dusk-activated (non-motion) LED lighting; Add new security signage Griffith Pump Station: Add bullet resistant glass at perimeter windows; Upgrade card readers and door contacts at all perimeter doors; Add interior presence sensing, connected to an intrusion detection panel and alarm security; Install two (2) new gates, replace and furnish gate and gate operator at one (1) gate locations including structural support and electrical power and controls; Provide allowance for replacing / repairing existing perimeter fence and fence support as needed; Add protective cage around outdoor chemical and electrical equipment; Furnish, install and configure video recording servers, management server, and analytic servers including uninterruptable UPS; Upgrade lighting to dusk-activated (non-motion) LED lighting; Add new security signage; Add video camera units and local recording Channel Pump Station: Repair card reader operation at motorized swing gate; Repair or refurbish any door contacts requiring upgrade to doors; Upgrade card readers and door contacts at all perimeter doors and ensure proper operation; Add interior presence sensing, connected to an intrusion detection panel and alarming to security; Replace and furnish gate and gate operator at one (1) gate location including structural support and electrical power and controls; Provide allowance for replacing / repairing existing perimeter fence and fence support as needed; Furnish, install and configure video recording servers, management server, and analytic servers including UPS; Furnish, install, and configure wireless mesh network; Configure security fiber optic connectivity back to SEP to enable live video connection; Upgrade lighting to dusk-activated (non-motion) LED lighting; Add new security signage; Add video camera units and local recording Merlin Morris Pump Station: Add new security signage; Upgrade lighting to dusk-activated (non-motion) LED lighting; Convert roof and perimeter fencing to be non-porous to protect staff from freeway debris and safety and security risks posed by the public
Justification:	A security evaluation was performed in 2017 to identify the security risks towards WWE facilities, assets, staff, and operations from outside malevolent acts. The evaluation identified security improvements based on security vulnerability (factoring in location, signage, perimeter protection, lighting, surveillance, and access). The following pump stations are included in this project: • Cesar Chavez Pump Station • Griffith Pump Station • Channel Pump Station • Merlin Morris Pump Station As part of the Health, Safety & Security LOS goal, security measures at these sites shall be enhanced to protect staff, assets, and facilities. As noted, Sunnydale PS will be addressed through a separate project, and Mariposa PS is considered to be completed.
Operating Impact:	TBD

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 397	$ 0	$ 397	$ 0	$ 0	$ 0	$ 0
Design	$ 397	$ 0	$ 0	$ 397	$ 0	$ 0	$ 0
Construction Management	$ 520	$ 0	$ 0	$ 0	$ 260	$ 260	$ 0
Construction	$ 3,041	$ 0	$ 0	$ 0	$ 1,520	$ 1,520	$ 0
Total	$ 4,355	$ 0	$ 397	$ 397	$ 1,780	$ 1,780	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	PS-5 / (N/A)
Project Title:	Geary Underpass PS Safe Access Enhancements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	This project aims to improve access in and around the Geary Underpass Pump Station, in accordance with the Health, Safety, and Security LOS goal. This includes: • Investigate options to improve maintenance access • Improve lighting and accessibility improvements to remove and replace pumps • Verify overhead mounted underpass lighting and install lighting near entrance, if none is present • Add handrail at entry steps, add ladder fall protection, and upgrade the guardrail at the well opening • Modify or replace stair guardrails where openings exceed 21 inches clear and at height < 42 inches • Provide handrails on both sides of stairs
Justification:	Geary Underpass Pump Station was built in 1960 and operates in wet weather to manage flooding of the Geary Boulevard underpass. The pump station is located below Fillmore Street and consists of an upper level that houses electrical equipment and a lower level that houses the mechanical equipment. Access to this pump station is difficult as staff must walk beside high traffic on a narrow pathway to reach the station. Other health and safety risks at the site include the following: • No site lighting was observed • Lighting and access issues make pump maintenance activities difficult to perform • Fall protection needs improvement
Operating Impact:	During Construction: Shutdowns and/or diversions are not likely required during construction. Post Construction: None

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 65	$ 0	$ 65	$ 0	$ 0	$ 0	$ 0
Design	$ 129	$ 0	$ 32	$ 97	$ 0	$ 0	$ 0
Construction Management	$ 127	$ 0	$ 0	$ 0	$ 84	$ 43	$ 0
Construction	$ 743	$ 0	$ 0	$ 0	$ 491	$ 253	$ 0
Total	$ 1,064	$ 0	$ 97	$ 97	$ 575	$ 296	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	PS-7 / (N/A)
Project Title:	Griffith DW FM Rehab
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	This project involves condition assessment and rehabilitation of the Griffith dry weather force main. It is recommended that a complete CCTV inspection is performed as the 2017 inspection was only partially performed due to standing water in the pipeline. Although rehabilitation is a potential option and should be explored in Planning & Design, the project cost assumes an in-kind replacement of the entire length (640 LF) of existing dry weather force main.
Justification:	Griffith Street Pump Station (GFS) is located at 1601 Griffith Street at the intersection of Griffith Street and Thomas Avenue in the southeast area of the City. This station is an important component of the Yosemite/Fitch and Sunnydale facilities, which are an interconnected, integrated system of wastewater and stormwater pumping and transport/storage for the southern Bayside system. Griffith Street Pump Station pumps a nominal flow of less than 10 MGD in dry weather and up to 120 MGD in wet weather from the Yosemite/Fitch Transport to South East Plant (SEP). The dry weather force main was originally constructed in 1985 and is comprised of approximately 450 linear feet (LF) of 21-inch reinforced concrete pipe and 190 LF of 20-inch steel pipe. The force main discharges to a sewer outside the station on Griffith Street and Shafter Avenue. The dry weather flow continues on to meet the Hunter's Point Tunnel sewer at Griffith Street and Palou Avenue and eventually arrives at SEP for treatment. A desktop condition assessment study (SSIP TO#21 Phase 1 Force Main Screening evaluation Report) performed in 2014 indicated that that the condition of this force main could potentially be of concern due to potentially corrosive soils and the ability of the load capacity of the pipe in a potentially deteriorated state. A partial multi-sensor condition assessment was performed in 2017 involving CCTV and laser data capture. It was determined that the force main has deteriorated and requires intervention to maintain Operational Reliability LOS Goals (State of Good Repair).
Operating Impact:	During Construction: Shutdowns and/or diversions will likely be required during construction to facilitate CCTV inspection and subsequent repair or replacement of the pipe. Post Construction: This project involves replacement in-kind and will not affect future operations.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 194	$ 0	$ 0	$ 194	$ 0	$ 0	$ 0
Design	$ 388	$ 0	$ 0	$ 171	$ 217	$ 0	$ 0
Construction Management	$ 381	$ 0	$ 0	$ 0	$ 172	$ 210	$ 0
Construction	$ 2,230	$ 0	$ 0	$ 0	$ 1,003	$ 1,226	$ 0
Total	$ 3,193	$ 0	$ 0	$ 365	$ 1,392	$ 1,436	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	PS-8 / (N/A)
Project Title:	PS & FM Seismic Evaluation
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	This project includes seismic evaluation of the pump stations and force mains listed as follows: Bruce Flynn Pump Station & Bruce Flynn Force Main (2 mains), Channel Pump Station & Channel Force Main , Griffith Pump Station & Griffith Force Main (DW), North Shore Pump Station & North Shore Force Main (To Channel Box), Sunnydale Pump Station & Sunnydale Force Main and Westside Pump Station & Westside Force Main. Seismic evaluations will be guided by industry accepted standards such as ASCE 31 and ASCE 41. Depending on the structure type and the expected level of performance during an earthquake, the standards will prescribe the appropriate level and methodology of seismic evaluation. An initial planning phase will include confirmation of the required seismic levels of service for each pump station, determination of the seismic performance level (e.g. life safety or immediate occupancy), and selection of the appropriate evaluation methodology. If appropriate, a tiered evaluation approach may be implemented to facilitate prioritization and progressive decision making regarding investment in seismic improvements. The depth of analysis and level of detail will be defined during the planning phase of the project. The range in materials, joint types and failure modes associated with pipe asset will necessitate varying seismic analysis methodologies. Similar to the pump station evaluation, an initial planning phase will confirm performance requirements and identify appropriate seismic evaluation approaches for each force main. Results of the analysis will identify potential seismic vulnerabilities and failure modes, likelihood of failure and potential mitigation strategies.
Justification:	After a major earthquake, pump stations and force mains will be required to convey wastewater from the collection system to the treatment plants. Most pump stations were not constructed to current seismic codes and may require improvements to ensure seismic reliability. Based on the Seismic Reliability LOS Goals, one of the objectives is that facilities can convey flows for treatment within 72 hours of a major earthquake (M7.8, San Andreas). The corresponding performance level is to ensure conveyance of over 98% of citywide average dry weather flows to treatment facilities within 72 hours, and ensure public health and safety impacts from pump station overflows are mitigated. This highlights that the following pump stations and force mains need to be seismically reliable to meet the LOS goal: Channel PS & FM, Southeast Lift Station, Westside PS & FM, North Shore PS & FM, Griffith PS & dry weather FM, Bruce Flynn PS & FM, and Sunnydale PS & FM. The SSIP Pump Stations Condition Assessment Report (January 2014) summarized prior seismic evaluations and recommended additional seismic analyses for pump stations. This work is needed to assess existing vulnerabilities, determine the need for seismic rehabilitation and to identify potential improvement options. The SSIP Phase 1 Force Main Screening Evaluation Report (December 2014) focused on physical condition, material degradation and risk due to non-seismic loading. Therefore, a seismic evaluation of force mains is required to assess their seismic vulnerability and determine improvements needed to ensure reliable operation after an earthquake.
Operating Impact:	During Construction: Shutdowns and/or diversions will likely be required during construction to facilitate CCTV inspection and subsequent repair or replacement of the pipe. Post Construction: This project involves upgrades to buildings and structural elements only, and will not affect future operations.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 811	$ 0	$ 0	$ 811	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 531	$ 0	$ 0	$ 0	$ 213	$ 213	$ 106
Construction	$ 3,108	$ 0	$ 0	$ 0	$ 1,243	$ 1,243	$ 622
Total	$ 4,450	$ 0	$ 0	$ 811	$ 1,456	$ 1,456	$ 728

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	PS-9 / (N/A)
Project Title:	Cesar Chavez PS & FM Improvements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	The scope of this project aims to address the following operational reliability areas, which should be confirmed through assessments as part of project planning: • Buildings, underground structures, wet wells, and surrounding site: • Structural rehabilitation of the CCS facilities and inverted siphons • Install lighted flood warning sign on Bayshore Blvd. to warn motorists of flooding • Electrical equipment, power service, generator system, level monitoring system: • Replace all electrical and I&C equipment (level controls, power controls, lighting and safety warning lights) • Process equipment (crane/lifting system, suction/discharge piping, wet-weather lift pumps): • Replace all mechanical equipment (emergency generator, submersible pumps and piping). Ensure sufficient pump capacity for LOS storm • Replace ventilation system in pump room • Perform inspection of wet well confined space at earliest convenience considering operational constraints • Replace 14" (150 ft long) RCCP force main
Justification:	The Cesar Chavez Pump Station (CCS) was constructed in 1975 and pumps groundwater accumulation and storm runoff (wet weather only) from the area around Cesar Chavez and the Hwy 101 Freeway. The pump station discharges through a 14-inch force main into a 24-inch sewer located approximately 150 feet east of the pump station. The Cesar Chavez Pump Station was initially included in SSIP Phase 1, but the project was stopped at AAR phase. The 2015 planning efforts recommended that the pump station be replaced or rehabilitated to ensure Operational Reliability LOS goals are met (State of Good Repair). At the time of AAR development, it appeared that replacement of the station was the preferred alternative but since then, the security issues that were driving that preferred alternative have been improved through local efforts by Caltrans. The Pump Station Security Upgrades project (PS-4) will implement additional security enhancements to the site.
Operating Impact:	During Construction: Shutdowns and/or diversions will not be required as the work can be undertaken during dry weather when the pump station is offline. Post Construction: This project involves replacement-in-kind and will not affect future operations.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 558	$ 0	$ 0	$ 0	$ 558	$ 0	$ 0
Design	$ 1,117	$ 0	$ 0	$ 0	$ 89	$ 648	$ 380
Construction Management	$ 1,098	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,098
Construction	$ 6,419	$ 0	$ 0	$ 0	$ 0	$ 0	$ 6,419
Total	$ 9,192	$ 0	$ 0	$ 0	$ 647	$ 648	$ 7,897

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	PS-10 / (N/A)
Project Title:	Tennessee PS & FM Improvements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	The scope of this project aims to address the following operational reliability areas, which should be confirmed through assessments as part of project planning: • Buildings, underground structures, wet wells, and surrounding site: • Inspect wet well and patch and coat concrete/basin areas exposed to wet conditions to extend life and repair defects • Repair exposed rebar • Repair or replace access ladder • Electrical equipment, power service, generator system, level monitoring system: • Remove and update schematic diagrams if Pac Bell connection is no longer used • Evaluate adequacy of weatherproof enclosure • Evaluate PLC replacement as part of ongoing effort to replace PLCs system-wide • Bubbler system is currently in good condition but it will require replacement during the service life of the building • Process equipment: • Purchase and install new pumps • Evaluate corrosion issues in discharge piping • Add two discharge isolation valves • Perform thickness test on critical piping to determine remaining useful life • Guide rails and chains are currently in good condition, but will require replacement during the service life of the building • HVAC • Confirm existing equipment; replace/install equipment as appropriate to meet safety and code regulations. • Replace 8" ductile iron force main (88-ft long) Note: In 2017, OEM has noted that the pump station building has been replaced by a developer and that electrical equipment was relocated along with new transfer switches. The extent of work under this effort should be confirmed as part of project planning.
Justification:	N/A
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 128	$ 0	$ 0	$ 0	$ 0	$ 128	$ 0
Design	$ 133	$ 0	$ 0	$ 0	$ 0	$ 0	$ 133
Construction Management	$ 351	$ 0	$ 0	$ 0	$ 0	$ 0	$ 351
Construction	$ 1,150	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,150
Total	$ 1,762	$ 0	$ 0	$ 0	$ 0	$ 128	$ 1,634

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	PS-11 / (N/A)
Project Title:	Rankin WW PS Improvements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	This project should be coordinated with the proposed Storm Resilience Project (Alemany Pipe Isolation and Rankin Wet Weather Pump Station Expansion), which may alter the conveyance strategy in the drainage area. The scope of this project aims to address the following operational reliability areas, which should be confirmed through assessments as part of project planning. • Buildings, structures: • Rehabilitate structure, repair/replace equipment/piping supports as required • Perform inspection of wet well confined space at earliest convenience considering operational constraints • Although wet well was unavailable for visual inspection, recommended improvements include patch and coat concrete/basin areas exposed to wet conditions to extend life and repair defects • Evaluate potential future impacts of climate change and sea level rise on pump station • Electrical and controls, level monitoring: • Upgrade level control system • Evaluate and install a receptacle and other provisions for hookup to an emergency generator • Evaluate PLC replacement as part of ongoing effort to replace PLCs system-wide • Process equipment • Pump station equipment is expected to reach the end of its useful life within the next 10 to 15 years and will need replacement to continue reliable operation
Justification:	N/A
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 80	$ 0	$ 0	$ 0	$ 0	$ 0	$ 80
Design	$ 323	$ 0	$ 0	$ 0	$ 0	$ 0	$ 323
Construction Management	$ 97	$ 0	$ 0	$ 0	$ 0	$ 0	$ 97
Construction	$ 1,217	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,217
Total	$ 1,717	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,717

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	PS-12 / (N/A)
Project Title:	Berry St PS Improvements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	This project should be coordinated with the proposed Storm Resilience Project (Berry Street Pump Station Expansion and Pipe Enhancement), which may alter the conveyance strategy in the drainage area. The scope of this project aims to address the following operational reliability areas, which should be confirmed through assessments as part of project planning. • Buildings, underground structures, wet wells, and surrounding site: • Repair valve vault drainage issues • Although facility was unavailable for visual inspection, recommended improvements include patch and coat concrete/basin areas exposed to wet conditions to extend life and repair defects • Per OEM request, add provision for temporary railings around pump station • Evaluate potential future impacts of climate change and sea level rise on pump station • Electrical equipment, power service, generator system, level monitoring system: • Perform repairs to critical controls and electrical system • All electrical equipment is expected to reach the end of useful life by 2032 and should be replaced • Operators requested pump controls and additional monitoring via the Dsitributed Control System (DCS) • Evaluate PLC replacement as part of ongoing effort to replace PLCs system-wide • Process equipment • Lift pumps have an estimated remaining useful life of 8-10 years and will need replacement to maintain • system reliability • Replace pedestal at same time as pump • Clean and recoat discharge piping, valves, and fittings and provide protective coating • Perform thickness test on critical piping to determine remaining useful life, and replace if necessary • Replace isolation valves
Justification:	N/A
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 315	$ 0	$ 0	$ 0	$ 0	$ 0	$ 315
Design	$ 1,032	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,032
Construction Management	$ 192	$ 0	$ 0	$ 0	$ 0	$ 0	$ 192
Construction	$ 7,599	$ 0	$ 0	$ 0	$ 0	$ 0	$ 7,599
Total	$ 9,138	$ 0	$ 0	$ 0	$ 0	$ 0	$ 9,138

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	PS-13 / (N/A)
Project Title:	Davidson PS & FM Improvements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	The scope of this project aims to address the following operational reliability areas, which should be confirmed through assessments as part of project planning: • Buildings, underground structures, wet wells, and surrounding site • Consider options for providing camera and verify area lighting • Consider using corrugated metal panels for increased durability • Provide clear paved path with 5'x5' min landing to control cage gate and steps with handrail and landing to transformer • Provide graded paved walks < 5% slope from street to gate and to transformer • Perform inspection of wet well confined space. Recommended improvements include patch and coat concrete/basin areas exposed to wet conditions to extend life and repair defects. • Electrical equipment, power service, generator system, level monitoring system • All electrical equipment components are expected to reach the end of their useful lives around 2025 and will need replacement to maintain system reliability • Controls and communication equipment to SEP need to be evaluated. Add control and more monitoring to SCADA/DCS • Evaluate PLC replacement as part of ongoing effort to replace PLCs system-wide • Process equipment • Per OEM, all submerged equipment should be replaced • Replace pipes and dewatering pump • Repair or replace deteriorated parts of pump lifting rails/system • Confirm existence of the bubbler system and replace if necessary • Perform thickness test on critical piping to determine remaining useful life • Replace wet-weather pump • Force main • Replace the existing force main as pipe is not buried and appears to be resting directly on the ground
Justification:	The Davidson Wet Weather Pump Station has a peak capacity of 1 MGD, and operates with a single submersible pump. A sump pump is also located in the wet well. The pump station consists of a locked cage, aboveground electrical and controls console. The wet well is located below ground and accessed via a locked steel grate. The discharge manifold is steel and transitions to aboveground high density polyethylene (HDPE) until it discharges to the nearby gravity transport system. This pump station prevents flooding for one business owner in the area. Condition improvements to address pump lifting rail, dewatering pumps and pipes, and wet weather pump are needed at this station to maintain the station and force main in a state of good repair (Operational Reliability LOS Goal).
Operating Impact:	During Construction: Shutdowns and/or diversions will not be required during construction as work can be undertaken during dry weather periods when the pump station is offline. Post Construction: This project involves replacement-in-kind and will not affect future operations.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 123	$ 0	$ 0	$ 0	$ 0	$ 0	$ 123
Design	$ 247	$ 0	$ 0	$ 0	$ 0	$ 0	$ 247
Construction Management	$ 243	$ 0	$ 0	$ 0	$ 0	$ 0	$ 243
Construction	$ 1,419	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,419
Total	$ 2,032	$ 0	$ 0	$ 0	$ 0	$ 0	$ 2,032

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	PS-14 / (N/A)
Project Title:	Sunnydale PS & FM Improvements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	The scope of this project aims to address the following operational reliability areas, which should be confirmed through assessments as part of project planning: • Buildings and structures: Perform inspection of wet well confined space; Although wet well was unavailable for visual inspection, assumed recommended improvements include patch and coat concrete/basin areas exposed to wet conditions to extend life and repair defects; Provide lever passage set hardware; Perform minor retrofit to toilet room to bring it to current standards/ADA compliance; Add lighting fixture to meet egress requirements; Provide lever-type door hardware; Provide handrails at vault hatch access stair and along platform to prevent falls to roadway and on stair, and handrail and steps down from emergency egress tower doorway and all stairways; Provide guardrail on sides of entrance hatch platform (traffic and driveway sides); Provide steps and handrails at egress penthouse; Provide site lighting at egress penthouse and entrance to station; Evaluate options to improve overall access to station for day-to-day operations and maintenance activities • Electrical, controls, and level monitoring: Currently electrical equipment is in good condition but some of this equipment is expected to reach the end of their useful lives in 10 to 15 years and will need replacement to maintain system reliability; Compressors are currently in fair condition, but they will need replacement during the service life of the building to maintain system reliability • Process equipment: Renew protective coatings on the discharge piping, fittings, and valves; Recommend thickness test on critical piping to determine remaining useful life; Replace dewatering pumps and piping; In conjunction with pump replacement, evaluate ways to mitigate grit issues (i.e., pump type, slurry pump with agitator); Evaluate the need for flushing system, and then determine if assets should be replaced; Pumps are expected to reach the end of their useful lives around 2030 and will need replacement to maintain system reliability; Water heaters and sump pumps are expected to reach the end of their useful lives during the service life of the building and will need replacement to maintain system reliability •Force Main: Perform detailed evaluation on the condition of the existing force main and complete improvements accordingly (allowance for rehabilitation, not full replacement)
Justification:	N/A
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,453	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,453
Design	$ 1,846	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,846
Total	$ 3,299	$ 0	$ 0	$ 0	$ 0	$ 0	$ 3,299

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	PS-15 / (N/A)
Project Title:	Channel PS Improvements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	The scope of this project is dependent on the strategy selected in the Channel Force Main Reliability project. In June 2017, the Central Bayside System Improvement Project team issued a technical memo describing the recommended scope of work for the Channel Pump Station rehabilitation ("Channel Pump Station (CHS) Rehabilitation Conceptual Engineering Technical Memo"). While the recommendations will likely change significantly, the cost allowance for this project is based on the memo.
Justification:	The Channel Pump Station (CHS) is an all-weather wastewater pump station that collects wastewater flows from the northeast portions of the Bayside Drainage Basin, consisting of the North Shore and Channel Watersheds. The CHS was constructed in 1979 and is designed to pump wastewater flows during wet weather to the SEP via the existing 66-inch-diameter Channel Force Main (CHFM). Currently, there is a project planned (PS-6: Channel Force Main Reliability Project) to provide the operational flexibility to convey design flows following an unplanned outage. The strategy to provide this flexibility may or may not include the construction of another pump station. Regardless of the strategy selected under the Channel Force Main Reliability Project, it is expected that improvements to the Channel Pump Station are needed to meet the Operational Reliability LOS Goals (State of Good Repair), and potentially Seismic Reliability goals depending on the CHFM reliability strategy. The purpose of this project is to perform the rehabilitation work required.
Operating Impact:	During Construction: Shutdowns and/or diversions will likely be required during construction to facilitate construction work. Post Construction: Depending on the preferred alternative, it is likely that this project will change future operations of the existing Channel Pump Station.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,858	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,858
Design	$ 2,452	$ 0	$ 0	$ 0	$ 0	$ 0	$ 2,452
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 4,310	$ 0	$ 0	$ 0	$ 0	$ 0	$ 4,310

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15726-WW Collection System Improvement
Project ID/FSP ID	PS-16 / (N/A)
Project Title:	Zoo WW PS & FM Improvements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	The scope of this project aims to address the following operational reliability areas, which should be confirmed through assessments as part of project planning: • Buildings, structures: Verify fire rating for door; provide compliant door, if needed; Although wet well was unavailable for visual inspection, recommended improvements include patch and coat concrete/basin areas exposed to wet conditions to extend life and repair defects; Provide additional fencing around facility and accessible threshold at main entry; Provide accessible parking and egress gate; Provide security camera and security access key box (at gate and as required on building); Verify containment curb requirements for fuel tank and generator, and provide if required; • Electrical and controls, level monitoring; Evaluate PLC replacement as part of ongoing effort to replace PLCs system-wide; Replace transfer switch with a functional ATS, or formalize a contingency plan so that backup power can be supplied in a timely manner; Replace UPS • HVAC: Check HVAC code ventilation requirements for the generator room – it is a passive system with large louvers, but active ventilation may be required; HVAC equipment is expected to reach the end of useful life during the service life of the building and will need replacement • Process equipment: Inspect and clean pipes to determine the depth of pitting; repair/recoat as necessary; Perform thickness test on critical piping to determine remaining useful life; Inspect air receiver and compressor for internal corrosion; Replace the bubbler system at the end of useful life; Based on the current age, it is expected that the pumps will reach the end of their useful lives during the service life of the building and will need replacement to maintain system reliability; Gates are expected to reach the end of their useful lives during the service life of the building and will need replacement • Force main • Perform detailed evaluation on the condition of the existing force main and complete improvements accordingly
Justification:	N/A
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 542	$ 0	$ 0	$ 0	$ 0	$ 0	$ 542
Design	$ 1,080	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,080
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 1,622	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,622

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	CWWLID01 / (N/A)
Project Title:	Cesar Chavez Green Infrastructure
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Mary Tienken
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	Funds for flood control projects and green infrastructure projects will appear under CWWSIPFCDB. Of the remaining funds, $1M will be provided to SFDPW in accordance with the SFPUC-SFDPW memorandum of understanding (MOU) for the Cesar Chavez Streetscape Improvement Project (CCSIP). These funds are for the planning, design and construction of green infrastructure to be implemented as part of the CCSIP.
Justification:	TBD
Operating Impact:	TBD

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	CWWLID02 / (N/A)
Project Title:	Islais Creek Green Infrastructure
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Mary Tienken
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	The proposed green features include approximately 4,700 square feet of bio-filtration beds, 18,000 square feet of permeable paving in the parking lanes, and 2 new plazas with permeable paving. These features will also enhance street greening, bicycle safety, pedestrian safety, and community beautification. As part of this project additional stormwater flows will be managed along 29th Street, Tiffany Avenue, Duncan Street, and San Jose Avenue. This project is also referred to as "Mission & Valencia Green Gateway".
Justification:	This project will help achieve four of the five levels-of-service goals identified in the Sewer System Improvement Program, including: 1) Providing a compliant, reliable, resilient and flexible system that can respond to catastrophic events; 2) manage stormwater; 3) Provide benefits to impacted communities, and 4) Achieve economic and environmental sustainability. Green Infrastructure improvements will provide sustainable alternatives to the collection system for the management of stormwater flows. Strategically placed GI facilities will increase the efficiency of our collection and treatment facilities during wet-weather. Ancillary benefits may include improved public safety, community aesthetics, and biodiversity. This project will be monitored to evaluate the stormwater management performance to set minimum performance standards for future GI projects. This project is consistent with SFPUC's Technology Policy by pursuing innovative green technologies for system improvements to meet LOS goals and regulatory compliance.
Operating Impact:	This project will improve stormwater management within the Islais Creek watershed and maximize opportunities for passive stormwater collection, treatment and infiltration. SFPUC will be developing a long-term maintenance plan, train O&M staff, and monitoring program to ensure the long-term performance of these wastewater assets. Additional maintenance staff will be needed to support the projects after they are implemented.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	CWWSIPFCDB01 / 10026805
Project Title:	Sunset Green Infrastructure
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Mary Tienken
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	The Sunset Boulevard Greenway project will construct a series of tiered bioretention rain gardens in the western stretch of landscaped parcels along 10 to 16 blocks stretching from Golden Gate Park to Lake Merced. The rain gardens will manage stormwater runoff on the west side of Sunset Boulevard from the street, paths, and a portion of the landscaped parcel area. The project will also incorporate a "Learning Lab" to supplement elementary school curriculum. This project is also referred to as "Sunset Boulevard Greenway."
Justification:	This project will help achieve four of the five levels-of-service (LOS) goals identified in the Sewer System Improvement Program, including: 1) Providing a compliant, reliable, resilient and flexible system that can respond to catastrophic events; 2) Manage stormwater; 3) Provide benefits to impacted communities, and 4) Achieve economic and environmental sustainability. Green Infrastructure (GI) improvements will provide sustainable alternatives to the collection system for the management of stormwater flows. Strategically placed GI facilities will increase the efficiency of our collection and treatment facilities during wet weather. Ancillary benefits may include improved public safety, community aesthetics, and biodiversity. This project will be monitored to evaluate the stormwater management performance to set minimum performance standards for future GI projects. This project is consistent with SFPUC's Technology Policy by pursuing innovative green technologies for system improvements to meet LOS goals and regulatory compliance.
Operating Impact:	This project will improve stormwater management within the Sunset watershed and maximize opportunities for passive stormwater collection, treatment and infiltration. SFPUC will be developing a long-term maintenance plan, providing O&M staff training, and monitoring program to ensure the long-term performance of these wastewater assets. Additional maintenance staff will be needed to support the projects after they are implemented.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	CWWSIPFCDB02 / 10026806
Project Title:	North Shore Green Infrastructure
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Mary Tienken
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	This project will route stormwater to flow-through bioretention planters with surfaces set lower than the surrounding grade. During large storm events, ponded water at the surface of the planters will reach a maximum depth of 6 inches before it crests an overflow weir, either to a lower planter tier or to a concrete valley gutter running the length of the alley. To protect the adjacent building foundations, an impermeable waterproof liner will be placed along the bottom and sides of the planters. New street surfacing and furnishings provide improved community space for local residents and visitors. This project is also referred to as "Chinatown Green Alley".
Justification:	This project will help achieve four of the five levels-of-service (LOS) goals identified in the Sewer System Improvement Program, including: 1) Providing a compliant, reliable, resilient and flexible system that can respond to catastrophic events; 2) Manage stormwater; 3) Provide benefits to impacted communities, and 4) Achieve economic and environmental sustainability. Green Infrastructure (GI) improvements will provide sustainable alternatives to the collection system for the management of stormwater flows. Strategically placed GI facilities will increase the efficiency of our collection and treatment facilities during wet weather. Ancillary benefits may include improved public safety, community aesthetics, and biodiversity. This project will be monitored to evaluate the stormwater management performance to set minimum performance standards for future GI projects. This project is consistent with SFPUC's Technology Policy by pursuing innovative green technologies for system improvements to meet LOS goals and regulatory compliance.
Operating Impact:	This project will improve stormwater management within the North Shore watershed and maximize opportunities for passive stormwater collection, treatment and infiltration. SFPUC will be developing a long-term maintenance plan, train O&M staff, and monitoring program to ensure the long-term performance of these wastewater assets. Additional maintenance staff will be needed to support the projects after they are implemented.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	CWWSIPFCDB03 / 10026807
Project Title:	Lake Merced Green Infrastructure
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Mary Tienken
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	The project starts at the Ashton Avenue intersection and extends along eight blocks to the Lee Avenue intersection. Corner bulb-outs containing bioretention planters will be installed on the downstream end of six of the blocks. On the remaining two blocks, roadside bioretention planters adjacent to the curb will manage stormwater in lieu of corner bulb-out planters, which are infeasible due to driveway conflicts. The bioretention planters are sized to manage stormwater runoff from the sidewalk and use the minimal area needed in order to minimize the associated parking loss from the new bulb-outs. Permeable pavement installed within the existing parking lanes on both sides of Holloway Avenue will manage runoff from the roadway. This project is also referred to as the "Holloway Green Street".
Justification:	This project will help achieve four of the five levels-of-service (LOS) goals identified in the Sewer System Improvement Program, including: 1) Providing a compliant, reliable, resilient and flexible system that can respond to catastrophic events; 2) Manage stormwater; 3) Provide benefits to impacted communities, and 4) Achieve economic and environmental sustainability. Green Infrastructure (GI) improvements will provide sustainable alternatives to the collection system for the management of stormwater flows. Strategically placed GI facilities will increase the efficiency of our collection and treatment facilities during wet-weather. Ancillary benefits may include improved public safety, community aesthetics, and biodiversity. This project will be monitored to evaluate the stormwater management performance to set minimum performance standards for future GI projects. This project is consistent with SFPUC's Technology Policy by pursuing innovative green technologies for system improvements to meet LOS goals and regulatory compliance.
Operating Impact:	This project will improve stormwater management within the Lake Merced watershed and maximize opportunities for passive stormwater collection, treatment and infiltration. SFPUC will be developing a long-term maintenance plan, train O&M staff, and monitoring program to ensure the long-term performance of these wastewater assets. Additional maintenance staff will be needed to support the projects after they are implemented.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	CWWSIPFCDB04 / 10026808
Project Title:	Sunnydale Green Infrastructure
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Mary Tienken
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	This project includes two green nodes in Sunnydale watershed; a mini plaza on Sunnydale Ave. and a rain garden at the eastern end of McLaren Park. These green nodes are being designed to maximize the removal of street stormwater runoff from the combined sewer system. At the Sunnydale Avenue Mini-Plaza, bulb-outs containing bioretention planters will be installed to remove stormwater while also providing traffic calming and pedestrian safety. At the Leland Avenue Rain Garden, terraced bioretention facility will be created to capture, store, and infiltrate runoff from the impervious roadway and an adjacent vegetated sloped area. Approximately one block of local sewer work on Rutland Street will be included into the construction contract to minimize construction impact; however, the project cost of that sewer improvement is accounted for separately. This project is also referred to as the "Visitacion Valley Green Nodes".
Justification:	This project will help achieve four of the five levels-of-service (LOS) goals identified in the Sewer System Improvement Program, including: 1) Providing a compliant, reliable, resilient and flexible system that can respond to catastrophic events; 2) Manage stormwater; 3) Provide benefits to impacted communities, and 4) Achieve economic and environmental sustainability. Green Infrastructure improvements will provide sustainable alternatives to the collection system for the management of stormwater flows. Strategically placed GI facilities will increase the efficiency of our collection and treatment facilities during wet-weather. Ancillary benefits may include improved public safety, community aesthetics, and biodiversity. This project will be monitored to evaluate the stormwater management performance to set minimum performance standards for future GI projects. This project is consistent with SFPUC's Technology Policy by pursuing innovative green technologies for system improvements to meet LOS goals and regulatory compliance.
Operating Impact:	This project will improve stormwater management within the Sunnydale watershed and maximize opportunities for passive stormwater collection, treatment and infiltration. SFPUC will be developing a long-term maintenance plan, train O&M staff, and monitoring program to ensure the long-term performance of these wastewater assets. Additional maintenance staff will be needed to support the projects after they are implemented.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	CWWSIPFCDB05 / 10026809
Project Title:	Richmond Green Infrastructure
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Mary Tienken
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	Specific work that will be completed at El Camino Del Mar includes providing new pedestrian crosswalks, terraced rain gardens, subsurface infiltration galleries, soil stabilization techniques in selected locations, sewer main upsizing between Lands End Trailhead and manhole east of 32nd Avenue, and upgrading existing crosswalks to comply with the Americans with Disabilities Act. Specific work that will be completed at Beach Terrace includes permeable pavement, rain garden bulb outs at the eastern & western ends of the permeable pavement, a flow-through rain garden, traditional (infiltrative) rain garden bulb-outs, improved catch basins, and a traditional rain garden. This project is also referred to as the "Baker Beach Green Street".
Justification:	This project will help achieve four of the five levels-of-service (LOS) goals identified in the Sewer System Improvement Program, including: 1) Providing a compliant, reliable, resilient and flexible system that can respond to catastrophic events; 2) Manage stormwater; 3) Provide benefits to impacted communities, and 4) Achieve economic and environmental sustainability. Green Infrastructure (GI) improvements will provide sustainable alternatives to the collection system for the management of stormwater flows. Strategically placed GI facilities will increase the efficiency of our collection and treatment facilities during wet-weather. Ancillary benefits may include improved public safety, community aesthetics, and biodiversity. This project will be monitored to evaluate the stormwater management performance to set minimum performance standards for future GI projects. This project is consistent with SFPUC's Technology Policy by pursuing innovative green technologies for system improvements to meet LOS goals and regulatory compliance.
Operating Impact:	This project will improve stormwater management within the Richmond watershed and maximize opportunities for passive stormwater collection, treatment and infiltration. SFPUC will be developing a long-term maintenance plan, train O&M staff, and monitoring program to ensure the long-term performance of these wastewater assets. Additional maintenance staff will be needed to support the projects after they are implemented.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	CWWSIPFCDB06 / 10026810
Project Title:	Yosemite Green Infrastructure
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Mary Tienken
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	The upper reach of the Yosemite Creek Daylighting project would daylight the creek along a portion of the historic creek path, from Yosemite Marsh in McLaren Park to Woolsey and Hamilton Streets. This project diverts flows from the sewer using swales, vegetated channels, rain gardens, piped sections and a constructed wetland/detention basin/bio-swale system. This project is also referred to as the "Upper Yosemite Creek Daylighting".
Justification:	This project will help achieve four of the five levels-of-service (LOS) goals identified in the Sewer System Improvement Program, including: 1) Providing a compliant, reliable, resilient and flexible system that can respond to catastrophic events; 2) Manage stormwater; 3) Provide benefits to impacted communities, and 4) Achieve economic and environmental sustainability. Green Infrastructure (GI) improvements will provide sustainable alternatives to the collection system for the management of stormwater flows. Strategically placed GI facilities will increase the efficiency of our collection and treatment facilities during wet weather. Ancillary benefits may include improved public safety, community aesthetics, and biodiversity. This project will be monitored to evaluate the stormwater management performance to set minimum performance standards for future GI projects. This project is consistent with SFPUC's Technology Policy by pursuing innovative green technologies for system improvements to meet LOS goals and regulatory compliance.
Operating Impact:	This project will improve stormwater management within the Yosemite watershed and maximize opportunities for passive stormwater collection, treatment and infiltration. SFPUC will be developing a long-term maintenance plan, train O&M staff, and monitoring program to ensure the long-term performance of these wastewater assets. Additional maintenance staff will be needed to support the projects after they are implemented.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	CWWSIPFCDB08 / 10026812
Project Title:	Channel Green Infrastructure
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Mary Tienken
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	This project is also referred to as the "Wiggle Neighborhood Green Corridor". The purpose of the Wiggle Neighborhood Green Corridor project is to implement low impact stormwater management along the Wiggle bike route between Duboce Street and Fell Street in order to reduce flooding and provide additional stormwater management benefits to the SSIP. Key features of this project will include installation of bulb-outs on selected street corners, bioretention planters, and permeable pavement.
Justification:	This project will help achieve four of the five levels-of-service (LOS) goals identified in the Sewer System Improvement Program, including: 1) Providing a compliant, reliable, resilient and flexible system that can respond to catastrophic events; 2) Manage stormwater; 3) Provide benefits to impacted communities, and 4) Achieve economic and environmental sustainability. Green Infrastructure (GI) improvements will provide sustainable alternatives to the collection system for the management of stormwater flows. Strategically placed GI facilities will increase the efficiency of our collection and treatment facilities during wet weather. Ancillary benefits may include improved public safety, community aesthetics, and biodiversity. This project will be monitored to evaluate the stormwater management performance to set minimum performance standards for future GI projects. This project is consistent with SFPUC's Technology Policy by pursuing innovative green technologies for system improvements to meet LOS goals and regulatory compliance.
Operating Impact:	This project will improve stormwater management within the Channel watershed and maximize opportunities for passive stormwater collection, treatment and infiltration. SFPUC will be developing a long-term maintenance plan, train O&M staff, and monitoring program to ensure the long-term performance of these wastewater assets. Additional maintenance staff will be needed to support the projects after they are implemented.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	CWWSIPFCDB09 / 10026813
Project Title:	Islais Creek Green Infrastructure (SPLIT)
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Mary Tienken
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	This project will incorporate green stormwater management into an urban design to meet the neighborhood's needs and the stormwater performance goals for the Islais Creek watershed (i.e. manage the first 0.75 inch of rainfall for a 5-year, 3-hour storm event within the drainage management area). The project will also provide secondary benefits by creating new plazas that can serve as neighborhood gathering spaces, greening of the neighborhood by adding more vegetated areas within the right-of-way (ROW), and adding curb bulb-outs to enhance pedestrian and bicyclist safety. Additional work includes construction of 12 bioretention planters and a subsurface infiltration gallery. This project is also referred to as the "Mission and Valencia Streets Green Gateway".
Justification:	This project will help achieve four of the five levels-of-service (LOS) goals identified in the Sewer System Improvement Program, including: 1) Providing a compliant, reliable, resilient and flexible system that can respond to catastrophic events; 2) Manage stormwater; 3) Provide benefits to impacted communities, and 4) Achieve economic and environmental sustainability. Green Infrastructure (GI) improvements will provide sustainable alternatives to the collection system for the management of stormwater flows. Strategically placed GI facilities will increase the efficiency of our collection and treatment facilities during wet weather. Ancillary benefits may include improved public safety, community aesthetics, and biodiversity. This project will be monitored to evaluate the stormwater management performance to set minimum performance standards for future GI projects. This project is consistent with SFPUC's Technology Policy by pursuing innovative green technologies for system improvements to meet LOS goals and regulatory compliance.
Operating Impact:	This project will improve stormwater management within the Islais Creek watershed and maximize opportunities for passive stormwater collection, treatment and infiltration. SFPUC will be developing a long-term maintenance plan, train O&M staff, and monitoring program to ensure the long-term performance of these wastewater assets. Additional maintenance staff will be needed to support the projects after they are implemented.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	GI-1 / (N/A)
Project Title:	Balboa High School Regional Runoff Reduction Proje
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	The regional stormwater project is centered around Balboa High School in the Balboa Park Neighborhood. In addition to the stormwater performance metrics, the considerations that led to this project being selected as the preferred regional Green Infrastructure (GI) site in Cayuga include: Ideal location relative to surrounding flood risks; Positive synergy with providing a solution to historical flooding in the basement of the high school; Adjacency to large impervious parcels uphill from the school; Quantity and location of impervious area relative to irrigated open space and potential to combine the cistern with an ultra-high-efficiency irrigation system for the playing fields; Supports level-of-service (LOS) by providing benefits to a disadvantaged community; Synergy with Balboa Park Area Plan by the San Francisco Planning Department This Project involves regional stormwater collection from the upgradient Muni railyard next to the Balboa Park station, San Miguel Child Development Center, Civic Center Secondary School, James Denman Middle School, as well as the Balboa High School campus itself. Runoff from 17.3 acres is routed to a 690,000-gallon underground cistern tank integrated with an ultra-high-efficiency irrigation system underneath the football field as a replacement to the current artificial turf. This project includes 1,200 ft of separate storm pipe to divert flows from upstream parcels. Synergies with flooding challenges at the school and the desire to re-open basement level cafeteria and courtyard.
Justification:	The primary objective of the Balboa High School Regional Runoff Reduction Project is to address the Sewer System Improvement Project (SSIP) LOS goal to "Integrate Green and Grey Infrastructure to Manage Stormwater and Minimize Flooding." This LOS goal includes managing stormwater from a statistically derived storm lasting 3 hours, with a total of 1.3 inches of rainfall and a defined peak rainfall intensity (5-year 3-hour storm, LOS storm). This project reduces runoff volume in the Cayuga and Alemany areas, which currently do not meet the defined SSIP LOS. Grey infrastructure projects – namely Foerster Street Auxiliary and Mangels/Hearst/Detroit Sewer Replacement Project – have been completed in Phase 1 of SSIP to increase the peak conveyance capacity in this area. Another major upsizing project underway is the Lower Alemany Stormwater Improvement Project. The Balboa High School Regional Runoff Reduction Project would complement the grey projects by reducing the amount of runoff entering the upstream sewers, thereby reducing peak flows in the challenge areas. This project sheet describes the green infrastructure capital projects that have been identified as the most effective candidates to address stormwater management in this area. These projects form the cost and performance basis for the Balboa High School Regional Runoff Reduction Project.
Operating Impact:	TBD

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 894	$ 518	$ 376	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 1,787	$ 0	$ 660	$ 1,127	$ 0	$ 0	$ 0
Construction Management	$ 1,756	$ 0	$ 0	$ 386	$ 913	$ 456	$ 0
Construction	$ 10,270	$ 0	$ 0	$ 1,740	$ 5,341	$ 3,189	$ 0
Total	$ 14,707	$ 518	$ 1,036	$ 3,253	$ 6,254	$ 3,645	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	GI-3 / (N/A)
Project Title:	Regional School/Park: Giannini Middle School
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	AP Giannini Middle School is located above the Westside Groundwater Basin and has well draining soils. The project site is 8 acres of mostly impervious roofs and pavement including over 2.5 acres of play yard. There is an opportunity to remove impervious paving to promote infiltration while greening the school yard. Green infrastructure BMPs such as permeable paving, bioretention planters, and infiltration trenches will be installed to reduce the volume and rate of water entering SFPUC's sewer system.
Justification:	The primary objective of this project is to address the SSIP level of service (LOS) to "Integrate Green and Grey Infrastructure to Manage Stormwater and Minimize Flooding." This LOS includes managing stormwater from a statistically derived storm lasting 3 hours, with a total of 1.3 inches of rainfall and a defined peak rainfall intensity (5-year, 3-hour storm, LOS storm). This project reduces runoff volume in the area, which currently do not meet the defined SSIP LOS.
Operating Impact:	During Construction: None Post Construction: The installation of new green infrastructure will require additional regular maintenance.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 423	$ 254	$ 169	$ 0	$ 0	$ 0	$ 0
Design	$ 846	$ 0	$ 339	$ 507	$ 0	$ 0	$ 0
Construction Management	$ 832	$ 0	$ 0	$ 208	$ 416	$ 208	$ 0
Construction	$ 4,866	$ 0	$ 0	$ 963	$ 2,432	$ 1,470	$ 0
Total	$ 6,967	$ 254	$ 508	$ 1,678	$ 2,848	$ 1,678	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	GI-4 / (N/A)
Project Title:	Regional School/Park: Lowell High School
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	This regional stormwater project is located at Lowell High School in the Lake Merced Neighborhood. The basis and alternate projects are described below. • Regional stormwater collection from 32 acres routed to a 1,260,000-gallon underground cistern integrated with an ultra-high-efficiency irrigation system underneath three large playing fields as a replacement to the current fields. If the basis project is not feasible due to coordination or engineering feasibility issues determined in Alternative Assessment Report (AAR), the following alternate projects are recommended for consideration as cost-effective replacements. However, their performance in complementing the SFPUC's priority focus on managing areas that may be inundated in the level-of-service (LOS) storm must be confirmed prior to incorporation as a substitute project. • Jackson Playground Runoff Reduction Project • Downtown High School Runoff Reduction Project • Marina Middle School Regional Runoff Reduction Project • Marshall High School Runoff Reduction Project • Rossi Playground Runoff Reduction Project • Sunset Recreation Center Runoff Reduction Project • West Portal Playground Runoff Reduction Project • West Sunset Playground Regional Runoff Reduction Project
Justification:	Schedule is heavily influenced by coordination with SFUSD. Several other GI projects (GI-1, GI-3) are starting with SFUSD are starting in Year 1.
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,570	$ 0	$ 0	$ 0	$ 1,570	$ 0	$ 0
Design	$ 3,139	$ 0	$ 0	$ 0	$ 251	$ 1,821	$ 1,067
Construction Management	$ 3,085	$ 0	$ 0	$ 0	$ 0	$ 0	$ 3,085
Construction	$ 18,041	$ 0	$ 0	$ 0	$ 0	$ 0	$ 18,041
Total	$ 25,835	$ 0	$ 0	$ 0	$ 1,821	$ 1,821	$ 22,193

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	GI-5 / (N/A)
Project Title:	Balboa Park GI Project
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	This project reduces runoff volume in the Cayuga and Alemany areas, which currently do not meet the defined Sewer System Improvement Program (SSIP) level-of-service (LOS). The basis and alternate projects are described below. • Manage runoff from Young Street and on-street parking (0.7 acres), police station parking lot (0.5 acres), sump from playground (0.2 acres, and tennis courts (0.5 acres) using four new infiltrative bioretention facilities. Improve drainage in parking area behind Boxer press box (0.2 acres). If the basis project is not feasible due to coordination or engineering feasibility issues determined in Alternative Assessment Report (AAR), the following alternate projects are recommended for consideration as cost-effective replacements. However, their performance in complementing the SFPUC's priority focus on managing areas that may be inundated in the LOS storm must be confirmed prior to incorporation as a substitute project. • June Jordan School for Equity Regional Runoff Reduction Project • Cleveland Elementary Runoff Reduction Project
Justification:	The primary objective of this project is to address the SSIP level of service (LOS) to "Integrate Green and Grey Infrastructure to Manage Stormwater and Minimize Flooding." This LOS includes managing stormwater from a statistically derived storm lasting 3 hours, with a total of 1.3 inches of rainfall and a defined peak rainfall intensity (5-year 3-hour storm, LOS storm). This project reduces runoff volume in the area, which currently do not meet the defined SSIP LOS. In addition to the stormwater performance metrics, the considerations that led to this project being selected as the preferred regional GI site include: • Ideal location relative to surrounding flood risks • Positive synergy with providing a solution to historical flooding in the basement of the high school • Adjacency to large impervious parcels uphill from the school • Quantity and location of impervious area relative to irrigated open space and potential to combine the cistern with an ultra-high-efficiency irrigation system for the playing fields • Supports LOS by providing benefits to a disadvantaged community • Synergy with Balboa Park Area Plan by the San Francisco Planning Department Grey infrastructure projects – namely Foerster Street Auxiliary and Mangels/Hearst/Detroit Sewer Replacement Project – have been completed in Phase 1 of SSIP to increase the peak conveyance capacity in this area. Another major upsizing project underway is the Lower Alemany Stormwater Improvement Project. The Cayuga Runoff Reduction Project would complement the grey projects by reducing the amount of runoff entering the upstream sewers, thereby reducing peak flows in the challenge areas.
Operating Impact:	During Construction: None Post Construction: The installation of new green infrastructure will require additional regular maintenance.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 106	$ 0	$ 0	$ 0	$ 106	$ 0	$ 0
Design	$ 212	$ 0	$ 0	$ 0	$ 17	$ 123	$ 72
Construction Management	$ 208	$ 0	$ 0	$ 0	$ 0	$ 0	$ 208
Construction	$ 1,216	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,216
Total	$ 1,742	$ 0	$ 0	$ 0	$ 123	$ 123	$ 1,496

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	GI-6 / (N/A)
Project Title:	Ocean Storm Area GI: Aptos School and Playground
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	A single relatively large-scale green infrastructure (GI) project forms the cost and performance basis for the Ocean Runoff Reduction Project. That project is a regional stormwater project centered around Aptos Middle School in the Ingleside Neighborhood. The basis and alternate projects are described below. • Regional stormwater collection from adjacent upstream right-of-way as well as the school campus. Runoff from 6.5 acres routed to a 200,000-gallon underground cistern tank integrated with an ultra-high-efficiency irrigation system underneath the football field as a replacement to the existing field. Regional stormwater collection is only from adjacent intersections so no significant new storm drain infrastructure is needed in the right-of-way.
Justification:	The primary objective of this project is to address the SSIP level of service (LOS) to "Integrate Green and Grey Infrastructure to Manage Stormwater and Minimize Flooding." This LOS includes managing stormwater from a statistically derived storm lasting 3 hours, with a total of 1.3 inches of rainfall and a defined peak rainfall intensity (5-year 3-hour storm, LOS storm). This project reduces runoff volume in the area, which currently do not meet the defined SSIP LOS. In addition to the stormwater performance metrics, the considerations that led to this project being selected as the preferred regional GI site include: • Ideal location relative to surrounding flood risks • Quantity and location of impervious area relative to irrigated open space and available surface space for green infrastructure The Urbano Drive and Victoria Street Drainage Sewer Improvements has been proposed within Phase 1 of SSIP to increase the peak conveyance capacity at the downstream end of this area via pipe upsizing. The Ocean Runoff Reduction Project would complement this grey project by reducing the amount of runoff entering the upstream sewers and decreasing peak flows in the challenge area.
Operating Impact:	During Construction: None Post Construction: The installation of new green infrastructure will require additional regular maintenance.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 353	$ 0	$ 0	$ 0	$ 353	$ 0	$ 0
Design	$ 705	$ 0	$ 0	$ 0	$ 56	$ 409	$ 240
Construction Management	$ 693	$ 0	$ 0	$ 0	$ 0	$ 0	$ 693
Construction	$ 4,054	$ 0	$ 0	$ 0	$ 0	$ 0	$ 4,054
Total	$ 5,805	$ 0	$ 0	$ 0	$ 409	$ 409	$ 4,987

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	GI-7 / (N/A)
Project Title:	SFPUC Parcel: Merced Manor Reservoir
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	This green infrastructure project manages stormwater from a covered drinking water reservoir. The basis and alternate projects are described below. • Divert runoff from the 1.85-acre reservoir roof to a 75,000-gallon underground cistern to satisfy onsite irrigation demand of the extensive turf lawn used by the YMCA. In addition, the 0.23-acre rooftop of the pump house would be diverted via downspout disconnect to a rain garden located in front of the building. Ocean Avenue to the south of the site is overly wide and could be narrowed to extend the sidewalk width to create additional treatment area. If the basis project is not feasible due to coordination or engineering feasibility issues determined in Alternative Assessment Report (AAR), the following alternate projects are recommended for consideration as cost-effective replacements. However, their performance in complementing the SFPUC's priority focus on managing areas that may be inundated in the level-of-service (LOS) storm must be confirmed prior to incorporation as a substitute project. • University Mound Reservoir Runoff Reduction Project: Rerouting the existing storm drain for the 12-acre southern reservoir at the University Ave and Woolsey St intersection to the adjacent 770 Woolsey St parcel where half the flows would go to a 120,000-gallon cistern to satisfy onsite irrigation demands and the other half would go to infiltrative rain gardens on that parcel. Land acquisition and/or teaming with Project Greenhouse would be necessary. Otherwise, an infiltration gallery in the ROW could be a viable alternative.
Justification:	The primary objective of this project is to address the Sewer System Improvement Program (SSIP) LOS to "Integrate Green and Grey Infrastructure to Manage Stormwater and Minimize Flooding." This LOS includes managing stormwater from a statistically derived storm lasting 3 hours, with a total of 1.3 inches of rainfall and a defined peak rainfall intensity (5-year 3-hour storm, LOS storm). This project reduces runoff volume in the area, which currently do not meet the defined SSIP LOS. In addition to the stormwater performance metrics, the considerations that led to this project being selected as the preferred regional GI site include: • Locations within area of influence to flood risks • Preferred geotechnical conditions based on best available information (e.g., slope, projected soil type, no known soil contamination, depth to groundwater/bedrock, etc.) • Ability to manager stormwater from a large impervious PUC asset draining to a single point • Proximity to very low velocity (0-0.5 ft/s) sewer pipes Grey infrastructure projects – primarily pipe upsizing – have been proposed within SSIP to increase the peak conveyance capacity. The SFPUC Parcel GI Projects would complement the grey projects by reducing the amount of runoff entering the upstream sewers, thereby reducing peak flows in the stormwater management areas.
Operating Impact:	During Construction: None Post Construction: The installation of new green infrastructure will require additional regular maintenance.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 88	$ 0	$ 0	$ 0	$ 0	$ 88	$ 0
Design	$ 176	$ 0	$ 0	$ 0	$ 0	$ 14	$ 162
Construction Management	$ 173	$ 0	$ 0	$ 0	$ 0	$ 0	$ 173
Construction	$ 1,014	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,014
Total	$ 1,451	$ 0	$ 0	$ 0	$ 0	$ 102	$ 1,349

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	GI-8 / (N/A)
Project Title:	Upper Channel Storm Area GI: DMV Runoff Reduction
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	This project is located immediately adjacent to the Panhandle open space and the existing EIP on Fell Street. In addition to the stormwater performance metrics summarized in the attached score card, the considerations that led to these projects being selected as the preferred regional GI sites in Upper Channel include: Ideal location relative to surrounding flood risks; Preferred geotechnical conditions based on best available information (e.g., slope, projected soil type, no contaminated soils, depth to groundwater/bedrock, etc.); Quantity and location of impervious area relative to irrigated open space and available surface space for green infrastructure; Overlaps with SFPUC collection system reliability priorities and community benefit LOS, (e.g., improvements in disadvantaged communities); Connectivity to the existing Early Implementation Project at Fell/Oak, as a way to leverage existing GI infrastructure, expand its visual presence, and build continuity. The basis and alternate projects are described below. Basis Project: DMV Runoff Reduction Project Manage runoff from hardscape (1.7 acres) through 3,703 sf of bioretention. Disconnect downspout and harvest runoff from roof (0.39 acres) in 9,750 gallon cistern. Potential Alternatives: In contrast to conventional infrastructure projects, the regional green infrastructure stormwater project is contingent upon a willingness of the agency partner. As such, if the basis project is not feasible due to coordination or engineering feasibility issues determined in AAR, the following alternate projects are recommended for consideration as cost-effective replacements. However, their performance in complementing the SFPUC's priority focus on managing areas that may be inundated in the LOS storm must be confirmed prior to incorporation as a substitute project. Gateway High School Runoff Reduction Project, Golden Gate Webster Housing Runoff Reduction Project, Hayward Playground Runoff Reduction Project, Hutch Community Center Runoff Reduction Project, Post Baker Housing Runoff Reduction Project, Rosa Parks Elementary Runoff Reduction Project, Woodland Creek and Grattan Reach, Islais Creek – Alemany Reach
Justification:	The primary objective of the Upper Channel Storm Area GI Project is to address the SSIP level of service (LOS) to "Integrate Green and Grey Infrastructure to Manage Stormwater and Minimize Flooding." This LOS includes managing stormwater from a statistically derived storm lasting 3 hours, with a total of 1.3 inches of rainfall and a defined peak rainfall intensity (5-year 3-hour storm, LOS storm). This project reduces runoff volume in the Western Addition and Panhandle areas, which currently do not meet the defined SSIP LOS. Grey infrastructure projects – namely, pipe upsizing – have been proposed within SSIP to increase the peak conveyance capacity at the downstream end of this area. The Project would complement the grey projects by reducing the amount of runoff entering the upstream sewers. This project sheet describes the green infrastructure capital projects that have been identified as the most effective candidates to address stormwater management in this area. These projects form the cost and performance basis for the Project. Because these projects are contingent upon interagency coordination and additional site investigation to be conducted during the AAR phase, alternate GI candidate projects are also described.
Operating Impact:	TBD

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 76	$ 0	$ 0	$ 0	$ 0	$ 76	$ 0
Design	$ 153	$ 0	$ 0	$ 0	$ 0	$ 12	$ 141
Construction Management	$ 150	$ 0	$ 0	$ 0	$ 0	$ 0	$ 150
Construction	$ 878	$ 0	$ 0	$ 0	$ 0	$ 0	$ 878
Total	$ 1,257	$ 0	$ 0	$ 0	$ 0	$ 88	$ 1,169

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	GI-9 / (N/A)
Project Title:	SFPUC Parcel: Sunset Reservoir
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	This green infrastructure project manages stormwater from a covered drinking water reservoir. The basis and alternate projects are described below. • Capture runoff from 12-acre northern half of reservoir. Manage portion (2.3 acres) with bioretention in northwest corner of site. Manage remainder (9.5 acres) using in-street infiltration gallery. Gallery may be deep due to water mains and sewer lines that need to be crossed on Ortega Street. Candidate for silo dry well technology. If the basis project is not feasible due to coordination or engineering feasibility issues determined in Alternative Assessment Report (AAR), the following alternate projects are recommended for consideration as cost-effective replacements. However, their performance in complementing the SFPUC's priority focus on managing areas that may be inundated in the level-of-service (LOS) storm must be confirmed prior to incorporation as a substitute project. • University Mound Reservoir Runoff Reduction Project: Rerouting the existing storm drain for the 12-acre southern reservoir at the University Ave and Woolsey St intersection to the adjacent 770 Woolsey St parcel where half the flows would go to a 120,000-gallon cistern to satisfy onsite irrigation demands and the other half would go to infiltrative rain gardens on that parcel. Land acquisition and/or teaming with Project Greenhouse would be necessary. Otherwise, and infiltration gallery in the ROW could be a viable alternative.
Justification:	The primary objective of this project is to address the SSIP level of service (LOS) to "Integrate Green and Grey Infrastructure to Manage Stormwater and Minimize Flooding." This LOS includes managing stormwater from a statistically derived storm lasting 3 hours, with a total of 1.3 inches of rainfall and a defined peak rainfall intensity (5-year 3-hour storm, LOS storm). This project reduces runoff volume in the area, which currently do not meet the defined SSIP LOS. In addition to the stormwater performance metrics, the considerations that led to this project being selected as the preferred regional GI site include: • Locations within area of influence to flood risks • Preferred geotechnical conditions based on best available information • Ability to manager stormwater from a large impervious PUC asset draining to a single point • Proximity to very low velocity (0-0.5 ft/s) sewer pipes Grey infrastructure projects – primarily pipe upsizing – have been proposed within SSIP to increase the peak conveyance capacity. The SFPUC Parcel GI Projects would complement the grey projects by reducing the amount of runoff entering the upstream sewers, thereby reducing peak flows in the stormwater management areas.
Operating Impact:	During Construction: None Post Construction: The installation of new green infrastructure will require additional regular maintenance.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 388	$ 0	$ 0	$ 0	$ 0	$ 388	$ 0
Design	$ 776	$ 0	$ 0	$ 0	$ 0	$ 62	$ 714
Construction Management	$ 763	$ 0	$ 0	$ 0	$ 0	$ 0	$ 763
Construction	$ 4,459	$ 0	$ 0	$ 0	$ 0	$ 0	$ 4,459
Total	$ 6,386	$ 0	$ 0	$ 0	$ 0	$ 450	$ 5,936

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	GI-10 / (N/A)
Project Title:	Upper Channel Storm Area GI: Hamilton Playground
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	This project is a regional stormwater project centered around Hamilton Playground in Western Addition. In addition to the stormwater performance metrics, the considerations that led to this project being selected as a preferred regional Green Infrastructure (GI) site in Upper Channel include: ideal location relative to surrounding flood risks; preferred geotechnical conditions based on best available information; quantity and location of impervious area relative to irrigated open space and available surface space for green infrastructure; overlaps with SFPUC collection system reliability priorities and community benefit level of service (LOS). The project includes: Capture of runoff from Hamilton Playground impervious area as well as parts of Scott St, Pierce St, Steiner St, Post St and Bosworth Way (4.85 acres DMA in total). Store a portion of runoff (3 acres of DMA) under the hardscape play area in a 120,000 gallon cistern, and use to irrigate the field. Manage the remainder of DMA (1.85 acres) with 4,000 sf of bioretention. In contrast to conventional infrastructure projects, the regional green infrastructure stormwater project is contingent upon a willingness of the agency partner. If the project is not feasible due to coordination or engineering feasibility issues determined in AAR, the alternate projects are recommended for consideration as cost-effective replacements. However, their performance in complementing the SFPUC's priority focus on managing areas that may be inundated in the LOS storm must be confirmed prior to incorporation as a substitute project. - Gateway High School Runoff Reduction Project - Golden Gate Webster Housing Runoff Reduction Project - Hayward Playground Runoff Reduction Project - Hutch Community Center Runoff Reduction Project - Post Baker Housing Runoff Reduction Project - Rosa Parks Elementary Runoff Reduction Project - Woodland Creek and Grattan Reach - Islais Creek – Alemany Reach
Justification:	The primary objective of the Upper Channel Storm Area GI Project is to address the SSIP level of service (LOS) to "Integrate Green and Grey Infrastructure to Manage Stormwater and Minimize Flooding." This LOS includes managing stormwater from a statistically derived storm lasting 3 hours, with a total of 1.3 inches of rainfall and defined peak rainfall intensity (5-year 3-hour storm, LOS storm). This project reduces runoff volume in the Western Addition and Panhandle areas, which currently do not meet the defined SSIP LOS. Grey infrastructure projects – namely, pipe upsizing – have been proposed within SSIP to increase the peak conveyance capacity at the downstream end of this area. The Upper Channel Storm Area GI Project would complement the grey projects by reducing the amount of runoff entering the upstream sewers.
Operating Impact:	TBD

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 253	$ 0	$ 0	$ 0	$ 0	$ 0	$ 253
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 506	$ 0	$ 0	$ 0	$ 0	$ 0	$ 506
Construction Management	$ 497	$ 0	$ 0	$ 0	$ 0	$ 0	$ 497
Construction	$ 2,905	$ 0	$ 0	$ 0	$ 0	$ 0	$ 2,905
Total	$ 4,161	$ 0	$ 0	$ 0	$ 0	$ 0	$ 4,161

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	GI-11 / (N/A)
Project Title:	Regional School/Park: Lincoln High School
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	This regional stormwater project is located at Lincoln High School in the Sunset District. In addition to the stormwater performance metrics, the considerations that led to this project being selected as a preferred regional Green Infrastructure (GI) site for schools and parks include: Ideal location relative to surrounding flood risks; Preferred geotechnical conditions based on best available information (e.g., slope, projected soil type, no contaminated soils, depth to groundwater/bedrock, etc.); Quantity and location of impervious area relative to irrigated open space and available surface space for green infrastructure; Overlaps with SFPUC collection system reliability priorities and community benefit LOS, (e.g., improvements in disadvantaged communities) The basis and alternate projects are described below. Basis Project: Lincoln High School Runoff Reduction Project Onsite stormwater collection from 9 acres routed to green infrastructure facilities, including 1.8 acres of rooftop diverted to rain gardens and 7.2 acres of hardscape diverted to a 290,000-gallon underground cistern integrated with an ultra-high-efficiency irrigation system underneath the football field as a replacement to the current field. Potential Alternatives: In contrast to conventional infrastructure projects, the regional green infrastructure stormwater project is contingent upon a willingness of the agency partner. As such, if the basis project is not feasible due to coordination or engineering feasibility issues determined in Alternative Assessment Report (AAR), the following alternate projects are recommended for consideration as cost-effective replacements. However, their performance in complementing the SFPUC's priority focus on managing areas that may be inundated in the LOS storm must be confirmed prior to incorporation as a substitute project. Jackson Playground Runoff Reduction Project, Downtown High School Runoff Reduction Project, Marina Middle School Regional Runoff Reduction Project, Marshall High School Runoff Reduction Project, Rossi Playground Runoff Reduction Project, Sunset Recreation Center Runoff Reduction Project , West Portal Playground Runoff Reduction Project
Justification:	The primary objective of the Regional School/Park GI Projects is to address the SSIP level of service (LOS) to "Integrate Green and Grey Infrastructure to Manage Stormwater and Minimize Flooding." This LOS includes managing stormwater from a statistically derived storm lasting 3 hours, with a total of 1.3 inches of rainfall and defined peak rainfall intensity (5-year 3-hour storm, LOS storm). This project reduces runoff volume from large areas in and around schools and parks that have been strategically identified upstream from priority stormwater management areas currently not meeting the defined SSIP LOS. Grey infrastructure projects – primarily pipe upsizing – have been proposed within SSIP to increase the peak conveyance capacity in the priority areas. The Regional School/Park GI Projects would complement the grey projects by reducing the amount of runoff entering the upstream sewers. This project sheet describes the green infrastructure capital projects that have been identified as the most effective candidates to address stormwater management at schools and parks. These projects form the cost and performance basis for the Regional School/Park GI Projects. Because these projects are contingent upon interagency coordination and additional site investigation to be conducted during the AAR phase, alternate GI candidate projects are also described in this sheet.
Operating Impact:	TBD

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 511	$ 0	$ 0	$ 0	$ 0	$ 0	$ 511
Design	$ 1,023	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,023
Construction Management	$ 1,005	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,005
Construction	$ 5,878	$ 0	$ 0	$ 0	$ 0	$ 0	$ 5,878
Total	$ 8,417	$ 0	$ 0	$ 0	$ 0	$ 0	$ 8,417

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	GI-12 / (N/A)
Project Title:	Streetscape Synergy Projects: Bayside
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	Streetscape Synergy projects are capital projects led by other agencies where SFPUC would contribute funds to pay for the stormwater management improvement portion of the project. The Bayside Drainage Basin contains several "full treatment" streetscape projects proposed by other City agencies. The highest density of these projects is in the drainage areas for the Western Addition, Panhandle, and SOMA flood areas. The City agency streetscape projects with the scope, schedule, and scale to best enable synergies with SSIP green infrastructure (GI) projects were identified using available information from interagency working groups, the City's Envista capital project database, and agency reports. The segments of these streets that had the best physical conditions for green infrastructure implementation were then developed into GI streetscape synergy project concepts and evaluated further using hydraulic and hydrologic modeling. The concepts that performed the best for flood reduction effectiveness were then selected as the preferred streetscape synergy projects to prioritize on the Bayside. Basis Projects: • Hayes Street Green Street • Haight Street Green Street • Fell Street Green Street • Eddy Street Green Street • Golden Gate Green Street • Post Street Green Street • Steiner Street Green Street • Post Street Green Street Because these projects are contingent upon interagency coordination and additional site investigation to be conducted during the Alternative Assessment Report (AAR) phase, alternate GI candidate projects are also identified.
Justification:	The primary objective of this project is to address the SSIP level of service (LOS) to "Integrate Green and Grey Infrastructure to Manage Stormwater and Minimize Flooding." This LOS includes managing stormwater from a statistically derived storm lasting 3 hours, with a total of 1.3 inches of rainfall and defined peak rainfall intensity (5-year, 3-hour storm, LOS storm). This project reduces runoff volume in the area, which currently do not meet the defined SSIP LOS. Grey infrastructure projects – primarily pipe upsizing – have been proposed within SSIP to increase the peak conveyance capacity. The Bayside Streetscape Synergy Projects would complement the grey projects by reducing the amount of runoff entering the upstream sewers.
Operating Impact:	During Construction: None Post Construction: The installation of new green infrastructure will require additional regular maintenance.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 2,789	$ 0	$ 0	$ 0	$ 0	$ 0	$ 2,789
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 1,942	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,942
Total	$ 4,731	$ 0	$ 0	$ 0	$ 0	$ 0	$ 4,731

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	GI-13 / (N/A)
Project Title:	Streetscape Synergy Projects: Westside
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	Streetscape Synergy projects are capital projects led by other agencies where SFPUC would contribute funds to pay for the stormwater management improvement portion of the project. The Westside Drainage Basin contains several "full treatment" streetscape projects proposed by other City agencies. The City agency streetscape projects with the scope, schedule, and scale to best enable synergies with SSIP green infrastructure (GI) projects were identified using available information from interagency working groups, the City's Envista capital project database, and agency reports. The segments of these streets that had the best physical conditions for green infrastructure implementation were then developed into GI streetscape synergy project concepts and evaluated further using hydraulic and hydrologic modeling. The concepts that performed the best for flood reduction effectiveness were then selected as the preferred streetscape synergy projects to prioritize on the Westside. Basis Projects: • Taraval Street Green Street • Noriega Street Green Street • Holloway Avenue Green Street • Lake Street Green Street Because these projects are contingent upon interagency coordination and additional site investigation to be conducted during the Alternative Assessment Report (AAR) phase, alternate GI candidate projects are also identified.
Justification:	The primary objective of this project is to address the SSIP level of service (LOS) to "Integrate Green and Grey Infrastructure to Manage Stormwater and Minimize Flooding." This LOS includes managing stormwater from a statistically derived storm lasting 3 hours, with a total of 1.3 inches of rainfall and a defined peak rainfall intensity (5-year, 3-hour storm, LOS storm). This project reduces runoff volume in the area, which currently do not meet the defined SSIP LOS. Grey infrastructure projects – primarily pipe upsizing – have been proposed within SSIP to increase the peak conveyance capacity. The Westside Streetscape Synergy Projects would complement the grey projects by reducing the amount of runoff entering the upstream sewers.
Operating Impact:	During Construction: None Post Construction: The installation of new green infrastructure will require additional regular maintenance.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 846	$ 0	$ 0	$ 0	$ 0	$ 0	$ 846
Design	$ 516	$ 0	$ 0	$ 0	$ 0	$ 0	$ 516
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 1,362	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,362

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	GI-14 / (N/A)
Project Title:	Twin Peaks: Sutro Reservoir Stormwater Space
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	The project involves creek daylighting in an area where historical creeks used to exist but have since been put into pipes as the collection system expanded across the City. The alignments of these historical creeks are strongly associated with flooding. This project is a creek daylighting project following the alignment of Brotherhood Way from Alemany Boulevard down to Lake Merced. The basis and alternate projects are described below. • Rerouting of runoff from the rooftop of the Sutro Reservoir into an existing 42" storm drain pipe that conveys an existing creek under the reservoir, and also rerouting of the majority of the Laguna Honda Hospital campus. The part of the Laguna Honda Hospital parcel where the creek currently runs will be enhanced to retain and infiltrate the maximum amount of stormwater prior to discharge into Laguna Honda Reservoir. If the basis project is not feasible due to coordination or engineering feasibility issues determined in Alternative Assessment Report (AAR), the following alternate projects are recommended for consideration as cost-effective replacements. However, their performance in complementing the SFPUC's priority focus on managing areas that may be inundated in the level of service (LOS) storm must be confirmed prior to incorporation as a substitute project. • Hayes Creek – Civic Center Reach: Daylight 1,419 feet of creek, capture runoff from surrounding areas (10.6 acres DMA) and manage through 23,043 sf of bioretention along creek.
Justification:	The primary objective of this project is to address the SSIP level of service (LOS) to "Integrate Green and Grey Infrastructure to Manage Stormwater and Minimize Flooding." This LOS includes managing stormwater from a statistically derived storm lasting 3 hours, with a total of 1.3 inches of rainfall and a defined peak rainfall intensity (5-year 3-hour storm, LOS storm). This project reduces runoff volume in the area, which currently do not meet the defined SSIP LOS. In addition to the stormwater performance metrics, the considerations that led to this project being selected as the preferred regional GI site include: • Ideal location relative to surrounding flood risks • Preferred geotechnical conditions based on best available information • Project footprint follows the alignment of an historical creek • Overlaps with high priority SFPUC collection system reliability priorities • Synergies with high priority Interagency Plan Implementation Committee and Green Connections • Ability to discharge into an existing lake or reservoir so all flows are kept out of the collection system.
Operating Impact:	During Construction: None Post Construction: The installation of new green infrastructure will require additional regular maintenance.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,405	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,405
Design	$ 1,855	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,855
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 3,260	$ 0	$ 0	$ 0	$ 0	$ 0	$ 3,260

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	GI-15 / (N/A)
Project Title:	Twin Peaks: Add'l Drainage Area Stormwater Space
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	The project involves creek daylighting in an area where historical creeks used to exist but have since been put into pipes as the collection system expanded across the City. The alignments of these historical creeks are strongly associated with flooding. This project is a creek daylighting project that looks to enhance and expand an existing creek adjacent to Laguna Honda Hospital. The basis and alternate projects are described below. • Rerouting of 7.7 acres of hardscape and 3.5 acres of rooftop via downspout disconnect from the Juvenile Justice center located adjacent to the Laguna Honda Hospital. This is conceived as a second phase of the Twin Peaks Creek Daylighting projected, once (and if) the facility demonstrates it has the capacity to handle additional flows. If the basis project is not feasible due to coordination or engineering feasibility issues determined in Alternative Assessment Report (AAR), the following alternate projects are recommended for consideration as cost-effective replacements. However, their performance in complementing the SFPUC's priority focus on managing areas that may be inundated in the LOS storm must be confirmed prior to incorporation as a substitute project. • Hayes Creek – Civic Center Reach: Daylight 1,419 feet of creek, capture runoff from surrounding areas (10.6 acres DMA) and manage through 23,043 sf of bioretention along creek.
Justification:	The primary objective of this project is to address the SSIP level of service (LOS) to "Integrate Green and Grey Infrastructure to Manage Stormwater and Minimize Flooding." This LOS includes managing stormwater from a statistically derived storm lasting 3 hours, with a total of 1.3 inches of rainfall and a defined peak rainfall intensity (5-year 3-hour storm, LOS storm). This project reduces runoff volume in the area, which currently do not meet the defined SSIP LOS. In addition to the stormwater performance metrics, the considerations that led to this project being selected as the preferred regional GI site include: • Ideal location relative to surrounding flood risks • Preferred geotechnical conditions based on best available information • Project footprint follows the alignment of an historical creek • Overlaps with high priority SFPUC collection system reliability priorities • Synergies with high priority Interagency Plan Implementation Committee and Green Connections • Ability to discharge into an existing lake or reservoir so all flows are kept out of the collection system.
Operating Impact:	During Construction: None Post Construction: The installation of new green infrastructure will require additional regular maintenance.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 388	$ 0	$ 0	$ 0	$ 0	$ 0	$ 388
Design	$ 512	$ 0	$ 0	$ 0	$ 0	$ 0	$ 512
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 900	$ 0	$ 0	$ 0	$ 0	$ 0	$ 900

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	GI-16 / (N/A)
Project Title:	Brotherhood Way Creek Stormwater Space
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	The project involves creek daylighting in an area where historical creeks used to exist but have since been put into pipes as the collection system expanded across the City. The alignments of these historical creeks are strongly associated with flooding. This project is a creek daylighting project following the alignment of Brotherhood Way from Alemany Boulevard down to Lake Merced. The basis and alternate projects are described below. • Funding a daylighted creek running 1 mile along Brotherhood Way from Alemany Blvd down to a Wastewater Enterprise parcel located southeast of the Lake Merced Blvd intersection that would be used for retention and infiltration. Stormwater from 80 acres would be directed to the creek for conveyance to the parcel where it would be infiltrated to recharge lake levels. Flows during extreme events would overflow from the parcel directly to the south lake forebay via an existing pipe. If the basis project is not feasible due to coordination or engineering feasibility issues determined in Alternative Assessment Report (AAR), the following alternate projects are recommended for consideration as cost-effective replacements. However, their performance in complementing the SFPUC's priority focus on managing areas that may be inundated in the LOS storm must be confirmed prior to incorporation as a substitute project. • Hayes Creek – Civic Center Reach: Daylight 1,419 feet of creek, capture runoff from surrounding areas (10.6 acres DMA) and manage through 23,043 sf of bioretention along creek.
Justification:	The primary objective of this project is to address the SSIP level of service (LOS) to "Integrate Green and Grey Infrastructure to Manage Stormwater and Minimize Flooding." This LOS includes managing stormwater from a statistically derived storm lasting 3 hours, with a total of 1.3 inches of rainfall and defined peak rainfall intensity (5-year, 3-hour storm, LOS storm). This project reduces runoff volume in the area, which currently do not meet the defined SSIP LOS. In addition to the stormwater performance metrics, the considerations that led to this project being selected as the preferred regional GI site include: • Ideal location relative to surrounding flood risks • Preferred geotechnical conditions based on best available information • Project footprint follows the alignment of an historical creek • Overlaps with high priority SFPUC collection system reliability priorities • Synergies with high priority Interagency Plan Implementation Committee and Green Connections • Ability to discharge into an existing lake or reservoir so all flows are kept out of the collection system.
Operating Impact:	During Construction: None Post Construction: The installation of new green infrastructure will require additional regular maintenance.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 2,263	$ 0	$ 0	$ 0	$ 0	$ 0	$ 2,263
Design	$ 2,987	$ 0	$ 0	$ 0	$ 0	$ 0	$ 2,987
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 5,250	$ 0	$ 0	$ 0	$ 0	$ 0	$ 5,250

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	CWWSIPFCGI03 / (N/A)
Project Title:	Wawona St & 15th Ave Stormwater Detention REALIGN
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Saed Toloui
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	The neighborhood surrounding Wawona St. and 15th Ave. has been susceptible to recurring inundation associated with moderate and heavy storms. The primary objective of the Wawona Area Stormwater Improvement Project is to address the SSIP Level of Service (LOS) goals of managing stormwater. This project will include planning, design, and construction of an improved stormwater conveyance from the intersection of Vicente and Wawona to Vicente at 34th Ave, minimizing stormwater inundation at the level of service storm in the Wawona/15th area.
Justification:	The Wawona area does not meet LOS storm events and is susceptible to recurring stormwater inundation in moderate to heavy storms. The intersection of Wawona St. and 15th Ave. can experience up to several feet of stormwater during rain events, resulting in property damage, and potential health and safety issues. The primary objective of the project is to meet the Stormwater Management Level of Service goals in the neighborhood by improving stormwater conveyance.
Operating Impact:	This project will provide the necessary capacity in the existing sewer on Wawona St. during the wet season, by diverting a large amount of flow from the upstream of Wawona into a new conveyance on Vicente, providing an improved conveyance system.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	CWWSIPFCGI01 / 10029726
Project Title:	Watershed Stormwater Management (Planning Only)
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Mary Tienken
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	This project will address long term Green Infrastructure (GI) development process and how it will be integrated and prioritized in the Collection System Plan and UWA report. A portion of the funds will be used to implement billing system upgrades that will enable the roll out the stormwater fee. Funding is also allocated for the Planning GI projects on San Francisco Unified School District (SFUSD) sites.
Justification:	This funding is essential to plan and develop green infrastructure programmatic strategies before work commences on individual green infrastructure capital projects.
Operating Impact:	Planning funds ensure that future GI projects and programs roll out smoothly and expeditiously.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	GISW01 / 10034553
Project Title:	GI For Stormwater Management (Grant)
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Mary Tienken
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	The Green Infrastructure (GI) Grant Program funds green infrastructure projects on public and private properties throughout San Francisco. By providing grants to owners of large, impervious parcels the SFPUC will encourage further green infrastructure projects that manage stormwater and improve the City's collection system performance during wet weather. The grants will cover costs of design and construction of approved stormwater management features, such as rain gardens, permeable pavement, cistems, and vegetated roofs. Grantees will be eligible to receive $765,000 per acre of impervious surface managed, up to $2 million per project.
Justification:	Most impervious surface in the City of San Francisco is on privately owned parcels. By implementing the GI grant program, Wastewater Enterprise is responding to feedback from SFPUC commission to look for lower unit cost alternatives for GI. In addition, the grant program provides an opportunity for customers to mitigate future stormwater charges and advance of the new rate structure implementation.
Operating Impact:	The facilities constructed by the Green Infrastructure Grant Program will be operated and maintained by others. The Grant Program reduces stormwater flow to the sewer system with no ongoing operating cost to the SFPUC.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 2,400	$ 0	$ 0	$ 0	$ 400	$ 400	$ 1,600
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 10,600	$ 0	$ 0	$ 1,000	$ 1,600	$ 1,600	$ 6,400
Total	$ 13,000	$ 0	$ 0	$ 1,000	$ 2,000	$ 2,000	$ 8,000

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	CWWSIPFCRP01 / 10029728
Project Title:	Advanced Rainfall Prediction - Part 1
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stefani Harrison
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	This project includes planning, design, and environmental review for three new radar equipment stations to collect additional data. Although the installation of all three radar equipment stations is not proposed at this time, there is a regional project with other Bay Area agencies moving forward under a grant from the State, which will require some coordination and site activities to take place this is accounted for in the project. Once all equipment stations are installed and running, the data would be provided in real-time to a new Advanced Quantitative Precipitation Information (AQPI) system, which would perform rainfall prediction modeling for short-term and long term precipitation forecasts, and deliver the resulting forecast to SFPUC automatically in real-time. The AQPI system would be delivered to SFPUC as a turnkey system, providing operators with important tools to help inform their decisions.
Justification:	TBD
Operating Impact:	TBD

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	CWWSIPFCRP02 / 10029729
Project Title:	Operational Decision System Phase 1
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stefani Harrison
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	SFPUC desires a more consistent and transparent basis for making decisions that make best use of available data in an automated way. This project would integrate available data in the collection system (levels, flows, pump status, etc.) with rainfall prediction data (from National Oceanic and Atmospheric Administration, or in the future improved through the Advanced Rainfall Prediction project). The real-time data will be coupled with WWE's collection system hydraulic model to project the likely impact of approaching storms and generate specific operational recommendations for managing flows.
Justification:	TBD
Operating Impact:	TBD

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	CWWSIPFCRP03 / 10029730
Project Title:	Operational Decision System Phase 2
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Maria Kristel Cruz
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	This project would integrate available data in the collection system (levels, flows, pump status, etc.) with rainfall prediction data (from National Oceanic and Atmospheric Administration, or in the future improved through project CWWSIPFCRP01). The real-time data will be coupled with Waste Water Enterprise's (WWE) collection system hydraulic model to project the likely impact of approaching storms and generate specific operational recommendations for managing flows. Phase 2 builds upon Phase 1 (CWWSIPFCRP02) for a citywide installation.
Justification:	This project would support Wastewater Enterprise operations staff at the treatment plants by providing a consistent numerical basis for making operational decisions before and during storm events. It would archive documentation for any operational decisions made that varied from the guidelines provided in the National Pollutant Discharge Eimination System (NPDES) permits.
Operating Impact:	This project would increase confidence in operational decision making of Wastewater Enterprise operators before and during the storm events.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	CWWSIPFCDB07 / 10026811
Project Title:	17th and Folsom Wet Weather Storage
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Saed Toloui
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	The neighborhood surrounding 17th Street, 18th Street and Folsom Street has been experiencing flooding with over a foot of water on the streets, sidewalks and into their houses during rain events, resulting in property damages to the residents. The 17th and Folsom Wet Weather Storage project was originally intended to provide interim flood mitigation to the neighborhood while SSIP is working on identifying long-term solutions through capital improvement projects. The proposed interim flood mitigation alternatives consisted of a storage basin, pump station, and collection facilities to be built underneath the proposed future 17th & Folsom Park. However, the project was cancelled and defunded except for residual funds for ongoing response activities as directed by management, including certain outreach activities related to flooding.
Justification:	N/A
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15730-WW Flood Resilience-hydraulic
Project ID/FSP ID	CWWSIPFCDB10 / 10026814
Project Title:	Flood Resilience Analysis (Planning Phase Only)
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Saed Toloui
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	The Flood Resilience Analysis Project will focus on developing a framework for identifying multiple storm scenarios; quantifying risks and cost implications associated with mitigating flooding across the aforementioned storm scenarios; and defining the extent and scope of the City's responsibility, based on consequences of extreme storms. To minimize flood risks citywide and meet SFPUC objectives, this project will also develop programs and policies beyond what the collection system can manage, and make recommendations on prioritization of structural, non-structural, and operational measures.
Justification:	N/A
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15730-WW Flood Resilience-hydraulic
Project ID/FSP ID	CWWSIPFCDB11 / 10026815
Project Title:	Flood Resil - Early Projects (Planning Phase Only)
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stefani Harrison
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	The City of San Francisco has experienced multiple significant storms in the last decade, which have led to flooding in various parts of the City. While Flood Resilience Analysis is being conducted by SFPUC, early infrastructure projects are being planned at three critical areas (Cayuga, Wawona, and Folsom neighborhoods) subjected to high flood risk. This project focuses on planning and developing stormwater detention and conveyance concepts specific to each of the aforementioned critical neighborhoods.
Justification:	N/A
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15730-WW Flood Resilience-hydraulic
Project ID/FSP ID	CWWSIPFCDB12 / 10026816
Project Title:	Wawona St & 15th Ave Stormwater Detention Project
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Saed Toloui
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	The neighborhood surrounding the intersection of 15th Avenue and Wawona Street is topographically lower in elevation compared to its adjacent neighborhoods, and has been subjected to flooding during large storms. When the capacity of the sewers are exceeded during large storms, significant volumes of overland flow upstream of the intersection cannot enter the catch basins and sewer system, causing flooding and property damage. The purpose of this project is to convert the Arden Wood Natural Area to a flood water detention basin by collecting the upstream surface water and diverting it into the area, using a series of pipe and inlet systems on the upstream, and a large pipe/micro-tunnel at the intersection of Wawona Street and 15th Avenue.
Justification:	TBD
Operating Impact:	TBD

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15730-WW Flood Resilience-hydraulic
Project ID/FSP ID	CWWSIPFCDB13 / 10026817
Project Title:	Cayuga Ave Stormwater Detention Project
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Saed Toloui
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	The neighborhood surrounding the northeastern end of Cayuga Avenue has been susceptible to recurring flooding associated with moderate to heavy storms. Due to its low land topography, the area can experience up to a few feet of water on the streets and sidewalks during rain events. This project will improve the stormwater detention by re-grading the I-280 embankment at the foot of Cayuga to create a low lying detention field. This project will provide surface detention of flows during flooding and includes an overflow relief connection into the College Hill Tunnel as well and a retaining wall to support the roadway.
Justification:	TBD
Operating Impact:	TBD

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15730-WW Flood Resilience-hydraulic
Project ID/FSP ID	CWWSIPFCDB14 / 10026818
Project Title:	Folsom Area Stormwater Improvement Project
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Derek Adams
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	The Folsom Area Stormwater Improvement Project (FASIP) will provide stormwater conveyance improvements to the neighborhood surrounding 17th and Folsom Street. The project is being developed based on the alternative chosen in the NAR/AAR report and further defined in the CER. Major components of the project consist of a tunnel to convey stormwater flows from the neighborhood surrounding 17th and Folsom to the Channel Consolidated Transport/Storage Box, and upsizing of existing combined sewer pipes and structures upstream of the tunnel. Phase I covers through design which is anticipated to be complete in the first quarter of 2021. Construction will be covered by Folsom Area Stormwater Improvement Project Phase 2.
Justification:	Lower-lying areas in the vicinity can experience up to several feet of stormwater inundation during rain events, resulting in property damage, and potential health and safety issues. The primary objective of the project is to improve the stormwater conveyance in the area to meet the SFPUC endorsed Level of Service (LOS) goals.
Operating Impact:	The FASIP will provide redundancy to the Division Street Sewer, which conveys a major urban watershed covering much of the Inner Mission and Soma. The project will also upsize portions of the pipe and box sewer network in the neighborhood, providing improved facilities and operational capacity to a strained and aging combined sewer network.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15730-WW Flood Resilience-hydraulic
Project ID/FSP ID	CWWSIPFCDB15 / 10026819
Project Title:	17th and Folsom Permanent Barriers
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Saed Toloui
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	SFPUC has purchased off-the-shelf plastic temporary flood barriers for 2015 and 2016 wet seasons. At locations where temporary plastic flood barriers were installed and proven effective in mitigating floods, SFPUC plans to install more durable custom aluminum or steel barriers before a permanent solution (Folsom Area Stormwater Improvement Project) can be implemented. The aluminum or steel barriers would be installed during wet seasons and removed during dry seasons. The sidewalk would be graded and outfitted with recessed and covered receptacles for mounting flood barrier poles. Interlocking aluminum logs would be installed between the poles. The flood barrier system would be custom built based on site-specific pole intervals, barrier height, and other characteristics.
Justification:	TBD
Operating Impact:	TBD

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15730-WW Flood Resilience-hydraulic
Project ID/FSP ID	CWWSIPFCDB16 / 10026820
Project Title:	Hydraulic and Drainage Sewer Improvements
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Saed Toloui
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	This project includes awarding "As-Needed Construction Contracts" to implement small and non- specialty sewer improvement projects at critical flood prone neighborhoods. Examples of non- specialty, small infrastructure construction include improvement of drainage features, upsizing/expansion of sewer pipes, and surface grading modifications. Three preliminary projects (areas) were identified: Joost/Foerster Sewer Expansion, Urbano/Victoria Drainage Project, and Wawona Interim Drainage Project. Additional projects will be added as the needs arise.
Justification:	The neighborhood surrounding Joost/Foerster and Urbano/Victoria streets has been susceptible to recurring stormwater inundation associated with moderate to heavy storms. Areas in the vicinity can experience up to several feet of stormwater inundation during rain events, resulting in property damage, and potential health and safety issues. The primary objective of the project is to meet the Stormwater Management Level of Service goals in the neighborhood by improving stormwater conveyance.
Operating Impact:	This project will provide redundancy to the Division Street Sewer, which conveys a major urban watershed covering much of the Inner Mission and Soma. The project will also upsize portions of the pipe and box sewer network in the neighborhood, providing improved facilities and operational capacity. This project will improve stormwater management at critical flood prone neighborhoods and maximizes opportunities for passive stormwater collection.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15730-WW Flood Resilience-hydraulic
Project ID/FSP ID	10034360 / 10034360
Project Title:	Lower Alemany Area Stormwater Improvement Project
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Suzanne Huang
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	The primary objective of the Lower Alemany Area Stormwater Improvement Project is to address the Sewer System Improvement Program (SSIP) levels of service (LOS) goals of managing stormwater and minimizing flooding from a statistically derived storm lasting 3 hours, with a total of 1.3 inches of rainfall and defined peak rainfall intensity (5-year 3-hour storm, LOS storm). This project will include planning, design, and construction of an improved conveyance system in the Lower Alemany area that manages the stormwater and minimizes flooding in the LOS storms. Detail project scope will be developed based on the preferred alternative identified during the planning phase.
Justification:	Project schedule is modified to reflect construction complexities. Re-allocation of budget between years to better manage spending curve.
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 13,023	$ 0	$ 0	$ 0	$ 13,023	$ 0	$ 0
Construction Management	$ 20,000	$ 0	$ 0	$ 0	$ 0	$ 0	$ 20,000
Construction	$ 200,000	$ 0	$ 0	$ 0	$ 0	$ 70,000	$ 130,000
Total	$ 233,023	$ 0	$ 0	$ 0	$ 13,023	$ 70,000	$ 150,000

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15730-WW Flood Resilience-hydraulic
Project ID/FSP ID	FR-1 / (N/A)
Project Title:	Folsom Area Stormwater Imp. Project Phase 2
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Derek Adams
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	This project will include planning, design, and construction of an improved stormwater conveyance from the 17th and Folsom neighborhood to Mission Creek, minimizing stormwater inundation in the level of service storm. This project will include the construction of 5,100 LF of a new 12-foot diameter tunnel along Alameda Street, from Treat and 16th to the Channel Transport/Storage Box near the intersection of 7th and Berry Streets. In addition to the tunnel component, some upstream sewer pipes and sewer boxes will be rerouted or upsized to convey the level of service storm to the tunnel.
Justification:	Re-allocation of budget between years to better manage spending curve
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 19,727	$ 0	$ 0	$ 9,727	$ 10,000	$ 0	$ 0
Construction	$ 232,839	$ 0	$ 45,000	$ 71,471	$ 70,000	$ 46,368	$ 0
Total	$ 252,566	$ 0	$ 45,000	$ 81,198	$ 80,000	$ 46,368	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15730-WW Flood Resilience-hydraulic
Project ID/FSP ID	FR-3 / (N/A)
Project Title:	Southeast Area Stormwater Improvement Project
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	The primary objective of the Southeast Area Stormwater Improvement Project is to address the SSIP levels of service (LOS) goals of managing stormwater and minimizing flooding from a statistically derived storm lasting 3 hours, with a total of 1.3 inches of rainfall and defined peak rainfall intensity (5-year 3-hour storm, LOS storm). This project will include planning and design to improve stormwater conveyance away from the low-lying areas close to Southeast Water Pollution Plant to minimize flooding in the LOS storm. The main components of this project may include isolating the Selby box sewer from some of the wet weather local flows, and installing a detention tank and/or a pump station on a private property to collect and convey those flows. The project scope will be developed based on the preferred alternative identified during the planning phase.
Justification:	Alemany Stormwater Project is being delayed, and this project is intended to occur after that. FR-3 is a Priority 2 project based on flood risk analysis. Delay may prolong meeting the LOS storm in this neighborhood.
Operating Impact:	Alemany Stormwater Project is being delayed, and this project is intended to occur after that. FR-3 is a Priority 2 project based on flood risk analysis. Delay may prolong meeting the LOS storm in this neighborhood.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15730-WW Flood Resilience-hydraulic
Project ID/FSP ID	FR-4 / (N/A)
Project Title:	Noriega Corridor Connection
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	This project would include construction of a new junction structure at the intersection of Noriega Street and 40th Avenue and approximately 100 LF of a new 54-inch sewer from the end of the existing 54-inch sewer to the 4-foot by 6-foot collection system. The new junction would convey storm flows away from the 4-foot by 6-foot collection system on 40th Avenue to the 8-foot collection system on 47th Avenue through the existing 54-inch sewer on Noriega.
Justification:	The primary objective of the Noriega Corridor Connection Project is to address the Sewer System Improvement Program (SSIP) levels of service (LOS) goals of managing stormwater from a statistically derived storm lasting 3 hours, with a total of 1.3 inches of rainfall and a defined peak rainfall intensity (5-year, 3-hour storm, LOS storm). Hydraulic model simulations have shown that the neighborhood surrounding Noriega Street from 47th Avenue to 40th Avenue has been subject to inundation during moderate to heavy storms.
Operating Impact:	During Construction: The construction of a new junction structure may require flow bypass and likely to occur during the dry season. Post Construction: Flow balancing should be undertaken to determine if any changes to the wet weather operating strategy is needed.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 71	$ 0	$ 0	$ 71	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 141	$ 0	$ 0	$ 62	$ 79	$ 0	$ 0
Construction Management	$ 139	$ 0	$ 0	$ 0	$ 62	$ 76	$ 0
Construction	$ 811	$ 0	$ 0	$ 0	$ 365	$ 446	$ 0
Total	$ 1,162	$ 0	$ 0	$ 133	$ 506	$ 522	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15730-WW Flood Resilience-hydraulic
Project ID/FSP ID	FR-5 / (N/A)
Project Title:	Ocean and Urbano Pipe Enhancement
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	The project will consist of the following project components: • Upsize 1,235 LF of existing non-circular sewer on Ocean Avenue between Miramar and Lee to increase conveyance. This project component will remove the hydraulic constriction on Ocean Avenue from Miramar Avenue to Lee Avenue during a level-of-service (LOS) 5-year, 3 hour storm. • Upsize 3,280 LF of existing sewer upstream of Ocean Avenue to increase conveyance. This project component will remove the hydraulic constrictions on various sewer segments upstream of the Ocean • Avenue sewers • Upsize 1,615 LF of existing sewer mains on Urbano Drive from Moncada Way to Pico Ave to increase conveyance capacity in response to recommended upstream improvements Potential Alternatives: • Holloway Alternative Alignment: Upsizing pipes along Ocean Avenue would be difficult to construct due to adjacent MUNI tracks. This alternative diverts a percentage of stormflow away from the Ocean Avenue Sewers between Miramar and Lee Avenues using a new auxiliary system and realignment of existing sewers on Holloway. • Green Infrastructure (GI) at Balboa Reservoir: Another alternative to consider in conjunction with the conveyance improvements is green infrastructure at Balboa Reservoir to reduce the peak runoff to the collection system.
Justification:	FR-5 is a Priority 2 project based on flood risk analysis. Delay may prolong meeting the LOS storm in this neighborhood.
Operating Impact:	FR-5 is a Priority 2 project based on flood risk analysis. Delay may prolong meeting the LOS storm in this neighborhood.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 5,932	$ 0	$ 0	$ 0	$ 0	$ 0	$ 5,932
Total	$ 5,932	$ 0	$ 0	$ 0	$ 0	$ 0	$ 5,932

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15730-WW Flood Resilience-hydraulic
Project ID/FSP ID	FR-6 / (N/A)
Project Title:	Alemany Pipe Isolation and Rankin WW PS Expansion
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	This project would include construction of pipe system isolation from the larger collection system. Previously routed to the Selby Transport/Storage Box, the project would direct flows to the existing Rankin Wet Weather Pump Station after the project. The capacity of Rankin would increase from 6.9 MGD to 7.9 MGD. This effort shall be coordinated with the Rankin Wet Weather Pump Station Improvements Project. There would be 738 LF of new 36-inch pipe constructed to reroute flows. There would be 3419 LF of pipe to be upsized from 12 inches and 15 inches to 36 inches. A minimum of 2 feet free board will be met.
Justification:	FR-6 is a Priority 2 project based on flood risk analysis. Delay may prolong meeting the LOS storm in this neighborhood.
Operating Impact:	FR-6 is a Priority 2 project based on flood risk analysis. Delay may prolong meeting the LOS storm in this neighborhood.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 3,259	$ 0	$ 0	$ 0	$ 0	$ 0	$ 3,259
Total	$ 3,259	$ 0	$ 0	$ 0	$ 0	$ 0	$ 3,259

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15730-WW Flood Resilience-hydraulic
Project ID/FSP ID	FR-7 / (N/A)
Project Title:	Berry Pipe Enhancement
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	The goal of this project is to isolate smaller sewers from large diameter sewers that backflow during storm events and cause excursions. Project components are as follows: • Construct 4,250 LF of 12-inch to 24-inch diameter and 3,700 LF of 12-inch to 24-inch diameter sewer mains. • Increase the Berry Street Pump Station capacity located at the intersection of 5th St and Berry St by approximately 6,000 GPM. This effort shall be coordinated with the Berry St Pump Station Improvements Project. Also replace and/or construct 500 LF of 12-inch to 24-inch diameter sewer mains. Potential Alternatives • Raise street grades to meet official grade and heavily implement green infrastructure • Upsize the sewers along 5th St and the corresponding outfall • Assuming the existing Caltrain station is being relocated to a new underground station, incorporate into the redevelopment a recessed, open-space area that can temporarily store overland flow and reduce the peak flows and volumes through the sewers along 5th St.
Justification:	FR-7 is a Priority 2 project based on flood risk analysis. Delay may prolong meeting the LOS storm in this neighborhood.
Operating Impact:	FR-7 is a Priority 2 project based on flood risk analysis. Delay may prolong meeting the LOS storm in this neighborhood.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15730-WW Flood Resilience-hydraulic
Project ID/FSP ID	FR-8 / (N/A)
Project Title:	Brannan Pipe Enhancement
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	This project will construct 1,800 LF of new sewer ranging 12 inches to 18 inches in diameter. The flow direction along Townsend St is to be reversed and isolated from the large diameter sewer main along 7th St. Additionally, sewers along Gilbert St and Butte St are to be isolated from the sewer main on Brannan St and connected to the proposed new sewer, which flows to the pump station at Harriet St.
Justification:	The objective of the Brannan Pipe Enhancement Project is to address the Sewer System Improvement Program (SSIP) levels of service (LOS) of managing stormwater and minimizing flooding from a statistically derived storm lasting 3 hours, with a total of 1.3 inches of rainfall and a defined peak rainfall intensity (5-year, 3-hour storm, LOS storm). The neighborhood bounded by Brannan St, Townsend St, 7th St, and 6th St has been subject to flooding during moderate to heavy storms. Several hydrologic and hydraulic factors contribute to flood challenges in the area: • The project area is a naturally low-lying area. As a result, once the collection system reaches its capacity, stormwater runoff collects when it is unable to enter the collection system. • Downstream system flows surpass the combined carrying capacity of the underground sewers and overland streets. • Because the area is built on landfill, settlement and subsidence of land in this area has potentially resulted in lower property elevations. Potential Alternatives • Raise streets that are below official grade and upsize the large diameter sewers along Brannan St and 7th St.
Operating Impact:	During Construction: Tie-in of the new sewers would need to be coordinated and likely to occur during the dry season. Post Construction: Flow balancing should be undertaken to determine if any changes to the wet weather operating strategy is needed.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 376	$ 0	$ 0	$ 0	$ 0	$ 0	$ 376
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 752	$ 0	$ 0	$ 0	$ 0	$ 0	$ 752
Construction Management	$ 547	$ 0	$ 0	$ 0	$ 0	$ 0	$ 547
Construction	$ 3,200	$ 0	$ 0	$ 0	$ 0	$ 0	$ 3,200
Total	$ 4,875	$ 0	$ 0	$ 0	$ 0	$ 0	$ 4,875

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15730-WW Flood Resilience-hydraulic
Project ID/FSP ID	FR-9 / (N/A)
Project Title:	SOMA Stormwater Corridor
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	This project would seal two manholes along the 5th and Berry St intersection as well as lower the grade of a portion of 5th St and the existing overland flow outlet from Berry to Mission Creek. This would improve flows through the existing overland flow relief infrastructure. Potential Alternatives: • Raise street grades to meet official grade and heavily implement green infrastructure • Upsize the sewers along 5th St and the corresponding outfall • Assuming the existing Caltrain station is being relocated to a new underground station, incorporate into the redevelopment a recessed, open-space area that can temporarily store overland flow and reduce the peak flows and volumes through the sewers along 5th St.
Justification:	The primary objective of the SOMA Stormwater Corridor Project is to address the (sewer Sytstem Improvement Program) SSIP levels of service (LOS). The LOS includes managing stormwater and minimizing flooding from a statistically derived storm lasting 3 hours, with a total of 1.3 inches of rainfall and a defined peak rainfall intensity (5-year, 3-hour storm, LOS storm). The SOMA neighborhood near the project location has been subject to flooding during moderate to heavy storms. Several hydrologic and hydraulic factors contribute to flood challenges in the area: • The area is a naturally low-lying and once the collection system reaches its capacity, this neighborhood is where stormwater runoff collects when it is unable to enter the collection system. • The area draining to the vicinity of the 5th and Berry St is highly urbanized. Rainfall on the drainage area becomes runoff almost immediately, enters the combined collection system, and is conveyed to points downstream. Because the downstream area by 5th and Berry St is fairly flat and forms a bowl-like shape, water is retained in the intersection or the existing Caltrain Railyard until the overland flow is deep enough to flow on the surface to the Mission Creek Channel or reenter the collection system after there is available capacity in the transport storage box located directly along Berry St. The large drainage basin combined with the steep terrain can lead to significant flow in the collection system in a short period during large storms, including some short storms with high rainfall intensity. • Downstream system flows surpass the combined carrying capacity of the underground sewers and overland streets. • Because the area is built on a historical wetland and landfill, settlement and subsidence of land in this area has potentially resulted in lower property elevations.
Operating Impact:	During Construction: None based on the project basis (re-evaluate if an alternative is selected). Post Construction: Flow balancing should be undertaken to determine if any changes to the wet weather operating strategy is needed.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 147	$ 0	$ 0	$ 0	$ 0	$ 0	$ 147
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 294	$ 0	$ 0	$ 0	$ 0	$ 0	$ 294
Construction Management	$ 214	$ 0	$ 0	$ 0	$ 0	$ 0	$ 214
Construction	$ 1,250	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,250
Total	$ 1,905	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,905

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15730-WW Flood Resilience-hydraulic
Project ID/FSP ID	FR-10 / (N/A)
Project Title:	Gough Pipe Enhancement
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	This project will constitute of two sections. The first one is the construction of approximately 1,000 LF of new 78-inch sewer main along Oak St., from Gough St. to Van Ness Ave. The second one is the upsize of approximately 1,000 LF of existing 54-inch sewer main to 78-inch along Gough St., from Grove St. to Oak St. This new sewer alignment provides additional capacity and relief for sewer mains along Octavia St. and Fell St. that have exceeded their capacity during the level-of-service (LOS) storm, thus reducing surface flooding in the project vicinity. Potential Alternatives • Storage facility (detention tanks) on private properties (location TBD, potentially as far upstream as Fillmore/Geary area) • Alternative large diameter sewer alignments (i.e., twin sewer alignment along Octavia St.)
Justification:	The primary objective of the Gough Pipe Enhancement Project is to address the Sewer System Improvement Program (SSIP) LOS of managing stormwater and minimizing flooding from a statistically derived storm lasting 3 hours, with a total of 1.3 inches of rainfall and defined peak rainfall intensity (5-year 3-hour storm, LOS storm). The Western Addition neighborhood has been subject to flooding during moderate to heavy storms. Several hydrologic and hydraulic factors contribute to flood challenges in the area: • The large diameter sewer mains along Octavia St. and the surrounding vicinity form a flow path. As a result, once the collection system reaches its capacity, the system experiences excursions and flow travels southeast via overland flow paths through the Western Addition Area, toward the Mission Area. • System flows surpass the combined carrying capacity of the underground sewers and overland streets.
Operating Impact:	During Construction: Construction and tie-in of new sewers may require flow bypass and likely to occur during the dry season. Post Construction: Flow balancing should be undertaken to determine if any changes to the wet weather operating strategy is needed.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,299	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,299
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 1,715	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,715
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 3,014	$ 0	$ 0	$ 0	$ 0	$ 0	$ 3,014

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15729-WW Stormwater Management
Project ID/FSP ID	FR2-02 / (N/A)
Project Title:	Kearny Sealed Manholes
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Stephen Robinson
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	TBD
Justification:	TBD
Operating Impact:	TBD

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
SSIP

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15737-WW Urban Watershed Assessment
Project ID/FSP ID	CWWSIPUW00 / 10015816
Project Title:	Watershed Assessment
Enterprise:	Wastewater Enterprise
Organization:	SSIP
Project Manager:	Saed Toloui
Facility Category:	Storm Water Management - Flood Control
Type:	Capital
Description:	Many of the SSIP's proposed projects are focused on improvements to surface drainage and collection system management in San Francisco. The SSIP Urban Watershed Assessment Task will evaluate and recommend alternatives that balance the use of grey (for example, pipelines) versus green infrastructure (for example, low impact design) for improvements to watershed surface drainage and collection system management. The SSIP will utilize an integrated watershed management approach to investigate the health of the City's watershed and identify potential opportunities for stormwater capture, conveyance, detention and possible reuse to address issues of flooding as wells as combined sewage conveyance and storage. Project implementation will require the hydrologic and hydraulic analysis of each of the eight drainage basins and will include: identification of various solutions to each basin's unique set of flooding challenges; evaluation of the social, economic and environmental values of alternatives that meet the level of service with a triple bottom line tool and the optimization and prioritization of projects for each basin. The work will address life cycle costs and detailed operation and maintenance requirements.
Justification:	Watershed Assessment was approved in a prior planning cycle and all work has been completed.
Operating Impact:	TBD

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
Non-SSIP WWE

Authority Level 1:	19141-WW Wwe Repair And Replacement
Authority Level 2:	15722-WW Wwe Rnr Collection System
Project ID/FSP ID	CWWRNRCS - Salt Water Intrusion / (N/A)
Project Title:	Collection System - Salt Water Intrusion
Enterprise:	Wastewater Enterprise
Organization:	Non-SSIP WWE
Project Manager:	Johnny Wong
Facility Category:	Wastewater Renewal & Replacement
Type:	Capital
Description:	The sewer collection program includes Sewer System Improvement Program (SSIP) and Renewal and Replacement Program (R&R); together, the respective programs address long-term planning and immediate/ongoing needs to support the sewer collection system. The R&R Program Collection System Salt Water Intrusion projects will reduce salt water intrusion into the sewer system. Projects will consist of sewer pipeline joint sealing work.
Justification:	Infiltration and intrusion sewer improvements can be folded into other sewer RNR improvement budgets. Salt water intrusion projects at CSD outfalls are covered in Capital (SSIP) improvements.
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
Non-SSIP WWE

Authority Level 1:	19141-WW Wwe Repair And Replacement
Authority Level 2:	15722-WW Wwe Rnr Collection System
Project ID/FSP ID	CWWRNRCS - SI Main Sewers / (N/A)
Project Title:	Collection System-Sewer Improvements-Small Dia
Enterprise:	Wastewater Enterprise
Organization:	Non-SSIP WWE
Project Manager:	Johnny Wong
Facility Category:	Wastewater Renewal & Replacement
Type:	Capital
Description:	The sewer collection program includes Sewer System Improvement Program (SSIP) and Renewal and Replacement Program (R&R); together, the respective programs address long-term planning and immediate/ongoing needs to support the sewer collection system. The R&R Program Collection System Sewer Improvements projects maintain the existing functionality of the sewage collection system and includes planned and emergency projects for repair and replacement of structurally inadequate sewers. Projects will consist of replacing structurally inadequate main sewers throughout San Francisco.
Justification:	First two years will be costed at $4.25M/mile basis with escalation. Year three will drop back down to $3.5 M/mile basis. Improved delivery and contracting methods are anticipated after a few years.
Operating Impact:	Need to re-evaluate cost assumptions in future CIP

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Design	$ 75,755	$ 4,864	$ 3,667	$ 7,142	$ 7,428	$ 7,725	$ 44,929
Construction Management	$ 97,781	$ 6,791	$ 5,231	$ 9,184	$ 9,551	$ 9,933	$ 57,091
Construction	$ 676,170	$ 64,690	$ 72,330	$ 58,750	$ 61,100	$ 63,540	$ 355,760
Total	$ 849,706	$ 76,345	$ 81,228	$ 75,076	$ 78,079	$ 81,198	$ 457,780

SFPUC Capital Project Plan
Wastewater Enterprise
Non-SSIP WWE

Authority Level 1:	19141-WW Wwe Repair And Replacement
Authority Level 2:	15722-WW Wwe Rnr Collection System
Project ID/FSP ID	CWWRNRCS - CA Main Sewers / (N/A)
Project Title:	Collection System-Condition Assessment-Small Dia
Enterprise:	Wastewater Enterprise
Organization:	Non-SSIP WWE
Project Manager:	Johnny Wong
Facility Category:	Wastewater Renewal & Replacement
Type:	Capital
Description:	The sewer collection program includes Sewer System Improvement Program (SSIP) and Renewal and Replacement Program (R&R); together the respective programs address long-term planning and immediate/ongoing needs to support the sewer collection system. The R&R Program Collection System Condition Assessment projects consist of annual funding of staff including off-budget WWE Sewer Operations positions to perform video inspection and condition assessment of sewers and funding of annual contracts to clean and televise sewers less than and equal to 36 inch diameter. The inspection and cleaning work are necessary to perform inspections of the subject facilities in support of the Wastewater Enterprise's Collection System Asset Management Program (CSAMP).
Justification:	This project will assist with the on-going inspections/data gathering necessary for SFPUC's Wastewater Enterprise's Collection System Asset Management Program (CSAMP). The sewers have been more severely impacted by debris than had originally thought. This debris impact has slowed the cleaning and evaluation performed by Sewer Operations crews. The State implementation of the Combined Sewer Overflow Policy requires that sewer utilities must have an on-going inspection, cleaning and repair program for sewer system assets to minimize raw sewage overflows. This project is consistent with SFPUC's Technology Policy by utilizing advanced equipment to remotely clean, inspect, and access the condition of collection system assets.
Operating Impact:	This project will help mitigate future years' costs and overtime incurred by timely maintenance of the Wastewater Collection System.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 9,125	$ 990	$ 1,030	$ 1,071	$ 1,114	$ 1,159	$ 3,761
Design	$ 2,156	$ 234	$ 243	$ 253	$ 263	$ 274	$ 889
Construction Management	$ 3,537	$ 384	$ 399	$ 415	$ 432	$ 449	$ 1,458
Construction	$ 20,052	$ 2,140	$ 2,268	$ 2,359	$ 2,453	$ 2,551	$ 8,281
Total	$ 34,870	$ 3,748	$ 3,940	$ 4,098	$ 4,262	$ 4,433	$ 14,389

SFPUC Capital Project Plan
Wastewater Enterprise
Non-SSIP WWE

Authority Level 1:	19141-WW Wwe Repair And Replacement
Authority Level 2:	15722-WW Wwe Rnr Collection System
Project ID/FSP ID	CWWRNRCS - Spot Sewers / (N/A)
Project Title:	Collection System-Sewer Improvements-Spot Sewer
Enterprise:	Wastewater Enterprise
Organization:	Non-SSIP WWE
Project Manager:	Johnny Wong
Facility Category:	Wastewater Renewal & Replacement
Type:	Capital
Description:	The sewer collection program includes Sewer System Improvement Program (SSIP) and Renewal and Replacement Program (R&R); together, the respective programs address long-term planning and immediate/ongoing needs to support the sewer collection system. The R&R Program Collection System Spot Sewer Replacement projects consist of as-needed contingency based replacement of localized sections of existing sewer facilities throughout San Francisco. Project budget is projected to perform replacement work at approximately 700 individual localized sections (spot) of existing sewer facilities per fiscal year.
Justification:	Collection system spot sewer replacement projects are identified utilizing an asset management approach, which factors in: physical condition, age, location, risk, public safety, paving schedule and other factors. The State implementation of the Combined Sewer Overflow Policy requires that sewer utilities must have an on-going inspection, cleaning and repair program for sewer system assets to minimize raw sewage overflows. This project will be in compliance with the SFPUC Technology Policy by utilizing proven technologies to meet Level of Service (LOS) goals and achieve regulatory compliance, and strives to incorporate new and innovative technology.
Operating Impact:	The aging wastewater infrastructure needs replacement and modification to ensure reliable operation and to meet future regulatory standards. Over 70% of the sewers have surpassing their useful life cycles of 50 to 100 years. Failure of the collection system will reduce the City's ability to properly handle and dispose of wastewater and stormwater, which can lead to negative public health, safety and environmental risks. These projects help mitigate future years' costs and overtime incurred by timely maintenance of the Wastewater Collection System.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Design	$ 13,517	$ 1,557	$ 1,619	$ 1,684	$ 1,751	$ 1,041	$ 5,865
Construction Management	$ 31,526	$ 3,632	$ 3,777	$ 3,928	$ 4,085	$ 2,428	$ 13,676
Construction	$ 175,558	$ 19,890	$ 21,080	$ 21,920	$ 22,800	$ 13,550	$ 76,318
Total	$ 220,601	$ 25,079	$ 26,476	$ 27,532	$ 28,636	$ 17,019	$ 95,859

SFPUC Capital Project Plan
Wastewater Enterprise
Non-SSIP WWE

Authority Level 1:	19141-WW Wwe Repair And Replacement
Authority Level 2:	15722-WW Wwe Rnr Collection System
Project ID/FSP ID	CWWRNRCS-CA LARGE DIAMETER SEWERS / (N/A)
Project Title:	Collection System-Condition Assessment - Large Dia
Enterprise:	Wastewater Enterprise
Organization:	Non-SSIP WWE
Project Manager:	Johnny Wong
Facility Category:	Wastewater Renewal & Replacement
Type:	Capital
Description:	The sewer collection program includes Sewer System Improvement Program (SSIP) and Renewal and Replacement Program (R&R); together the respective programs address long-term planning and immediate/ongoing needs to support the sewer collection system. The R&R Program Collection System Condition Assessment Large Diameter Sewer projects consist of funding for annual contracts to inspect sewers greater than 36 inch diameter. The program will inspect up to 4 miles in FY22 and FY 23 and then increase to 6 miles beginning FY24.
Justification:	This project will assist with the on-going inspections/data gathering necessary for SFPUC's Wastewater Enterprise's Collection System Asset Management Program (CSAMP). The State implementation of the Combined Sewer Overflow Policy requires that sewer utilities must have an on-going inspection, cleaning and repair program for sewer system assets to minimize raw sewage overflows. This project is consistent with SFPUC's Technology Policy by utilizing advanced equipment to remotely clean, inspect, and access the condition of collection system assets.
Operating Impact:	This project will help mitigate future years' costs and overtime incurred by timely maintenance of the Wastewater Collection System.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Design	$ 6,360	$ 375	$ 390	$ 608	$ 632	$ 657	$ 3,698
Construction Management	$ 4,455	$ 0	$ 300	$ 312	$ 487	$ 506	$ 2,850
Construction	$ 26,141	$ 0	$ 1,760	$ 1,830	$ 2,855	$ 2,969	$ 16,727
Total	$ 36,956	$ 375	$ 2,450	$ 2,750	$ 3,974	$ 4,132	$ 23,275

SFPUC Capital Project Plan
Wastewater Enterprise
Non-SSIP WWE

Authority Level 1:	19141-WW Wwe Repair And Replacement
Authority Level 2:	15722-WW Wwe Rnr Collection System
Project ID/FSP ID	CWWRNRCS-CA SEWER LATERAL / (N/A)
Project Title:	Collection System-Cond. Assessment-Sewer Laterals
Enterprise:	Wastewater Enterprise
Organization:	Non-SSIP WWE
Project Manager:	Johnny Wong
Facility Category:	Wastewater Renewal & Replacement
Type:	Capital
Description:	This project will proactively inspect and assess existing sewer laterals on an ongoing yearly basis for SFPUC's Wastewater Enterprise's Collection System Asset Management Program (CSAMP). Fiscal year (FY) budget consists of funding of three (3) off-budget Waste Water Enterprise (WWE) Sewer Operations positions to inspect approximately 10,000 sewer laterals per fiscal year.
Justification:	This project will assist with the on-going inspections/data gathering necessary for SFPUC's Wastewater Enterprise's Collection System Asset Management Program (CSAMP). The State implementation of the Combined Sewer Overflow Policy requires that sewer utilities must have an on-going inspection, cleaning and repair program for sewer system assets to minimize raw sewage overflows. This project is consistent with SFPUC's Technology Policy by utilizing advanced equipment to remotely clean, inspect, and access the condition of collection system assets.
Operating Impact:	This project will help mitigate future years' costs and overtime incurred by timely maintenance of the Wastewater Collection System.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 6,005	$ 500	$ 520	$ 541	$ 563	$ 586	$ 3,295
Total	$ 6,005	$ 500	$ 520	$ 541	$ 563	$ 586	$ 3,295

SFPUC Capital Project Plan
Wastewater Enterprise
Non-SSIP WWE

Authority Level 1:	19141-WW Wwe Repair And Replacement
Authority Level 2:	15722-WW Wwe Rnr Collection System
Project ID/FSP ID	CWWRNRCS-SI Large Diameter Sewers / (N/A)
Project Title:	Collection System-Sewer Improvements - Large Dia
Enterprise:	Wastewater Enterprise
Organization:	Non-SSIP WWE
Project Manager:	TBD
Facility Category:	Wastewater Renewal & Replacement
Type:	Capital
Description:	The sewer collection program includes Sewer System Improvement Program (SSIP) and Renewal and Replacement Program (R&R); together, the respective programs address long-term planning and immediate/ongoing needs to support the sewer collection system. Projects will consist of replacing/rehabilitating sewers greater than 36 inch diameter. Fiscal year (FY) 23 budget will initiate designs for construction contracts to be advertised/awarded in FY24 to replace/rehabilitate approximately 2 miles of sewers greater than 36 inch diameter. FY24 budget will include funds to award and start construction contracts to replace/rehabilitate approximately 2 miles of sewers greater than 36 inch diameter.
Justification:	Large diameter sewer improvements lean more heavily on slip-lining vs. replacement, so construction cost assumptions revised to reflect 90/10 ratio ($11 M/mi) vs 50/50 ratio ($16.5M/mi). No change to soft costs.
Operating Impact:	Need to re-evaluate cost assumptions in future CIP

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Design	$ 32,640	$ 0	$ 0	$ 2,550	$ 2,652	$ 4,137	$ 23,301
Construction Management	$ 27,607	$ 0	$ 0	$ 0	$ 2,550	$ 2,652	$ 22,405
Construction	$ 262,060	$ 0	$ 0	$ 0	$ 24,200	$ 25,170	$ 212,690
Total	$ 322,307	$ 0	$ 0	$ 2,550	$ 29,402	$ 31,959	$ 258,396

SFPUC Capital Project Plan
Wastewater Enterprise
Non-SSIP WWE

Authority Level 1:	19141-WW Wwe Repair And Replacement
Authority Level 2:	15722-WW Wwe Rnr Collection System
Project ID/FSP ID	TS-1 / (N/A)
Project Title:	T/S Box Tier 1 (Desktop) Condition Assessment
Enterprise:	Wastewater Enterprise
Organization:	Non-SSIP WWE
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	Based on the extent and complexity of the asset inventory, availability of information, and current knowledge base regarding existing physical condition and structural performance of the Transport/Storage boxes (T/S Boxes), assumptions have been made regarding the anticipated elements to be included in the Tier 1 evaluation and the anticipated level of effort. As data is collected and reviewed, refinements and additional specificity regarding the evaluation tasks may be required. The following tasks are anticipated in this Tier 1 Condition Assessment: 1. Data Collection 2. Geotechnical Information Review 3. Review of Prior Condition Assessment Info 4. Review Maintenance History 5. Hydraulic Analysis 6. O&M Needs Evaluation (odor, Debris/Grit, Flushing Systems, etc.) 7. Structural Assessment 8. Visual Screening-Level Field Inspection 9. Evaluate Condition
Justification:	The Tier 1 condition assessment in this project is intended to provide a desktop evaluation to better understand the current condition of the assets and identify appropriate field inspections, if required. Field data collection and detailed engineering analyses are not the objective of the Tier 1 evaluation, however the results of this study would identify and inform prioritization of subsequent more detailed analyses. Because a detailed condition assessment of the Jackson T/S Box has been performed, evaluation of that facility is not included in this project. • Marina T/S • Jackson T/S • Channel T/S • Mariposa T/S • Islais Creek T/S • Yosemite T/S • Sunnydale T/S • Richmond T/S • Westside T/S • Lake Merced T/S
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 4,197	$ 1,089	$ 1,089	$ 385	$ 1,089	$ 545	$ 0
Construction	$ 754	$ 0	$ 0	$ 0	$ 0	$ 0	$ 754
Total	$ 4,951	$ 1,089	$ 1,089	$ 385	$ 1,089	$ 545	$ 754

SFPUC Capital Project Plan
Wastewater Enterprise
Non-SSIP WWE

Authority Level 1:	19141-WW Wwe Repair And Replacement
Authority Level 2:	15722-WW Wwe Rnr Collection System
Project ID/FSP ID	TS-2 / (N/A)
Project Title:	T/S Box Tier 2 (Field) Condition Assessment
Enterprise:	Wastewater Enterprise
Organization:	Non-SSIP WWE
Project Manager:	Stephen Robinson
Facility Category:	Sewer and Collection System
Type:	Capital
Description:	Condition assessment of the Treatment and Storage (T/S) Boxes is envisioned to follow the tiered condition assessment approach for linear collection system assets developed under the Sewer Sytstem Improvement Program (SSIP). The Tier 2 condition assessments in this project are intended to follow the previously performed Tier 1 condition assessments and in coordination with the T/S Box Seismic Evaluations. The specific assets to be inspected, as well as their priorities, will be identified based on the Tier 1 information and other considerations. Tasks that would be performed as part of the inspection include information collection and review, planning and execution of field inspection work. Tasks include: 1. Collection and review of supplemental information required for field work and review of Tier 1 condition assessment information for the assets to be inspected. 2. Planning of Tier 2 field inspection including selection of inspection technique, logistical planning and coordination. 3. Execution of field inspection work. 4. Review and analysis of inspection results, assessment of condition, development of recommendations and preparation of condition assessment reports. Due to the wide range in the sizes of the boxes, physical configuration and operational conditions, variability in approach is anticipated for each specific asset. Upon selection and prioritization of the T/S boxes to be inspected, asset-specific methodologies and budgets will be developed. Based on the size of the boxes, a limited number, if any, may be inspected using robotic multi-sensor equipment due to technological limitations such as lighting and video quality. Person entry may be required. Logistical components such as access, safety and flow bypass may be identified during the planning phase. If existing access points are not suitable to support inspection (person entry or robotic), improvements to or creation of access points may be required. Based on an assumed cost of $1,000,000 per mile, the budget for this project may address inspection of up to 10 miles of T/S boxes.
Justification:	San Francisco has approximately 17 miles of T/S structures around its perimeter, varying in size up to 25 feet wide and up to 52 feet deep. T/S boxes store and convey combined sanitary and stormwater flow to SFPUC's treatment plants. These assets were constructed between the late 1970's to early 1990's, making the oldest structures currently over 40 years old. Given the corrosive environment within these facilities, as well as their importance and value, it is appropriate to perform condition assessments, to characterize their condition and deterioration rates and plan for improvements if necessary. This scope of work includes the SFPUC's transport/storage box (T/S Box) facilities, including the following assets: Marina T/S, Jackson T/S, Channel T/S, Mariposa T/S, Islais Creek T/S, Yosemite T/S, Sunnydale T/S, Richmond T/S, Westside T/S, Lake and Merced T/S.
Operating Impact:	During Construction: Minor workarounds or bypass pumping may be required to facilitate construction work; however, major shutdowns and/or diversions are not likely required. Post Construction: This project involves condition assessment only, and will not impact operations once the project is completed.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 4,200	$ 0	$ 0	$ 1,800	$ 1,800	$ 600	$ 0
Construction Management	$ 1,263	$ 0	$ 0	$ 0	$ 0	$ 795	$ 468
Construction	$ 5,337	$ 0	$ 0	$ 0	$ 0	$ 405	$ 4,932
Total	$ 10,800	$ 0	$ 0	$ 1,800	$ 1,800	$ 1,800	$ 5,400

SFPUC Capital Project Plan
Wastewater Enterprise
Non-SSIP WWE

Authority Level 1:	19141-WW Wwe Repair And Replacement
Authority Level 2:	15722-WW Wwe Rnr Collection System
Project ID/FSP ID	10015687 / 10015687
Project Title:	WW Outfall Inspection – Receiving
Enterprise:	Wastewater Enterprise
Organization:	Non-SSIP WWE
Project Manager:	[None]
Facility Category:	Wastewater Renewal & Replacement
Type:	Capital
Description:	This project was previously approved as part of the following group: CWWRNR - Collection System - Salt Water Intrusion The sewer collection program includes Sewer System Improvement Program (SSIP) and Renewal and Replacement Program (R&R); together, the respective programs address long-term planning and immediate/ongoing needs to support the sewer collection system. The R&R Program Collection System Salt Water Intrusion projects will reduce salt water intrusion into the sewer system. Projects will consist of sewer pipeline joint sealing work.
Justification:	Collection system salt water intrusion projects are identified as part of the ongoing Collection System Asset Management Program (CSAMP). The State implementation of the Combined Sewer Overflow Policy requires that sewer utilities must have an on-going inspection, cleaning and repair program for sewer system assets to minimize raw sewage overflows. This project is consistent with SFPUC's Technology Policy by utilizing proven technologies to achieve regulatory compliance, and will strive to collaborate with City agencies to jointly incorporate innovative green technology.
Operating Impact:	Salt water intrusion can affect the treatment process and result in permit violation(s). These projects help mitigate future years' costs and overtime incurred by timely maintenance of the Wastewater Collection System.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
Non-SSIP WWE

Authority Level 1:	19141-WW Wwe Repair And Replacement
Authority Level 2:	15724-WW Wwe Rnr Treatment Facilities
Project ID/FSP ID	CWWRNRTF / (N/A)
Project Title:	Treatment Plant Improvements
Enterprise:	Wastewater Enterprise
Organization:	Non-SSIP WWE
Project Manager:	Daniel Alvarado
Facility Category:	Wastewater Renewal & Replacement
Type:	Capital
Description:	The purpose of the Wastewater Enterprise (WWE) Repair and Replacement (R&R) Program Treatment Plant Improvement projects is to maintain the capacity and reliable performance of the wastewater treatment facilities owned/operated by the Wastewater Enterprise. This is a continuing annual program to extend the useful life of the WWE treatment assets. Treatment Facility Wastewater Enterprise Assets include: Transport Boxes, Discharge Structures, Pump Stations, Force Mains, Tunnels and Treatment Plants. The R&R Treatment Facilities projects are prioritized based upon regulatory compliance, condition assessments, Operation staff recommendations and Level Of Service goals. Planned WWE R&R Program Treatment Plant Improvement projects will address aging infrastructure at the wastewater enterprise treatment facility assets. Planned WWE R&R Program Treatment Plant Improvement projects are prioritized based on risk to permit compliance, safety and urgency. The failure of any major component of the wastewater treatment facilities could be catastrophic, compromising the SFPUC's ability to handle and treat wastewater, which could result in severe public health, safety, regulatory, and environmental impacts.
Justification:	The completion of projects under the WWE R&R Program Treatment Plant Improvement program increase reliability and efficiency of Wastewater Enterprise (WWE) facilities and will ensure that the performance of the treatment facilities meets the established levels of service. This program will enable quick response to critical repairs which would reduce operability and reliability. These projects will enable WWE to maintain full compliance with Regional Water Quality Control Board National Pollutant Discharge Elimination System (NPDES) permits and Bay Area Air Quality Management (BAAQMD) requirements. The State requires that provisions be made for the periodic repair and replacement of sewer system facilities. This project is consistent with SFPUC's Technology Policy by replacing worn and outdated equipment with newer more energy efficient equipment and updating controls and various systems to more advanced technology.
Operating Impact:	These projects will help to address future years' repair and replacement costs and to reduce overtime costs by timely maintenance of Wastewater Enterprise's Treatment Facilities.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 29,338	$ 0	$ 2,661	$ 2,794	$ 2,933	$ 3,080	$ 17,870
Environmental Review	$ 39,960	$ 0	$ 2,661	$ 2,794	$ 2,933	$ 4,642	$ 26,930
Design	$ 14,669	$ 0	$ 1,330	$ 1,397	$ 1,467	$ 1,540	$ 8,935
Construction Management	$ 33,591	$ 0	$ 4,010	$ 4,210	$ 4,421	$ 3,080	$ 17,870
Construction	$ 201,386	$ 25,358	$ 15,964	$ 16,762	$ 17,600	$ 18,480	$ 107,222
Total	$ 318,944	$ 25,358	$ 26,626	$ 27,957	$ 29,354	$ 30,822	$ 178,827

SFPUC Capital Project Plan
Wastewater Enterprise
Non-SSIP WWE

Authority Level 1:	19134-WW Treasure Island Capital Imp
Authority Level 2:	15707-WW Treasure Island Capital Imp
Project ID/FSP ID	CWP11010 / 10015546
Project Title:	Treasure Island New WWTP and RWF
Enterprise:	Wastewater Enterprise
Organization:	Non-SSIP WWE
Project Manager:	Tom Birmingham
Facility Category:	Treasure Island
Type:	Capital
Description:	The aged, unreliable wastewater treatment facilities at Treasure Island require replacement. A three million gallon per day (MGD) tertiary wastewater treatment facility has been proposed for the Treasure Island/ Yerba Buena Island service area to replace the decrepit existing facility. The new treatment facility would include influent screening, a combined primary/secondary treatment process (such as membrane bioreactors), aerobic sludge digestion, sludge dewatering and truck load-out, disinfection, odor control and tertiary treatment enabling reuse on the island. The planning and design of this new wastewater treatment facility have started. Construction of the wastewater treatment plant will be coordinated with the development of Treasure Island/Yerba Buena Island.
Justification:	Re-allocation of budget between years to better manage spending curve
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 22,810	$ 0	$ 5,000	$ 10,000	$ 7,810	$ 0	$ 0
Construction	$ 125,000	$ 0	$ 30,000	$ 50,000	$ 45,000	$ 0	$ 0
Total	$ 147,810	$ 0	$ 35,000	$ 60,000	$ 52,810	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
Non-SSIP WWE

Authority Level 1:	19142-WW Sewer System Improvement Pr
Authority Level 2:	15736-WW Treatment Plant Improvement
Project ID/FSP ID	OSP-14 / (N/A)
Project Title:	SWOO Condition Assessment & Rehab
Enterprise:	Wastewater Enterprise
Organization:	Non-SSIP WWE
Project Manager:	Brian Carlomagno
Facility Category:	Wastewater Facilities & Infrastructure
Type:	Capital
Description:	This project addresses Oceanside Plant's (OSP) effluent discharge through the 96-inch diameter Southwest Ocean Outfall (SWOO) which extends approximately 4.5 miles offshore from Ocean Beach. The SWOO was put into service in 1986 to accommodate effluent discharges from OSP and the Westside Pump Station (wet weather only). The SWOO was designed to accommodate discharge flows in excess of 400 MGD, but actual flows are far less, even during wet weather events. This project includes the condition assessment of the outfall, as well as an allowance to perform repairs. The condition assessment and repair work should include: • Removal of sediments from within the pipeline to allow access for a Remotely Operated Vehicle (ROV) internal inspection of the diffuser section to document the pipeline condition and sediment levels. Sediment samples from within the diffuser section of the pipe would also be collected and analyzed. • External inspection of the diffuser section of the pipe, including the measurement of the velocity and effluent flow rates at each individual OPEN diffuser port and the recording of water depths at three elevations at each riser diffuser location. • Based upon previous inspection information, new diffuser blanking plates and manhole covers should be installed where necessary to replace missing or corroded plates and covers.
Justification:	This Sewer System Improvement Program (SSIP) project will include assessment and improvements to the SWOO where all of OSP's effluent is discharged. OSP is the SFPUC's second largest wastewater facility treating almost 20% of the City's dry and wet weather flows. The SWOO was last inspected in December 2005 by Underwater Resources, Inc. (URI) under a contract with Carollo Engineers Inc. Given that the last outfall condition assessment occurred 14 years ago and involved a very limited internal inspection due to the amount of sediment buildup in the pipe, another condition assessment is required to determine both the external and internal outfall pipe condition and perform some repairs based upon the condition assessment results.
Operating Impact:	During Construction: Plant shutdowns may be required to perform the condition assessments and subsequent improvements; however, it may be possible to perform the work under low flow conditions. Post Construction: None

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,799	$ 0	$ 0	$ 0	$ 0	$ 1,313	$ 486
Design	$ 3,598	$ 0	$ 0	$ 0	$ 0	$ 0	$ 3,598
Construction Management	$ 3,536	$ 0	$ 0	$ 0	$ 0	$ 0	$ 3,536
Construction	$ 20,676	$ 0	$ 0	$ 0	$ 0	$ 0	$ 20,676
Total	$ 29,609	$ 0	$ 0	$ 0	$ 0	$ 1,313	$ 28,296

SFPUC Capital Project Plan
Wastewater Enterprise
Non-SSIP WWE

Authority Level 1:	19139-WW Facilities & Infrastructure
Authority Level 2:	15714-WW Ocean Beach Project
Project ID/FSP ID	CWWFAC01 / 10015554
Project Title:	Ocean Beach Climate Change Adaptation Project
Enterprise:	Wastewater Enterprise
Organization:	Non-SSIP WWE
Project Manager:	Anna M. Roche
Facility Category:	Wastewater Facilities & Infrastructure
Type:	Capital
Description:	Chronic erosion problems along Ocean Beach south of Sloat Boulevard have been threatening City and County of San Francisco (CCSF) assets since the late 1990's. The city, via Public Works, declared erosion emergencies 3 times in 15 years in order to place stabilization measures (i.e., large rock revetments and sand bags) on the beach. Those measures ultimately impeded safe public access and affected habitat. These actions precipitated intense political pressure, including litigation, on CCSF to remove the revetments and improve access to the beach. In addition, the Coastal Commission denied CCSF requested permits and required CCSF to develop a long-term management strategy. The project will develop a comprehensive shoreline management and protection plan against bluff erosion and climate change induced sea level rise consistent with the recommendations in the 2012 Ocean Beach Master Plan. The project is necessary to protect the integrity of wastewater assets built to protect public health and the environment, including the Lake Merced Tunnel, the Westside Pump Station and the Oceanside Treatment Plant. The project is one of the first CCSF Climate Change Adaptation projects which is being led by the SFPUC. The Lake Merced Transport Tunnel has a storage capacity of up to 10 million gallons for combined sewage and stormwater flows and is located closest to the section of Ocean Beach most severely impacted from, and most vulnerable to, continued bluff erosion. The tunnel could become structurally compromised if sudden bluff retreat is experienced during a design storm event, resulting in significant environmental and public health impacts. This project will facilitate the development of a comprehensive shoreline management and protection plan in partnership with relevant stakeholders and regulatory agencies to provide a long-term solution to the erosion issue along Ocean Beach, and to mitigate potential impacts to the Lake Merced Tunnel and other critical wastewater assets at this location
Justification:	Project schedule is modified to reflect unclarity regarding schedule on overall Ocean Beach improvements. Re-allocation of budget between years to better manage spending curve.
Operating Impact:	Re-evaluate project schedule in conjunction with overall Ocean Beach improvements with other agencies.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 127,940	$ 0	$ 2,417	$ 45,000	$ 47,000	$ 33,523	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 14,838	$ 0	$ 0	$ 0	$ 0	$ 0	$ 14,838
Total	$ 142,778	$ 0	$ 2,417	$ 45,000	$ 47,000	$ 33,523	$ 14,838

SFPUC Capital Project Plan
Wastewater Enterprise
Non-SSIP WWE

Authority Level 1:	19139-WW Facilities & Infrastructure
Authority Level 2:	15715-WW Collection Division Consoli
Project ID/FSP ID	CWWFAC02 / SSIP Projects.10015555
Project Title:	WWE Facilities Plan
Enterprise:	Wastewater Enterprise
Organization:	Non-SSIP WWE
Project Manager:	Shelby Campbell
Facility Category:	Wastewater Facilities & Infrastructure
Type:	Capital
Description:	The WWE Facilities Plan Project will address the need for a comprehensive master plan for WWE facilities to meet the present and future needs of the Wastewater Enterprise. The effort will include an assessment of current facilities, a plan for current and future staffing needs, and site planning to determine the best utilization of WWE property to accommodate the WWE over the next 50 years. The Plan will focus on the consolidation of operations, maximizing the operational efficiency and functionality of the WWE, and best approach to maximize the value of WWE's assets. The outcome will result in a plan for prioritization of capital improvement projects over the next two decades essential to supporting the WWE's delivery of services for the next generation.
Justification:	The WWE continues to experience increasing operational inefficiencies and functionality challenges . The cost to operating under these conditions is the diversion of resources to keep outdate facilities operating. These challenges will become exacerbate as new infrastructure is commissioned. Developing adequate facilities to effectively meet the operating needs and requirements of the WWE and a long term plan to maximize the value of WWE's assets is essential to operating an efficient and reliable enterprise. This project is consistent with SFPUC's Technology Policy by replacing obsolete building components and systems with high efficiency new technologies. The project is aligned with the policy's environmental principles for addressing climate change and the use of limited resources and economic principles of total cost approach for optimizing long-term life cycle costs.
Operating Impact:	The plan will provide for significant cost savings and productivity benefits in the long-term. These can be attributed to monetary savings from currently leased spaces, increased productivity of workforce with the improved functionality and centralization of core operational functions, and efficiencies from having a consolidated administration and operations facilities.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
Non-SSIP WWE

Authority Level 1:	19139-WW Facilities & Infrastructure
Authority Level 2:	15716-WW Southeast Community Center
Project ID/FSP ID	10015556 / 10015556
Project Title:	Southeast Community Center Improvements
Enterprise:	Wastewater Enterprise
Organization:	Non-SSIP WWE
Project Manager:	Shelby Campbell
Facility Category:	Wastewater Facilities & Infrastructure
Type:	Capital
Description:	The Southeast Community Center project will serve to address the SFPUC's commitment to the mitigation measure for the expansion of the Southeast Plant (SEP) by constructing a new community center at 1550 Evans. The project will include a childcare center, café, multipurpose space for meetings, events, and workshops, and co-working office and classroom space for community-based organizations providing workforce development services. It will also include parking and over two acres of landscaped open space, with play areas, an amphitheater, picnic areas and gardens. The new center will provide a wide range of social services supporting workforce development and education for Southeast residents of all ages.
Justification:	The South East Community Facility (SECF) is an important community center offering educational, training and other programs. The SECF building components and systems are outdated and near the end of their life spans. The indoor environmental quality is below standard. This project will revitalize the facility, increase occupant comfort, increase functionality, improve building reliability, and address various code and energy efficiency deficiencies. This building improvement project is expected to achieve LEED (Leadership in Energy and Environmental Design) Gold certification. LEED-certified buildings are designed to incorporate advanced building technologies to lower operating costs, reduce waste, conserve resources, and reduce impacts on the environment, which is consistent with the SFPUC's Technology Policy.
Operating Impact:	This project will increase the comfort level of the occupants, reduce energy and water consumption, and reduce impacts to normal building operations, which will be accomplished by improving indoor environmental conditions, installing energy and water efficient fixtures and systems, and upgrading aged equipment. Upon completion of this project, this center with its valuable resources will become welcoming and vibrant again.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 4,500	$ 4,500	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 4,500	$ 4,500	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Wastewater Enterprise
Non-SSIP WWE

Authority Level 1:	19139-WW Facilities & Infrastructure
Authority Level 2:	15717-WW Islais Creek Outfall
Project ID/FSP ID	CWWFAC04 / 10015557
Project Title:	Islais Creek Outfall Crossing
Enterprise:	Wastewater Enterprise
Organization:	Non-SSIP WWE
Project Manager:	Kirit Bavishi
Facility Category:	Wastewater Facilities & Infrastructure
Type:	Capital
Description:	The project involves replacing the portion of the Southeast Outfall ("SEO") that crosses Islais Creek immediately parallel to, and west of, the Third Street Bridge in San Francisco, CA. Treated effluent from the SEP flows by gravity to the Booster Pump Station ("BPS") and then pumped to the San Francisco Bay ("the Bay") via the SEO. The existing SEO Islais Creek crossing ("crossing") is comprised of two ductile iron pipes (36-inch and 42-inch). The crossing is buried in the bottom of the creek bed on piles. The crossing is buried about 20 feet under the lowest point of the creek sediments, and that the water depth is about 30 feet. The crossing was constructed in 1967 and have reached the end of its useful life. The new Islais Creek crossing will consist of two new 54-inch outside diameter high density polyethylene ("HDPE") buried pipes to replace the existing crossing section. New structures on each side of the creek is proposed to tie the new pipes to the existing SEO system. The project will include actuated valves and pipes to divert flow between the new and existing systems, associated electrical and mechanical improvements as needed within the BPS.
Justification:	The existing Islais Creek crossings are failing and need immediate replacement. The pipes were installed in 1967 and have reached the end of their useful life.
Operating Impact:	Aging infrastructure is costly to operate and maintain as it requires constant attention to maintain operation. Failures in the system require emergency actions by the Wastewater Enterprise and can potentially compromise compliance with the Regional Water Quality Control Board. These pipelines WILL continue to fail until they are replaced or possibly fully rehabilitated.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 8,444	$ 0	$ 1,368	$ 2,192	$ 2,192	$ 2,183	$ 509
Design	$ 241	$ 241	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 9,058	$ 749	$ 2,347	$ 3,569	$ 1,698	$ 695	$ 0
Construction	$ 14,857	$ 14,857	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 32,600	$ 15,847	$ 3,715	$ 5,761	$ 3,890	$ 2,878	$ 509

SFPUC Capital Project Plan
Wastewater Enterprise
Non-SSIP WWE

Authority Level 1:	19139-WW Facilities & Infrastructure
Authority Level 2:	20507-SE Outfall Assessment & Rehab
Project ID/FSP ID	10033820 - CWWFAC06 / 10033820
Project Title:	Southeast Outfall Condition Assessment and Rehab
Enterprise:	Wastewater Enterprise
Organization:	Non-SSIP WWE
Project Manager:	Roland Sun
Facility Category:	Wastewater Facilities & Infrastructure
Type:	Capital
Description:	The Southeast Outfall (SEO) discharges effluent from the Southeast Plant (SEP) into the San Francisco Bay about 650 feet offshore, east of Pier 80. The goal of the condition assessment is to determine the pipeline condition of the Onshore Force Main and Offshore Outfall components of the SEO system. The project will thoroughly and completely evaluate the condition and remaining life expectancy of the SEO system and implement the rehabilitation solutions to extend the useful life.
Justification:	The underwater crossings have exhibited several leaks over the past few years and were repaired with job order contract (JOC) Contracts. The last limited condition assessment was performed in 2010-2011 and the report recommended the near-term and long-term actions for the entire Outfall system. The short-term action recommended that Islais Creek Underwater Crossings replacement within 5 years and long-term action recommended the re-inspection and re-habilitation of the remaining system within 10 years.
Operating Impact:	The project will provide continued reliable service of the SEO and enhance the ability of SEP operations to maintain full compliance with State and Federal regulatory requirements.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,459	$ 0	$ 0	$ 0	$ 0	$ 1,459	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 29,141	$ 0	$ 0	$ 0	$ 0	$ 0	$ 29,141
Total	$ 30,600	$ 0	$ 0	$ 0	$ 0	$ 1,459	$ 29,141

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

Wastewater Enterprise

Fiscal Years 2021-2030

Programmatic Projects

January 16, 2020

SFPUC Capital Project Plan
Wastewater Enterprise
Programmatic

Authority Level 1:	19459-UW Treasure Island - Maintena
Authority Level 2:	17679-UW Treasure Island - Wastewate
Project ID/FSP ID	PUW511 / (N/A)
Project Title:	Treasure Island Facilities Maintenance
Enterprise:	Wastewater Enterprise
Organization:	Programmatic
Project Manager:	Lori Regler
Facility Category:	Program - Project
Type:	Programmatic
Description:	Since 1997, the SFPUC Wastewater Enterprise has operated and maintained the stormwater and wastewater collection systems at Treasure Island and Yerba Buena Island (TI/YBI) and 2-million gallon per day (MGD) wastewater treatment plant located at TI, on behalf of the Treasure Island Development Authority (TIDA). The TI wastewater treatment plant is regulated under the Clean Water Act through a National Pollutant Discharge Elimination System (NPDES) permit issued to the U.S. Navy by the California Regional Water Quality Control Board (CRWQCB). The Wastewater Enterprise operates and maintains the collection systems at TI/YBI which consists of approximately 52,600 feet of sewer pipe, 29 wastewater pump stations, and the 2-MGD treatment plant that was constructed in 1961 and upgraded to provide secondary treatment in 1969. The Wastewater Enterprise also operates and maintains six storm pump stations at TI and monitors the 24 outfalls at TI and 26 outfalls at YBI. The storm water system is regulated under a General Industrial Storm Water NPDES permit issued to the Navy by the CRWQCB.
Justification:	N/A
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 15,059	$ 1,432	$ 1,475	$ 1,519	$ 1,519	$ 1,519	$ 7,595
Total	$ 15,059	$ 1,432	$ 1,475	$ 1,519	$ 1,519	$ 1,519	$ 7,595

SFPUC Capital Project Plan
Wastewater Enterprise
Programmatic

Authority Level 1:	19466-WW Low Impact Development
Authority Level 2:	17704-WW Low Impact Development
Project ID/FSP ID	PWW100 / (N/A)
Project Title:	Low Impact Development
Enterprise:	Wastewater Enterprise
Organization:	Programmatic
Project Manager:	TBD
Facility Category:	Program - Project
Type:	Programmatic
Description:	The Urban Watershed Management Program conducted Watershed Planning activities that included two Eastside Basin design workshops and began analysis of the projects proposed in the workshops. Other activities included participating in the SF Better Streets (BSP) Master Plan efforts and conducting a citywide analysis of the potential for rain harvesting. Future efforts include continued participation in the BSP and design workshops for the Westside Drainage Basins. Projects include: - Low Impact Design (LID) Demonstration Projects to build local knowledge of LID, such as the Terecita Raingarden, and a LID demonstration along Cesar Chavez. - Project Review and Technical Assistance Program will continue to review projects to comply with the new SF Green Building Ordinance and the National Pollution Discharge Elimination System permits (NPDES). - Outreach and Education efforts to promote onsite stormwater management; initiated a small community grants partnership with the City Administrator's Community Challenge Grants to encourage onsite stormwater management and rainwater harvesting. - Policy, Planning and Research program to develop standard designs for streets and drainage, investigation of needs related to updating the Subdivision Guidelines and finalizing a handbook for analyzing the triple bottom line for stormwater project.
Justification:	N/A
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 6,810	$ 681	$ 681	$ 681	$ 681	$ 681	$ 3,405
Total	$ 6,810	$ 681	$ 681	$ 681	$ 681	$ 681	$ 3,405

SFPUC Capital Project Plan
Wastewater Enterprise
Programmatic

Authority Level 1:	17726-GE Youth Employment & Environm
Authority Level 2:	17726-GE Youth Employment & Environm
Project ID/FSP ID	PYEAES06 / (N/A)
Project Title:	Youth Employment Project
Enterprise:	Wastewater Enterprise
Organization:	Programmatic
Project Manager:	TBD
Facility Category:	Program - Project
Type:	Programmatic
Description:	The Earth Stewards is a collaborative effort by the SFPUC, the San Francisco Sheriff's Department and the Garden Project to provide at-risk, young San Franciscans with horticultural and landscaping work experience on SFPUC properties. The Garden Project is a non-profit corporation founded in 1992 for the purpose of reducing recidivism among ex-offenders and inmates of the San Francisco County Jail. Earth Stewards, a program funded by the SFPUC, was created in response to a 2004-2005 Board of Supervisors add-back appropriation in the amount of $2.5 million for youth employment.
Justification:	The purpose of Earth Stewards is to provide at-risk, young San Franciscans with horticultural and landscaping work experience, with the goal of reducing recidivism among ex-offenders and inmates of the San Francisco County Jail.
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 6,970	$ 697	$ 697	$ 697	$ 697	$ 697	$ 3,485
Total	$ 6,970	$ 697	$ 697	$ 697	$ 697	$ 697	$ 3,485

SFPUC Capital Project Plan
Wastewater Enterprise
Programmatic

Authority Level 1:	19460-UW 525 Golden Gate - O & M
Authority Level 2:	17682-UW 525 Golden Gate - O & M
Project ID/FSP ID	PUW514 / (N/A)
Project Title:	525 Golden Gate - Operations & Maintenance
Enterprise:	Wastewater Enterprise
Organization:	Programmatic
Project Manager:	[None]
Facility Category:	Program - Project
Type:	Programmatic
Description:	The headquarters for the San Francisco Public Utilities Commission, 525 Golden Gate is a 13-story building plus basement for total building area of 277,500 square feet, which houses over 900 PUC employees. It is a LEED Platinum certified building that includes solar and wind renewable energy sources, an on-site wastewater system called the Living Machine, and Smart Building features with fully integrated systems.
Justification:	The Maintenance Project is required for costs related to the annual operating and maintenance costs of the building as shown below. The cost to operate and maintain the building on an annual basis is estimated to have an average annual increase of 3.0%. These costs include building engineering, property management, janitorial and maintenance service contracts.
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 14,469	$ 2,124	$ 1,293	$ 1,332	$ 1,372	$ 1,372	$ 6,976
Total	$ 14,469	$ 2,124	$ 1,293	$ 1,332	$ 1,372	$ 1,372	$ 6,976

SFPUC Capital Project Plan
Wastewater Enterprise
Programmatic

Authority Level 1:	19461-UW 525 Golden Gate - Lease Pay
Authority Level 2:	17683-UW 525 Golden Gate - Lease Pay
Project ID/FSP ID	PUW515 / (N/A)
Project Title:	525 Golden Gate - Lease Payments
Enterprise:	Wastewater Enterprise
Organization:	Programmatic
Project Manager:	Charles Perl
Facility Category:	Program - Project
Type:	Programmatic
Description:	The headquarters for the San Francisco Public Utilities Commission, 525 Golden Gate is a 13-story building plus basement for total building area of 277,500 square feet, which houses over 900 PUC employees. It is a LEED Platinum certified building that includes solar and wind renewable energy sources, an on-site wastewater system called the Living Machine, and Smart Building features with fully integrated systems.
Justification:	In October of 2009, the City and County of San Francisco issued its $38,120 Certificates of Participation, Series 2009C (525 Golden Gate Avenue □ San Francisco Public Utilities Commission Office Project) (Tax-Exempt) and its $129,550 Certificates of Participation, Series 2009D (525 Golden Gate Avenue □ San Francisco Public Utilities Commission Office Project) (Federally Taxable □ Build America Bonds □ Direct Payment) to provide financing for the planning and construction of a new office building for the SFPUC. Under the terms of a Memorandum of Understanding between the City and the SFPUC dated October 1, 2009, the SFPUC will make annual Base Rental Payments to the City for the building equal to annual debt service on the Certificates.
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 23,744	$ 2,424	$ 2,424	$ 2,427	$ 2,417	$ 2,396	$ 11,656
Total	$ 23,744	$ 2,424	$ 2,424	$ 2,427	$ 2,417	$ 2,396	$ 11,656

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

Hetch Hetchy Enterprise

Fiscal Years 2021-2030

Ten Year CIP

June 22, 2020

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15363-UH Hetchy Water - Water Only
Authority Level 2:	15363-UH Hetchy Water - Water Only
Project ID/FSP ID	CUH100 - 10034364 / 10034364
Project Title:	HHW - R&R SJPL Life Extension Program
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Mike Brennan
Facility Category:	Water Infrastructure
Type:	Capital
Description:	The San Joaquin Pipeline (SJPL) Network conveys water from HHWP's Foothill Tunnel to Coast Range Tunnel. The asset varies in age from 50 to over 85 years old. The HHWP has developed a program to extend the life of this asset prior to replacement. The program will include inspection, renewal and finally planned replacement of the asset within the Hetchy Capital Improvement Projects. It is expected that the program will be able to delay the need for planned replacement for 20 to 60 years, depending on type of pipe, environmental factors and initial installation practices. HHWP's SJPL R&R Program will extend the life of the asset through renewal/replacement, which will constitute betterments to the asset. Categories of projects considered likely to be most needed and appropriate for asset preservation are the following: inspection, design criteria for rehabilitation and replacement, emergency response plan, security, regulatory, and other life extension activities including cathodic protection, lining and coating.
Justification:	This project was previously approved in the Capital Plan; however, $11M was allocated to the 2018 March Storm Event Emergency Repairs and Interim Improvement (Water-only Assets). This request includes additional funding spread over eight years (FY22/23 through FY29/30) to replace the money moved to the Storm project. Water LOS Goal(s) Supported: Regional Delivery Reliability and Water Supply
Operating Impact:	Pipe replacement cost is about $2,200/foot. We can delay replacement and probability of unplanned outages of this asset if we maintain an effective life extension program.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 11,259	$ 0	$ 1,142	$ 1,226	$ 1,116	$ 1,314	$ 6,461
Environmental Review	$ 8,660	$ 0	$ 878	$ 943	$ 859	$ 1,010	$ 4,970
Design	$ 8,933	$ 0	$ 791	$ 849	$ 773	$ 606	$ 5,914
Construction Management	$ 5,196	$ 0	$ 527	$ 566	$ 515	$ 606	$ 2,982
Construction	$ 66,273	$ 0	$ 5,606	$ 7,395	$ 6,855	$ 7,824	$ 38,593
Total	$ 100,321	$ 0	$ 8,944	$ 10,979	$ 10,118	$ 11,360	$ 58,920

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15363-UH Hetchy Water - Water Only
Authority Level 2:	15363-UH Hetchy Water - Water Only
Project ID/FSP ID	CUH100 N02 / 10033574
Project Title:	HHW - SJPL Tesla Valves Replacement
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Jimmy Leong
Facility Category:	Water Infrastructure
Type:	Capital
Description:	This project intends to replace all the under rated inline valves, TUV 101 to 401 with properly rated valves to improve safety and entry into all 4 SJPL pipelines. In addition, all cross over valves and bypass valves may need to be replaced or made safe. Modification to the pipes, flanges, spool pieces, actuators, and valve controls are needed. The valve vault will need modification to accommodate the new valves. New facilities may need to be constructed if additional new valves are not designed for direct burial. Design: 2018. Construction: SJPL 1 and 3 = 2020, SJPL 2 and 4 = 2021. Project originally approved in FY18-19. However $1M was allocated to the 2018 March Storm Event Emergency Repairs and Interim Improvement (Water-only Assets).
Justification:	The SJPL asset is required for LOS Regional Delivery reliability and Water Supply. This project aims to meet the SFPUC guidelines on confined space safe entry. The project was approved in an earlier CIP and no funding is being requested in this plan.
Operating Impact:	Inability to safely access the SJPL for inspection, maintenance, rehabilitation, and/or replacement.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15363-UH Hetchy Water - Water Only
Authority Level 2:	15363-UH Hetchy Water - Water Only
Project ID/FSP ID	CUH100 N04 / 10035575
Project Title:	HHW - SJPL Valve and Safe Entry Improvement
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Jimmy Leong
Facility Category:	Water Infrastructure
Type:	Capital
Description:	The SJPL Entry Assessment and Valve Improvement Project involves the three parallel transmission pipelines that stretch approximately 48-miles across the San Joaquin Valley from Oakdale Portal on the east to Tesla Portal near the City of Tracy on the west, with a partial fourth pipeline consisting of a 6.4-mile Eastern Segment and an 11-mile Western Segment. The four pipelines were built between 1932 and 2012, respectively, and range from 56- to 79.5-inches in diameter. As part of the WSIP, valve vaults were constructed along the SJPL System at various locations to increase operational flexibility and the overall reliability of the SJPL System. The valves are not sufficiently rated for hydrostatic or transient/surge pressures resulting in an unsafe condition for personnel to enter the pipelines unless there is a complete shutdown of the Hetch Hetchy Regional Water System (HHRWS). Given the age and condition of the SJPLs, work must be able to occur while the HHRWS is in service. The Project completed some planning phase activities including a CER to address the transient surge pressures and is currently working on completing the Alternatives Analysis Report to solve the underrated valve issues that were discovered. The estimates provided assume the consultant's Alternative #5, which includes upgrading to double block & bleed systems with a surge shaft installation. Due to the cost and schedule for this alternative, HHWP is investigating additional alternatives, which include rollout sections and blind flanges – this alternative was not considered in the original AAR.
Justification:	This project aims to meet the SFPUC, OSHA, and industry safety guidelines for pipeline entry. Project originally approved in FY18-19. However $2 .4M was allocated to the 2018 March Storm Event Emergency Repairs and Interim Improvement (Water-only Assets). Requesting additional funding in FY21-22 to supplement money moved to the Storm project. Water LOS Goal(s) Supported: Regional Delivery reliability and Water Supply.
Operating Impact:	Inability to safely access the SJPL for inspection, maintenance, rehabilitation, and/or replacement.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 2,175	$ 0	$ 2,175	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 7,666	$ 0	$ 0	$ 3,020	$ 2,352	$ 2,294	$ 0
Construction	$ 78,907	$ 0	$ 0	$ 31,082	$ 24,215	$ 23,610	$ 0
Total	$ 88,748	$ 0	$ 2,175	$ 34,102	$ 26,567	$ 25,904	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15363-UH Hetchy Water - Water Only
Authority Level 2:	15363-UH Hetchy Water - Water Only
Project ID/FSP ID	CUH100 N06 / (N/A)
Project Title:	HHW-R&R Priest-Moccasin Wtr Transmission Line AAR
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Jimmy Leong
Facility Category:	Water Infrastructure
Type:	Capital
Description:	SFPUC water deliveries must pass through Moccasin Powerhouse (generator or generator bypass). Normal pass through for water deliveries is through two hydroelectric generators. During emergencies, when the hydroelectric generators are off-line, the water is diverted through two generator bypasses (one bypass on each unit). This project will fund the development of an Alternative Analysis Report (AAR) that will address the construction of a new 300 mgd capacity water transmission line with energy dissipater from the West Portal Valve House Head to Moccasin reservoir to provide redundancy.
Justification:	The two hydroelectric generators, Generator Step Up transformers and ancillary equipment at Moccasin Powerhouse have exceeded their useful life. The Priest/Moccasin Water Transmission Line will provide needed redundancy to ensure reliability to SFPUC water customers. This project was approved in an earlier CIP and no funding is being requested in this plan.
Operating Impact:	This project is needed to meet Water Levels of Service objectives for Regional Delivery Reliability and Water Supply.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15363-UH Hetchy Water - Water Only
Authority Level 2:	15363-UH Hetchy Water - Water Only
Project ID/FSP ID	CUH100 N01 / (N/A)
Project Title:	HHW- Moccasin Reservoir Perimeter Security Fence
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Jimmy Leong
Facility Category:	Water Infrastructure
Type:	Capital
Description:	HHWP will install an approximately 6,500 feet long perimeter security fence system around Moccasin Reservoir to discourage trespassers. Moccasin Reservoir covers approximately 32 acres. Fence monitoring alarms, signs, lighting, and security camera will be considered as part of the design.
Justification:	Moccasin Reservoir is easily accessible from Highway 49 and the town of Moccasin. Improved security fencing would discourage trespassers. SFPUC has committed to the State Water Resources Control Board to complete the fence installation by October 2020. This project was approved in an earlier CIP and no funding is being requested in this plan.
Operating Impact:	In an effort to protect water quality, this project will discourage trespassers from accessing Moccasin Reservoir.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15363-UH Hetchy Water - Water Only
Authority Level 2:	15363-UH Hetchy Water - Water Only
Project ID/FSP ID	CUH100PD - 10014072 / 10014072
Project Title:	HHW- Water Project Development - CUH100-PD
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Jimmy Leong
Facility Category:	Water Infrastructure
Type:	Capital
Description:	The Project Development (PD) Account captures Program level expenditures. There are four types of charges that will be 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 Hetchy staff performing program level tasks including: capital plan development, budget management (including fund management, and cost reallocations); Unifier and Quarterly Report generation tasks, where the costs should be distributed over all CIP Projects. 3) Portal support for the existing SharePoint Portal (includes document management and project dashboard reporting) 4) Work Outreach program
Justification:	The Project Development Account (PD Accounts) funds the capital improvement administrative staff, the project management staff and the professional services that could not be defined to one project detail as the charges would span across the overall program. Water LOS Goal(s) Supported: To Be Determined as projects are developed
Operating Impact:	Programmatic support is an integral part of the capital program.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 5,487	$ 258	$ 505	$ 523	$ 541	$ 560	$ 3,100
Total	$ 5,487	$ 258	$ 505	$ 523	$ 541	$ 560	$ 3,100

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15363-UH Hetchy Water - Water Only
Authority Level 2:	15363-UH Hetchy Water - Water Only
Project ID/FSP ID	CUH102MT - Water Only / 10014114
Project Title:	HHW - Mt. Tunnel Imp. Project (Tunnel)
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	David Tsztoo
Facility Category:	Joint Infrastructure
Type:	Capital
Description:	Constructed between 1917-25, Mountain Tunnel (MT) is a critical, non-redundant link in the Hetch Hetchy water system, conveying SFPUC water supply from Kirkwood Powerhouse to Priest Reservoir . Due to tunnel's 90 years of operation, deferred maintenance, as well as the construction deficiencies in the early 1900s, sections of the tunnel have deteriorated, some more extensively than others. MT improvements to enhance SFPUC's ability to provide reliable, high-quality water to its customers, will be carried out through three projects: 1. MT Adits & Access Improvement 2. MT Inspection and Repair 3. MT Tunnel Improvements. Mountain Tunnel Adits & Access Improvement Project will enlarge Adits 5/6 and 8/9 to accommodate quick entry of construction crews and equipment into the tunnel; and will improve access roads to the said adits. Mountain Tunnel Inspection & Repairs Project provides for a tunnel inspection in 2017 to update the Condition Assessment conducted in 2008, as well as short-term repairs in 2017 and 2018 to reduce the risk of failures in the concrete lining prior to the long-term project being implemented. Mountain Tunnel Improvements Project was selected for the design and construction of the preferred engineering alternative that will keep this vital component of the Hetch Hetchy Water and Power System in reliable service for years to come. Budget and schedule is based on the Mountain Tunnel Improvement which has an anticipated construction phase between from 2020 to 2027 (MRN 238-241, 244, 245) **This is the Water portion of the Mountain Tunnel project.
Justification:	A catastrophic failure, is possible, with continued tunnel lining degradation. The likely type of anticipated failures are "local collapses", which would not impact power generation but would create water quality events in terms of turbidity in the water supply. The likelihood of localized collapses is moderate to high. Depending on the configuration of the system, this type of event could interrupt the delivery of the Tuolumne diversion to the Regional Water System. Technology Policy: The project provides for reliable, high quality service, but is not specifically technology-related. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	Depending on the configuration of the system, a "local collapse" could interrupt the delivery of the Tuolumne diversion to Water Supply and Treatment. Continual degradation of the asset could lead to a catastrophic failure.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Environmental Review	$ 513	$ 108	$ 108	$ 108	$ 81	$ 54	$ 54
Construction Management	$ 24,976	$ 5,670	$ 5,670	$ 4,590	$ 3,780	$ 2,916	$ 2,350
Construction	$ 57,833	$ 14,041	$ 16,331	$ 15,548	$ 5,286	$ 2,663	$ 3,964
Total	$ 83,322	$ 19,819	$ 22,109	$ 20,246	$ 9,147	$ 5,633	$ 6,368

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15363-UH Hetchy Water - Water Only
Authority Level 2:	15363-UH Hetchy Water - Water Only
Project ID/FSP ID	CUH10003 / 10014068
Project Title:	Lower Cherry Aquaduct
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	
Facility Category:	Water Infrastructure
Type:	Capital
Description:	The Lower Cherry Aqueduct (LCA) delivers water from Cherry Creek to supplement the primary Hetch Hetchy reservoir supply during a drought. Due to drought conditions as described in the Declaration of Emergency issued on February 21, 2014, there is a need for this reliable backup water supply to be re-established in the LCA. However, due to damage during the Rim Fire Emergency and age, the LCA is in need of restoration before it can become a reliable asset. This project consists of improvements such as emergency debris removal and tunnel cleaning, temporary structures installation, monitoring and instrumentation, and forebay and diversion dam repairs.
Justification:	This project was approved in an earlier CIP and no funding is being requested in this plan.
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15363-UH Hetchy Water - Water Only
Authority Level 2:	15363-UH Hetchy Water - Water Only
Project ID/FSP ID	10033233 / 10033233
Project Title:	2018 Mocc Storm Event Wtr Proj
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	
Facility Category:	Water Infrastructure
Type:	Capital
Description:	This project is used to fund multiple subprojects to return water assets to their pre-storm condition. The subprojects include (1) Moccasin Diversion Dam, Lower Dam & Reservoir Improvements, (2) Water Distribution Restoration Projects, (3) Moccasin Diversion Pipe Repairs, (4) Moccasin Creek Downstream Improvements, and (5) Asset Recovery Plan & Program Management (Water Allocation Only).
Justification:	This project has been funded by reallocating funds from existing CIP projects.
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15364-UH Hetchy Water - Power Infras
Authority Level 2:	15364-UH Hetchy Water - Power Infras
Project ID/FSP ID	CUH101 N01 / (N/A)
Project Title:	HHW - Moccasin Switchyard Rehabilitation
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Tim Parkan
Facility Category:	Power Infrastructure
Type:	Capital
Description:	The project will rehabilitate Moccasin Switchyard. The project will improve/rehabilitate/replace electrical grounding mat, security fence, circuit breakers, disconnect switches, surge arresters, 115kV and 230kV bus, fault study, and ground study.
Justification:	The project is required to meet HHWP's Operational Objectives for Power, including Power System Reliability. The switchyard is required for the operation of Moccasin Powerhouse which is part of the conveyance system for water supply to SFPUC customers. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	Potential loss of ability to deliver reliable water to SFPUC customers and transmit power produced at Moccasin Powerhouse to the grid. The Moccasin Switchyard is also required to provide power to the Moccasin Compound via PG&E when the Moccasin Powerhouse is out-of-service.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 621	$ 0	$ 0	$ 621	$ 0	$ 0	$ 0
Environmental Review	$ 621	$ 0	$ 0	$ 621	$ 0	$ 0	$ 0
Design	$ 1,292	$ 0	$ 0	$ 0	$ 646	$ 646	$ 0
Construction Management	$ 1,018	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,018
Construction	$ 6,187	$ 0	$ 0	$ 0	$ 0	$ 0	$ 6,187
Total	$ 9,739	$ 0	$ 0	$ 1,242	$ 646	$ 646	$ 7,205

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15364-UH Hetchy Water - Power Infras
Authority Level 2:	15364-UH Hetchy Water - Power Infras
Project ID/FSP ID	CUH101 N06 / (N/A)
Project Title:	HHW- Moccasin Penstock Condition Assessment & AAR
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Tim Parkan
Facility Category:	Power Infrastructure
Type:	Capital
Description:	Moccasin Penstock was built in the early 1920's and conveys Hetch Hetchy water from Moccasin Tunnel to Moccasin Powerhouse. Moccasin penstock serves as the sole link in conveying water from Priest Reservoir to Moccasin Reservoir, from which water is routed to the SFPUC customers. A condition assessment is required to evaluate the condition of the asset and determine projects to extend the life of the asset.
Justification:	Moccasin Penstock is part of the SFPUC Water System, conveying water from West Portal Valve House to Moccasin Powerhouse. A condition assessment must be performed to determine if the life of the asset can be extended or whether the asset requires replacement.
Operating Impact:	Failure of the penstock will cause flooding, jeopardizing the safety of HHWP employees in Moccasin as well as damage to Moccasin facilities. This project is needed to meet Water Levels of Service objectives for Regional Delivery Reliability and Water Supply. Moccasin Powerhouse produces about a quarter of the total HHWP Project generation.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15364-UH Hetchy Water - Power Infras
Authority Level 2:	15364-UH Hetchy Water - Power Infras
Project ID/FSP ID	CUH101 N08 / (N/A)
Project Title:	HHW - R&R Priest Dam Cond Assmt & Monitoring
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Tom Walker
Facility Category:	Power Infrastructure
Type:	Capital
Description:	Priest Dam is an earth and rock filled dam located just east of Moccasin located on Rattlesnake Creek in Tuolumne County. The dam was built between 1921 and 1923, and is approximately 168 feet tall and 1,000 feet wide with a crest width of 20 ft. Priest Dam has a long history of issues related to settlement and deflection. It is proposed to conduct a condition assessment and perform stability analysis of the dam using current standards and analysis techniques. New instrumentation will be installed to monitor and document the movement of the dam under different storage conditions. The results will be used to determine whether a future capital improvement project is required.
Justification:	Priest Reservoir is a vital component of the HHWP water delivery and power generation systems. The SFPUC is legally and ethically responsible to develop and maintain a mature dam safety management program. This project is to meet the objective. This project was approved in an earlier CIP and no funding is being requested in this plan.
Operating Impact:	The continual settlement and deflection may result in a restriction of the reservoir elevation.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15364-UH Hetchy Water - Power Infras
Authority Level 2:	15364-UH Hetchy Water - Power Infras
Project ID/FSP ID	CUH101 N10 / (N/A)
Project Title:	HHW - R&R Priest Reservoir Landslide
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Mike Vroman
Facility Category:	Power Infrastructure
Type:	Capital
Description:	The March 2018 storm caused a large land slide above Priest Reservoir. The project stabilizes the landslide area to prevent further erosion of the slope and sediment deposition in Priest Reservoir. The project removes unstable soil and rock, installs permanent slope drainage, places permanent erosion control armoring and stabilizing structures, as well as installing a new culvert with inlet and outlet protection.
Justification:	Continued soil and sediment deposition in Priest Reservoir directly affects water quality of the Tuolumne water supply. Under current conditions, the slide material has potential to cross the access road to Priest Gate Tower, the inlet to Moccasin Powerhouse. Preserving access to the gate tower is essential for reliable operation of the dam and reservoir. This project has been funded by reallocation funds from existing CIP projects and no funding is being requested in this plan.
Operating Impact:	Stabilizing the slide prevents continued elevated turbidity concerns, preserves access to the gate tower, and reduces road maintenance.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15364-UH Hetchy Water - Power Infras
Authority Level 2:	15364-UH Hetchy Water - Power Infras
Project ID/FSP ID	CUH101 N11 / (N/A)
Project Title:	HHW - Kirkwood Powerhouse Bypass Upgrades
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Tom Walker
Facility Category:	Power Infrastructure
Type:	Capital
Description:	Provide a reliable hydraulic bypass and energy dissipation system conveying water around the turbines to the Kirkwood Powerhouse Bypass Chamber and Mountain Tunnel. Upgrade/replace high pressure energy dissipating valves, control systems, and associated structures to absorb 1,245 feet of pressure head and 430 cubic feet per second flow without damage.
Justification:	The existing hydraulic bypass and energy dissipation system cannot be operated for more than 2-5 days without incurring significant damage. When operated, the impact from the high pressure- high flow water destroys the energy dissipating structures in the bypass structure. The bypass chamber was repaired in 2017 and 2019 following short operational periods. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	When the Kirkwood Powerhouse separates from the transmission system, flows through the turbine must be bypassed to prevent damaging the generator windings (over-speed) and thrust/guide bearings.When the bypass system is damaged and dysfunctional, water conveyance to the Mountain Tunnel must be curtailed or halted. This project increases Hetch Hetchy Water and Power's (HHWP) operating flexibility by de-coupling water delivery from power production. This enables HHWP to meet scheduled water deliveries even when the Kirkwood Powerhouse, Early Intake Switchyard, Intake-Warnerville 230KV Transmission Lines #5 or #6, or Warnerville-Standiford 115KV Transmission Lines #7 and #8 are curtailed.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 984	$ 0	$ 0	$ 0	$ 0	$ 984	$ 0
Environmental Review	$ 984	$ 0	$ 0	$ 0	$ 0	$ 984	$ 0
Design	$ 2,048	$ 0	$ 0	$ 0	$ 0	$ 0	$ 2,048
Construction Management	$ 1,581	$ 0	$ 0	$ 0	$ 0	$ 0	$ 1,581
Construction	$ 9,805	$ 0	$ 0	$ 0	$ 0	$ 0	$ 9,805
Total	$ 15,402	$ 0	$ 0	$ 0	$ 0	$ 1,968	$ 13,434

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15364-UH Hetchy Water - Power Infras
Authority Level 2:	15364-UH Hetchy Water - Power Infras
Project ID/FSP ID	CUH101 N12 / (N/A)
Project Title:	HHW - Moccasin Powerhouse Bypass Upgrade
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Tom Walker
Facility Category:	Power Infrastructure
Type:	Capital
Description:	Provide a reliable hydraulic bypass and energy dissipation system conveying water around the turbines to the Moccasin Reservoir Bypass Pipeline. 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.
Justification:	The existing hydraulic bypass and energy dissipation system cannot be operated for more than 2-5 days without incurring significant damage. When operated, the impact from the high pressure- high flow water destroys the energy dissipating structures in the bypass structure. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	When the Moccasin Powerhouse separates from the transmission system, flows through the turbine must be bypassed to prevent damaging the generator windings (over-speed) and thrust/guide bearings. When the bypass system is damaged and dysfunctional, water conveyance to the Mountain Tunnel must be curtailed or halted. This project increases Hetch Hetchy Water & Power's (HHWP) operating flexibility by de-coupling water delivery from power production. This enables HHWP to meet scheduled water deliveries even when the Moccasin Powerhouse, Moccasin Switchyard, or Moccasin-Newark 115kV Transmission Lines #3 and #4 are curtailed.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 911	$ 0	$ 911	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 911	$ 0	$ 911	$ 0	$ 0	$ 0	$ 0
Design	$ 1,894	$ 0	$ 0	$ 947	$ 947	$ 0	$ 0
Construction Management	$ 1,463	$ 0	$ 0	$ 0	$ 0	$ 1,463	$ 0
Construction	$ 9,073	$ 0	$ 0	$ 0	$ 0	$ 9,073	$ 0
Total	$ 14,252	$ 0	$ 1,822	$ 947	$ 947	$ 10,536	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15364-UH Hetchy Water - Power Infras
Authority Level 2:	15364-UH Hetchy Water - Power Infras
Project ID/FSP ID	CUH101 N14 / (N/A)
Project Title:	HHW-R&R Power Transmission Life Extension Program
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Mike Vroman
Facility Category:	Power Infrastructure
Type:	Capital
Description:	Extend the operating life of the transmission towers. The SFPUC maintains 161.7 miles of 115KV and 230KV electric transmission lines between Holm Powerhouse near Yosemite National Park and Newark Substation adjacent to SF Bay. 834 steel lattice towers support the high voltage transmission cables comprised of 3-conductors per line. Most of the towers were erected between 1930 and 1960.This project replaces significant elements of the steel lattice towers to extend the operating life of the transmission towers.
Justification:	A 2009 condition assessment cataloged the structural condition of the towers, electrical conductors, insulators, switches and relays. The transmission towers and equipment are reaching the end of their planned useful life. Spot checks of structural lattice members and bolts indicate structural deficiencies requiring mitigation to prevent tower failures. HHWP is requesting funds to review the condition assessment, complete an AAR, and prioritize the work to be performed at all towers. This funding would also cover any emergency repairs that cannot wait for systematic and prioritized repair. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	Localized failure of a transmission tower will interrupt power delivery to certain SFPUC's RWS facilities during the initial failure and throughout repairs. While the power lines are out of service, water at Kirkwood and Moccasin Powerhouses must be routed around the turbines via the proposed new energy dissipating bypass systems. Catastrophic tower failures will damage 3rd party property

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 848	$ 0	$ 40	$ 101	$ 101	$ 101	$ 505
Environmental Review	$ 848	$ 0	$ 40	$ 101	$ 101	$ 101	$ 505
Design	$ 943	$ 0	$ 135	$ 101	$ 101	$ 101	$ 505
Construction Management	$ 848	$ 0	$ 40	$ 101	$ 101	$ 101	$ 505
Construction	$ 5,013	$ 0	$ 245	$ 596	$ 596	$ 596	$ 2,980
Total	$ 8,500	$ 0	$ 500	$ 1,000	$ 1,000	$ 1,000	$ 5,000

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15364-UH Hetchy Water - Power Infras
Authority Level 2:	15364-UH Hetchy Water - Power Infras
Project ID/FSP ID	CUH101 N15 / (N/A)
Project Title:	HHW - Transmission Lines 7/8 Upgrades
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Tim Parkan
Facility Category:	Power Infrastructure
Type:	Capital
Description:	Reconductor 115kV lines 7/8 from Warnerville to Standiford substations.
Justification:	New renewable generation projects are being connected to the California electrical grid which is managed by the California Independent System Operator (CAISO). These new generation projects can have an adverse impact on the existing transmission facilities. HHWP performs reliability assessment studies to determine the impact of certain interconnecting generators on the HHWP system. HHWP has performed an analysis of the new renewable generation projects (CAISO Clusters 7 through 9, or Clusters) and has identified these Clusters will have an adverse impact on the SFPUC transmission facilities. The affected HHWP facilities are Lines 7/8, 115kV transmission lines beginning at HHWP Warnerville Substation and terminating at Modesto Irrigation District's Standiford Substation. HHWP has developed a mitigating project that will be funded by the Cluster developers. Water LOS Goal(s) Supported: potentially Regional Delivery Reliability
Operating Impact:	Cluster generation projects are expected to cause congestion on the Warnerville-Standiford 115 kV lines causing reliability issues for Modesto Irrigation District and requiring HHWP to reduce generation at Holm and Kirkwood Powerhouses.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 2,006	$ 0	$ 0	$ 0	$ 2,006	$ 0	$ 0
Construction	$ 23,141	$ 0	$ 0	$ 23,141	$ 0	$ 0	$ 0
Total	$ 25,147	$ 0	$ 0	$ 23,141	$ 2,006	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15364-UH Hetchy Water - Power Infras
Authority Level 2:	15364-UH Hetchy Water - Power Infras
Project ID/FSP ID	CUH10102 - 10014075 / 10014075
Project Title:	HHW - R&R Powerhouses
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Tom Walker
Facility Category:	Power Infrastructure
Type:	Capital
Description:	The powerhouses are made up of the following systems: 1) Turbine and governors; 2) Generator and excitation; 3) Electrical - Power train, station service and protection systems; 4) Step-up transformers; and 5) Mechanical systems. Rehabilitation costs for categories 1, 2, and 4 above are estimated at about 85% of total powerhouse rehabilitation costs (excluding building costs) and will be performed by Infrastructure. This project will fund: 1) Project under categories 3 and 5; 2) Unplanned failures for all categories; and 3) Managing replacement of assets with shorter life expectancies. Examples of electrical and mechanical systems covered in this project include inverters, breakers in 480V switchgear, 480V Motor Control Centers, electrical protective relays, cooling water piping/tubing, turbine shut-off valve control water piping/tubing, station air compressor, SCADA/control system, and vibration monitoring.
Justification:	This project will rehabilitate the HHWP powerhouses to a higher reliability, consistent with utility best practices and support HHWP's Operational Objectives for Power (overall) and Water (at Kirkwood and Moccasin powerhouses only). Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	Failure to maintain these assets could result in reduced power generation and reduced water deliveries (at Kirkwood and Moccasin powerhouses only).

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 794	$ 0	$ 77	$ 80	$ 82	$ 85	$ 470
Environmental Review	$ 794	$ 0	$ 77	$ 80	$ 82	$ 85	$ 470
Design	$ 1,593	$ 0	$ 154	$ 159	$ 165	$ 170	$ 945
Construction Management	$ 1,138	$ 0	$ 110	$ 114	$ 118	$ 122	$ 674
Construction	$ 7,256	$ 0	$ 701	$ 725	$ 751	$ 777	$ 4,302
Total	$ 11,575	$ 0	$ 1,119	$ 1,158	$ 1,198	$ 1,239	$ 6,861

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15364-UH Hetchy Water - Power Infras
Authority Level 2:	15364-UH Hetchy Water - Power Infras
Project ID/FSP ID	CUH10114 - 10014086 / 10014086
Project Title:	HHW- Moccasin Powerhouse and GSU Rehabilitation
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Tim Parkan
Facility Category:	Power Infrastructure
Type:	Capital
Description:	Moccasin Powerhouse Generators were completed in 1969 and generate a combined maximum output of 110 Megawatts. Both generator units have exceeded their life expectancy and are in need of repair in order to continue operating reliably. The project includes; replacement of stator cores and coils; Rehabilitation of the rotors; replacement of the generator step-up transformers with oil containment; and balance of plant. This is a design-build project and was advertised twice in 2011 and 2013. Bids were unresponsive. Balance of the plant includes replacing 480V switchgear, 13.8kV switchgear, motor control centers, main control boards, protective relays, and cooling water piping. The SFPUC is evaluating how this project will proceed. (MRN 186, 188)
Justification:	The project is required to meet HHWP's Operational Objectives for Power including Power System Reliability and Sustainability. The Moccasin Powerhouse is a vital component of the HHWP water delivery system. A non-functioning Powerhouse will not allow HHWP to meet the water delivery demands of the SFPUC. The units have become less reliable and have resulted in 35 outages over the last four years, including the last outage in August 2017 that resulted in water deliveries from HHWP being reduced by half. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	Potential loss of reliable water delivery and of power generation.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 4,800	$ 0	$ 800	$ 2,000	$ 2,000	$ 0	$ 0
Construction	$ 29,482	$ 0	$ 3,482	$ 13,000	$ 13,000	$ 0	$ 0
Total	$ 34,282	$ 0	$ 4,282	$ 15,000	$ 15,000	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15364-UH Hetchy Water - Power Infras
Authority Level 2:	15364-UH Hetchy Water - Power Infras
Project ID/FSP ID	CUH10117 - 10014089 / 10014089
Project Title:	HHW - R&R Transmission Lines Clearance Mitigation
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Mike Vroman
Facility Category:	Power Infrastructure
Type:	Capital
Description:	In response to a NERC Alert Request to all power utilities, HHWP was required to conduct a clearance evaluation of the existing 230kV (lines 5 and 6) and 115kV (lines 3 and 4, 7 and 8) transmission lines. Based on the ratings for each circuit, clearance discrepancies in each line segment have been identified (e.g., ground, wire, building, street lights) that endanger the public and property. This project will provide funding to implement mitigation measures to resolve clearance discrepancies. Mitigation options include, but are not be limited to, new towers/tubular poles, new intervening poles, and other structural improvements to the lattice towers.
Justification:	These line clearances issues present a safety hazard to the public and SFPUC employees, and they are an element of the wildfire mitigation plan. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	This is a safety liability.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,021	$ 0	$ 99	$ 102	$ 106	$ 110	$ 604
Environmental Review	$ 1,634	$ 0	$ 158	$ 164	$ 169	$ 175	$ 968
Design	$ 1,634	$ 0	$ 158	$ 164	$ 169	$ 175	$ 968
Construction Management	$ 3,068	$ 0	$ 296	$ 307	$ 318	$ 329	$ 1,818
Construction	$ 13,486	$ 0	$ 1,302	$ 1,348	$ 1,395	$ 1,444	$ 7,997
Total	$ 20,843	$ 0	$ 2,013	$ 2,085	$ 2,157	$ 2,233	$ 12,355

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15364-UH Hetchy Water - Power Infras
Authority Level 2:	15364-UH Hetchy Water - Power Infras
Project ID/FSP ID	CUH10119 - 10014091 / 10014091
Project Title:	HHW- El Switchyard Slope Hazard Mitigation
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Jimmy Leong
Facility Category:	Power Infrastructure
Type:	Capital
Description:	The Hetch Hetchy Water and Power (HHWP) Early Intake Switchyard (ISY) is a 230 kV switchyard located alongside the Tuolumne River, downstream of HHWP's Kirkwood Powerhouse (KPH). The switchyard is a critical HHWP asset that provides the transmission of electrical power generated at Kirkwood and Holm powerhouses to Moccasin, as well as the local distribution of power to HHWP's upcountry facilities. The slope requiring hazard mitigation, located next to ISY, was severely burned in the Rim Fire. The purpose of the project is to reduce the risk of slope failure which may cause damage to the switchyard and loss of power transmission capability.
Justification:	This project was approved in an earlier CIP and no funding is being requested in this plan.
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15364-UH Hetchy Water - Power Infras
Authority Level 2:	15364-UH Hetchy Water - Power Infras
Project ID/FSP ID	CUH101PD - 10014092 / 10014092
Project Title:	HHW- Power Project Development
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Jimmy Leong
Facility Category:	Power Infrastructure
Type:	Capital
Description:	The Project Development (PD) Account captures Program level expenditures. There are four types of charges that will be 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 Hetchy staff performing program level tasks including: capital plan development, budget management (including fund management, and cost reallocations); and Quarterly Report generation tasks, where the costs should be distributed over all CIP Projects. 3) Portal support for the existing SharePoint Portal (includes document management and project dashboard reporting) 4) Work Outreach program
Justification:	The Project Development Account (PD Accounts) funds the capital improvement administrative staff, the project management staff and the professional services that could not be defined to one project detail as the charges would span across the overall program. Water LOS Goal(s) Supported: To Be Determined as projects are developed.
Operating Impact:	Programmatic support is an integral part of the capital program.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 8,521	$ 0	$ 824	$ 852	$ 882	$ 913	$ 5,050
Total	$ 8,521	$ 0	$ 824	$ 852	$ 882	$ 913	$ 5,050

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15364-UH Hetchy Water - Power Infras
Authority Level 2:	15364-UH Hetchy Water - Power Infras
Project ID/FSP ID	CUH10115 / 10014087
Project Title:	Warnerville Substation Rehabilitation Project
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	
Facility Category:	Power Infrastructure
Type:	Capital
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 230kV equipment was deleted from the contract but procured including circuit breakers, switches, insulators, and current voltage transformers. This 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. The Planning of the remaining work is expected to start in August 2020. Project Estimate is approximately $6.2 Million.
Justification:	The project is required to meet all HHWP's Operational Objectives for Power System Reliability and Sustainability.
Operating Impact:	Potential loss of power generation/transmission as well as water delivery.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 4,000	$ 0	$ 0	$ 4,000	$ 0	$ 0	$ 0
Total	$ 4,000	$ 0	$ 0	$ 4,000	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15364-UH Hetchy Water - Power Infras
Authority Level 2:	15364-UH Hetchy Water - Power Infras
Project ID/FSP ID	CUH101 N05 / (N/A)
Project Title:	Kirkwood Penstock
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Tim Parkan
Facility Category:	Power Infrastructure
Type:	Capital
Description:	Kirkwood Penstock was built in 1964 and conveys the SFPUC water supply from Canyon Tunnel to Kirkwood Powerhouse. Kirkwood Penstock has experienced significant foundation movement, without impact to the service utility. In February 2007, however, there was significant movement on the penstock, and the penstick partically detached from one fixed saddle directly below anchor block 2. The scope of this project includes an internal and external inspection, development of an Emergency Action Plan and a Penstock Monitoring Plan, repairs to the damaged saddle, installation of a monitoring system, and procurement of emergency spare equipment.
Justification:	This project was approved in an earlier CIP and no funding is being requested in this plan.
Operating Impact:	This project is needed to meet Water Levels of Service objectives for Regional Delivery Reliability and Water Supply. Kirkwood Powerhouse produces about one- third of the total HHWP power generation.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15364-UH Hetchy Water - Power Infras
Authority Level 2:	15364-UH Hetchy Water - Power Infras
Project ID/FSP ID	CUH10118 / 10014090
Project Title:	Kirkwood Powerhouse Bypass Valves
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	
Facility Category:	Power Infrastructure
Type:	Capital
Description:	Provide a reliable hydraulic bypass and energy dissipation system conveying water around the turbines to the Kirkwood Powerhouse Bypass Chamber and Mountain Tunnel. The scope of work for this project was to replace the bypass diffuser and to complete repairs to the bypass draft tube and to the bypass chamber.
Justification:	This project was approved in an earlier CIP and no funding is being requested in this plan.
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15365-UH Hetchy Water - Joint Projec
Authority Level 2:	15365-UH Hetchy Water - Joint Project
Project ID/FSP ID	CUH100 N05 / (N/A)
Project Title:	HHW- Early Intake Dam Interim Improvement
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Jimmy Leong
Facility Category:	Water Infrastructure
Type:	Capital
Description:	Early Intake Dam is a single-curvature concrete arch structure. It was constructed between 1923 and 1924 to divert Hetch Hetchy water from the Tuolumne River into Mountain Tunnel. Within a few years of the dam's completion, significant cracking was observed at several locations, most likely due to the absence of contraction joints in the structure. In addition, widely distributed and progressively worsening distributed cracking has been observed throughout the dam and spillway structure over the years. A 1966 study concluded that the cause was due to Alkali Aggregate Reaction (AAR) and the resultant internal expansion of the concrete (Clair A. Hill, 1966). Following that study, the SFPUC carried out several repair measures in effort to reduce the rate of deterioration of the dam's concrete. A follow-up study in the late 80's and early 90's was undertaken to reevaluate the condition of the dam. Due to the state of deterioration and the difficulty of making lasting repairs, the study recommended replacement of the dam rather than repair (Woodward-Clyde Consultants, 1992). In 2007, a preliminary stability analysis performed by URS also recommended dam removal and replacement rather than repair (URS, 2007). The dam is reaching the end of its design life. Due to budget limitations, this project will design and construct interim repair to Early Intake Dam to extend its life 20-25 years.This project was approved in the FY18-19 capital plan and named Early Intake Dam Rehabilitation, and was originally funded starting in FY23-24. In order to meet potential Division of Safety of Dams (DSOD) requirements, the funding request for this project has been accelerated by three years.
Justification:	The SPFUC is legally and ethically responsible to develop and maintain mature dam safety management program. This project is to meet this objective. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	In the event of drought or failure of the O'Shaughnessy diversion works, Canyon Tunnel, Kirkwood Penstock or Intake Bypass, the Early Intake Dam is required to divert water from the Tuolumne River or from Lower Cherry Aqueduct into Mountain Tunnel for the water delivery system.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 440	$ 0	$ 440	$ 0	$ 0	$ 0	$ 0
Construction	$ 3,088	$ 0	$ 3,088	$ 0	$ 0	$ 0	$ 0
Total	$ 3,528	$ 0	$ 3,528	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15365-UH Hetchy Water - Joint Projec
Authority Level 2:	15365-UH Hetchy Water - Joint Project
Project ID/FSP ID	CUH100 N08 / (N/A)
Project Title:	HHW - Early Intake Dam - Long Term
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Jimmy Leong
Facility Category:	Water Infrastructure
Type:	Capital
Description:	The objectives of the project are to provide long term solution to Early Intake Dam which has been experiencing significant cracking and deteriorating from alkali-aggregate reactivity since construction in 1920's. This project will design and construction long term solution (such as installing buttress or replacing it with a new dam).
Justification:	This project is to ensure long term reliable water delivery. During drought conditions and without the Dam HHWP would not have a way to divert water from the Lower Cherry Aqueduct and Tuolumne River to the Mountain Tunnel. There would be no redundancy for the bypass pipeline from Kirkwood Powerhouse to Mountain Tunnel. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	The Early Intake Dam is serving as the main diversion point for conveying water from Tuolumne River to Mountain Tunnel. Without the dam, HHWP will not be able to divert water during emergency release either from Hetch Hetchy Reservoir or Lower Cherry Aqueduct (Cherry or Eleanor Reservoirs).

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 8,864	$ 0	$ 0	$ 0	$ 0	$ 0	$ 8,864
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 8,864	$ 0	$ 0	$ 0	$ 0	$ 0	$ 8,864

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15365-UH Hetchy Water - Joint Projec
Authority Level 2:	15365-UH Hetchy Water - Joint Project
Project ID/FSP ID	CUH10202 - 10014095 / 10014095
Project Title:	HHW - R&R Hetch Hetchy Facilities
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Tom Walker
Facility Category:	Joint Infrastructure
Type:	Capital
Description:	Hetch Hetchy Water & Power (HHWP) maintains about 80 structures, including buildings that house conveyance equipment, storage facilities, communication buildings, shops, office buildings/trailers, and housing for NPS/USFS/staff. Funds from this project are used to extend the life of these assets, improvements and address safety issues. This project funds capital improvements to these facilities.
Justification:	Capital upgrades are needed to maintain HHWP assets in a state of good repair. Operating Impact: Disrepair of HHWP work places, system buildings, and facilities which can lead to reduced efficiency. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	Disrepair of HHWP work places, system buildings, and facilities which can lead to reduced efficiency or unsafe work environments.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 613	$ 0	$ 42	$ 57	$ 59	$ 61	$ 394
Environmental Review	$ 682	$ 0	$ 46	$ 64	$ 66	$ 68	$ 438
Design	$ 1,137	$ 0	$ 77	$ 106	$ 110	$ 114	$ 730
Construction Management	$ 975	$ 0	$ 66	$ 91	$ 94	$ 98	$ 626
Construction	$ 19,847	$ 0	$ 1,332	$ 1,856	$ 1,921	$ 1,989	$ 12,749
Total	$ 23,254	$ 0	$ 1,563	$ 2,174	$ 2,250	$ 2,330	$ 14,937

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15365-UH Hetchy Water - Joint Projec
Authority Level 2:	15365-UH Hetchy Water - Joint Project
Project ID/FSP ID	CUH10203 - 10014096 / 10014096
Project Title:	HHW - R&R Dam Condition Assessment and Rehab
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Tom Walker
Facility Category:	Joint Infrastructure
Type:	Capital
Description:	It is HHWP's policy to maintain a safe and regulatory compliant operation of its six upcountry dams and assess the condition of each dam every 6 years on a revolving schedule. Condition assessments were performed on the Early Intake Dam and Eleanor Dam in 2014 and 2016 respectively. The rehabilitation of both dams has been included in the Hetch Hetchy 10-year capital plan as separate capital projects. As a result of the major incidents at Oroville Dam, which led to significant damage and erosion of the emergency spillways, the Division of Safety of Dams (DSOD) requested the SFPUC in June 2017 to perform comprehensive condition assessments of the spillways of O'Shaughnessy and Cherry Valley Dams as soon as possible. HHWP completed the condition assessments. DSOD also requested that any known damage to the spillways be repaired prior to the next flood season. HHWP expects that DSOD may extend the same requests to the other upcountry dams. This project will fund the recurring condition assessments for upcountry dams and immediate capital repair projects to address safety or environmental concerns of all six dams.
Justification:	The upcountry dams and appurtenant facilities on the Hetch Hetchy system are rapidly approaching the end of their service life. It is therefore critical to perform detailed assessments and vital repairs to extend the lifespan of each asset. The following is the approximate age of each dam that is managed by HHWP: O'Shaughnessy Dam - 95 Years; Eleanor Dam - 99 Years; Cherry Valley Dam - 63 Years; Priest Dam - 95 Years; Moccasin Dam - 87 Years. Of the five structures listed above, many display characteristics that should warrant a formal investigation of potential repair alternatives. These include, but are not limited to: Deflection and settlement; failing valves and outlet controls; concrete spalling, scour, and alkali aggregate reactivity; increased seepage rates; dam overtopping; and erosion. This project is required to meet the Water Levels of Service for Water Supply, Regional Seismic Reliability and Sustainability. The SPFUC is legally and ethically responsible to develop and maintain mature dam safety management program. This project is to meet this objective. Water LOS Goal(s) Supported: Regional Delivery Reliabiity, Regional Seismic Reliability, and Water Supply
Operating Impact:	Issues with these facilities resulting in loss of water storage or conveyance may impact the SFPUC water supply reliability and/or HHWP's ability to deliver water, maintain the current safe yield and generate power. Loss of storage would result in increased frequency and level of rationing to SFPUC water customers.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 567	$ 0	$ 55	$ 57	$ 59	$ 61	$ 335
Environmental Review	$ 1,364	$ 0	$ 132	$ 136	$ 141	$ 146	$ 809
Design	$ 1,138	$ 0	$ 110	$ 114	$ 118	$ 122	$ 674
Construction Management	$ 1,704	$ 0	$ 165	$ 170	$ 176	$ 183	$ 1,010
Construction	$ 6,789	$ 0	$ 656	$ 678	$ 702	$ 727	$ 4,026
Total	$ 11,562	$ 0	$ 1,118	$ 1,155	$ 1,196	$ 1,239	$ 6,854

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15365-UH Hetchy Water - Joint Projec
Authority Level 2:	15365-UH Hetchy Water - Joint Project
Project ID/FSP ID	CUH10209 - 10014102 / 10014102
Project Title:	HHW - R&R Roads and Bridges
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Mike Vroman
Facility Category:	Joint Infrastructure
Type:	Capital
Description:	HHWP is responsible for maintaining 14 bridges and about 40 miles of paved roadways that provide access to up-country facilities, including public access. Condition assessment has identified the need for rehabilitation and/or replacement (age and to meet current seismic design criteria). Four bridges require substantial rehabilitation or replacement and are included in CUH102 N04, Bridge Replacement. The remaining projects identified during condition assessment will be addressed in the R&R Road Improvement project. This project will fund smaller R&R capital projects including: 1) Improving site clearance recovery zone; 2) Drainage Improvements; 3) Slope stability improvement; 4) Guardrails; 5) Pavement projects; and 6) bridge rehabilitation projects. (MRN 226, 243, 400, 402, 407, 414-425, 429, 430, 457)
Justification:	Necessary compliance and safety improvements must be performed on paved roads and small bridges that are used by HHWP staff and the general public.
Operating Impact:	Failure of these bridges restricts access to certain HHWP facilities.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 979	$ 0	$ 99	$ 102	$ 106	$ 122	$ 550
Environmental Review	$ 1,956	$ 0	$ 198	$ 205	$ 212	$ 243	$ 1,098
Design	$ 1,568	$ 0	$ 158	$ 164	$ 169	$ 195	$ 882
Construction Management	$ 1,370	$ 0	$ 138	$ 143	$ 148	$ 170	$ 771
Construction	$ 14,109	$ 0	$ 1,424	$ 1,474	$ 1,526	$ 1,754	$ 7,931
Total	$ 19,982	$ 0	$ 2,017	$ 2,088	$ 2,161	$ 2,484	$ 11,232

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15365-UH Hetchy Water - Joint Projec
Authority Level 2:	15365-UH Hetchy Water - Joint Project
Project ID/FSP ID	CUH10211 - 10014104 / 10014104
Project Title:	HHW - R&R Facilities Security Project
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Tom Walker
Facility Category:	Joint Infrastructure
Type:	Capital
Description:	This funds physical security upgrades at existing HHWP facilities currently not being rehabilitated. The security at many HHWP Moccasin and remote facilities lack sufficient security measures to minimize the risk of intrusion. This project will fund security measures including fencing, card access and camera monitoring. (MRN all building assets)
Justification:	This project is required to meet the Water Levels of Service and HHWP's Operational Objectives for Power for Sustainability. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	Enhanced security at critical assets.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 503	$ 0	$ 26	$ 27	$ 71	$ 74	$ 305
Environmental Review	$ 867	$ 0	$ 52	$ 53	$ 143	$ 148	$ 471
Design	$ 801	$ 0	$ 41	$ 42	$ 114	$ 118	$ 486
Construction Management	$ 703	$ 0	$ 36	$ 37	$ 100	$ 103	$ 427
Construction	$ 7,231	$ 0	$ 366	$ 382	$ 1,029	$ 1,065	$ 4,389
Total	$ 10,105	$ 0	$ 521	$ 541	$ 1,457	$ 1,508	$ 6,078

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15365-UH Hetchy Water - Joint Projec
Authority Level 2:	15365-UH Hetchy Water - Joint Project
Project ID/FSP ID	CUH10213 - 10014106 / 10014106
Project Title:	HHW - R&R Communications Systems
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Tom Walker
Facility Category:	Joint Infrastructure
Type:	Capital
Description:	HHWP is responsible for a diverse array of communication systems, facilities, and equipment. This includes microwave communication, two-way radio voice communication, voice over internet protocol (VoIP), plain old telephone system (POTS), 900 MHz radio, fiber-optic communication, and information technology networks (both corporate and control). HHWP's facilities are located across the length and breadth of the HHWP project, stretching distances of more than 125 miles, from remote locations in the Sierra Mountains through the Sierra Foothills to the Central Valley floor. This project is intended to enable HHWP to build out communications to needed locations, replace technology in a strategic, planned approach, and to modernize elements of our communication infrastructure to ensure serviceability, reliability, and, where pertinent, regulatory compliance. This project is to design and build Moccasin's corporate network in order to address sustainability concerns. The current network has evolved organically and remains vulnerable to physical security breach and critical terminations have been made in temporary structures. There are remote locations yet without reliable communications, where networked visibility would improve efficiencies in operations. HHWP would also like to extend the PBX system to all areas of the project, reducing the reliance on POTS lines. Technology is constantly changing, and doing so at a terrific pace. As such, obsolescence comes at an accelerated pace. This project is also intended to provide for upgrade of system elements to maintain pace with the changes in technology, for overall system reliability.
Justification:	This project is required to meet HHWP's Operational Objectives for water and power delivery. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	HHWP's business operations and SFPUC's ability to use the Moccasin Server Building as a disaster recovery site are impacted by available bandwidth. This project would alleviate bandwidth issues and provide for future growth.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 912	$ 0	$ 33	$ 34	$ 35	$ 609	$ 201
Environmental Review	$ 456	$ 0	$ 16	$ 17	$ 18	$ 304	$ 101
Design	$ 912	$ 0	$ 33	$ 34	$ 35	$ 609	$ 201
Construction Management	$ 912	$ 0	$ 33	$ 34	$ 35	$ 609	$ 201
Construction	$ 6,110	$ 0	$ 220	$ 228	$ 236	$ 4,073	$ 1,353
Total	$ 9,302	$ 0	$ 335	$ 347	$ 359	$ 6,204	$ 2,057

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15365-UH Hetchy Water - Joint Projec
Authority Level 2:	15365-UH Hetchy Water - Joint Project
Project ID/FSP ID	CUH10215 - 10014108 / 10014108
Project Title:	HHW - Canyon Tunnel Rehabilitation
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Tim Parkan
Facility Category:	Joint Infrastructure
Type:	Capital
Description:	Canyon Tunnel was built over 55 years ago. A condition assessment was performed on the tunnel in 2009 and the tunnel is in generally good condition with the exception of the Hetchy Adit, a tunnel access point. Temporary repairs have been made to the "plug" at this adit twice (1989, 2009), but permanent repairs are needed to reduce leakage and increase reliability of the system. Project scope includes installation of a new reinforced concrete plug downstream of the existing plug. This project is being delayed because of boundary correction issues. (MRN 2)
Justification:	This adit is a potential failure point fo an asser without comparable redundancy. This project was approved in an earlier CIP and no funding is being requested in this plan.
Operating Impact:	Failure at the Hetchy Adit will impact water deliveries to SFPUC water customers, reducing maximum deliveries from 310 mgd to about 90 mgd (the maximum filtration capacity for Hetch Hetchy water at Sunol Valley Water Treatment Plant).

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15365-UH Hetchy Water - Joint Projec
Authority Level 2:	15365-UH Hetchy Water - Joint Project
Project ID/FSP ID	CUH10217 - 10014110 / 10014110
Project Title:	HHW - Moccasin Wastewater Treatment Plant
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Jimmy Leong
Facility Category:	Joint Infrastructure
Type:	Capital
Description:	The Moccasin Wastewater Treatment Plant (WWTP) provides primary treatment of wastewater from Moccasin Compound prior to discharging the treated water to a nearby spray field. The WWTP was constructed in the 1970s and has been in continuous operation since its installation. The WWTP has reached the end of its reliable service life, and is becoming increasingly maintenance intensive. The scope of work is to 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.
Justification:	The useful life for mechanical and electrical equipment in treatment facilities is typically 15 to 25 years according to EPA and ASCE publications. Given the age and condition of the WWTP as well as its process and operational limitations, investing in improvements to address the individual WWTP systems and component deficiencies is not practical in comparison to installation of a new replacement plant. At more than 40-years old, the Moccasin WWTP is at the end of its useful service life, and is becoming increasingly maintenance intensive. Some of the treatment plant's operational limitations and challenges are as follows: 1) Poor upstream screening facilities, resulting in limitations for the bar screens to retain smaller materials. This has also caused operational issues and mechanical equipment failure within the bioreactor; 2) Inadequate sizing of partial flume, resulting in adverse effects from solids, rocks, grit, rags and debris during low flows; 3) Lack of a grit removal facility; 4) Lack of aeration control within the plant's aeration basin; 5) Lack of an automated monitoring/control system; 6) Settling tank has been subject to continual mechanical failures; 7) Difficulty in controlling sludge return rates; 8) Poor flow distribution from the aeration tank to clarifier; 9) Lift station minimum pump capacity is in excess of maximum effluent channel pumps at the treatment plant, resulting in the pump station overrunning the plant when flows are high and 10) Major corrosion to electrical panels; without a functioning WWTP, HHW would violate its discharge permit and Moccasin staff would be unable to carry out their operational responsibilities. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	The existing WWTP is the only wastewater plant serving the Moccasin Compound. Failure could result in discharge of untreated waste water into Moccasin Creek which flows into Don Pedro Reservoir.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 551	$ 0	$ 551	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 551	$ 0	$ 551	$ 0	$ 0	$ 0	$ 0
Design	$ 1,146	$ 0	$ 0	$ 1,146	$ 0	$ 0	$ 0
Construction Management	$ 851	$ 0	$ 0	$ 0	$ 851	$ 0	$ 0
Construction	$ 5,276	$ 0	$ 0	$ 0	$ 5,276	$ 0	$ 0
Total	$ 8,375	$ 0	$ 1,102	$ 1,146	$ 6,127	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15365-UH Hetchy Water - Joint Projec
Authority Level 2:	15365-UH Hetchy Water - Joint Project
Project ID/FSP ID	CUH102MT - Joint Only / 10014114
Project Title:	HHW - Mt. Tunnel Imp. Project (Flow Control)
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	David Tsztoo
Facility Category:	Joint Infrastructure
Type:	Capital
Description:	Constructed between 1917-25, Mountain Tunnel (MT) is a critical, non-redundant link in the Hetch Hetchy water system, conveying SFPUC water supply from Kirkwood Powerhouse to Priest Reservoir . Due to tunnel's 90 years of operation, deferred maintenance, as well as the construction deficiencies in the early 1900s, sections of the tunnel have deteriorated, some more extensively than others. MT improvements to enhance SFPUC's ability to provide reliable, high-quality water to its customers, will be carried out through three projects: 1. MT Adits & Access Improvement 2. MT Inspection and Repair 3. MT Tunnel Improvements. Mountain Tunnel Adits & Access Improvement Project will enlarge Adits 5/6 and 8/9 to accommodate quick entry of construction crews and equipment into the tunnel; and will improve access roads to the said adits. Project will also provide for the implementation of the Emergency Restoration Plan. Mountain Tunnel Inspection & Repairs Project provides for a tunnel inspection in 2017 to update the Condition Assessment conducted in 2008, as well as short-term repairs in 2017 and 2018 to reduce the risk of failures in the concrete lining prior to the long-term project being implemented. Mountain Tunnel Improvements Project was selected for the design and construction of the preferred engineering alternative that will keep this vital component of the Hetch Hetchy Water and Power System in reliable service for years to come. Budget and schedule is based on the Mountain Tunnel Improvements which has an anticipated construction phase between from 2020 to 2027 (MRN 238-241, 244, 245) ** This is the Joint portion of the Mountain Tunnel project.
Justification:	A catastrophic failure, although possible, with continued tunnel degradation. The more likely type of anticipated failures are "local collapses", which would not impact power generation but would create water quality events in terms of turbidity in the water supply. The likelihood of localized collapses is moderate to high. Depending on the configuration of the system, this type of event could interrupt the delivery of the Tuolumne diversion to the RWS. Technology Policy: The project provides for reliable, high quality service, but is not specifically technology-related. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	Depending on the configuration of the system, a "local collapse" could interrupt the delivery of the Tuolumne diversion to Water Supply and Treatment. Continual degradation of the asset could lead to a catastrophic failure.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 437	$ 92	$ 92	$ 92	$ 69	$ 46	$ 46
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 21,276	$ 4,830	$ 4,830	$ 3,910	$ 3,220	$ 2,484	$ 2,002
Construction	$ 49,264	$ 11,960	$ 13,911	$ 13,245	$ 4,503	$ 2,269	$ 3,376
Total	$ 70,977	$ 16,882	$ 18,833	$ 17,247	$ 7,792	$ 4,799	$ 5,424

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15365-UH Hetchy Water - Joint Projec
Authority Level 2:	15365-UH Hetchy Water - Joint Project
Project ID/FSP ID	CUH10222 - 10014115 / 10014115
Project Title:	HHW- Cherry Dam Spillway - Short Term Improvements
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Jimmy Leong
Facility Category:	Joint Infrastructure
Type:	Capital
Description:	Cherry 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. However, significant damage has been experienced in the unlined adjacent channel below the dam with spillway releases at 1,800 cfs, including large scale erosion along the western segment of Cherry Dam, flooding of the Cherry Power Tunnel Adit and a campground downstream. According to Stantec's Needs Assessment Report in July 2019, it is recommended that erosion protection measures be implemented and retaining walls be built.
Justification:	The complete length of channel that passes water from the ogee side spillway to Cherry Creek is entirely unlined, which will result in continued erosion if subjected to even minimal spillway discharges. Continued erosion and wear along the right abutment of Cherry Valley Dam could lead to significant damage to downstream facilities or the eventual failure of Cherry Dam. Water LOS Goal(s) Supported: Regional Delivery Reliability and Water Supply
Operating Impact:	Failure to adequately address this issue could result in a reduction in maximum storage limits, increasing frequency and level of rationing for the SFPUC water customers.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 1,616	$ 0	$ 1,616	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 1,224	$ 0	$ 0	$ 600	$ 624	$ 0	$ 0
Construction	$ 7,444	$ 0	$ 0	$ 7,444	$ 0	$ 0	$ 0
Total	$ 10,284	$ 0	$ 1,616	$ 8,044	$ 624	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15365-UH Hetchy Water - Joint Projec
Authority Level 2:	15365-UH Hetchy Water - Joint Project
Project ID/FSP ID	CUH102PD - 10014116 / 10014116
Project Title:	HHW- Joint Project Development
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Jimmy Leong
Facility Category:	Joint Infrastructure
Type:	Capital
Description:	The Project Development (PD) Account captures Program level expenditures. There are four types of charges that will be 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 Hetchy staff performing program level tasks including: capital plan development, budget management (including fund management, and cost reallocations); Unifier and Quarterly Report generation tasks, where the costs should be distributed over all CIP Projects. 3) Portal support for the existing SharePoint Portal (includes document management and project dashboard reporting) 4) Work Outreach program
Justification:	The Project Development Account (PD Accounts) funds the capital improvement administrative staff, the project management staff and the professional services that could not be defined to one project detail as the charges would span across the overall program. Water LOS Goal(s) Supported: To be determined as projects are developed.
Operating Impact:	Programmatic support is an integral part of the capital program.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 20,699	$ 0	$ 2,196	$ 2,273	$ 2,352	$ 2,435	$ 11,443
Total	$ 20,699	$ 0	$ 2,196	$ 2,273	$ 2,352	$ 2,435	$ 11,443

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15365-UH Hetchy Water - Joint Projec
Authority Level 2:	15365-UH Hetchy Water - Joint Project
Project ID/FSP ID	CUH10224 - 10030759 / 10030759
Project Title:	HHW - Eleanor Dam Rehabilitation
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Jimmy Leong
Facility Category:	Joint Infrastructure
Type:	Capital
Description:	Eleanor Dam is a multiple arch reinforced concrete dam that was constructed in the 1920's. Our 2015-16 Needs Assessment Report (NAR) identified deterioration and aging of the structure, as well as performance concerns. Specifically, structural/seismic concerns regarding the Eleanor Bridge, cracking and spalling of concrete, exposed rebar, significant leakage through the arch barrels, and cracks and erosion of the spillway concrete. Projects have been prioritized by risk. Existing capital funding is being requested (CUH102 N04, HHW - Bridge Replacement) to immediately address the Eleanor Bridge structural/seismic concerns of the arch dam. This project will address remaining deficiencies. Mitigation alternatives may include solutions such as installation of a liner on the upstream face of the dam, pressure grouting, concrete repairs, valve replacement, and installation of concrete lining and riprap.
Justification:	The SPFUC is legally and ethically responsible to develop and maintain mature dam safety management program. This project is to meet this objective. Water LOS Goal(s) Supported: Regional Delivery Reliability and Regional Seismic Reliability
Operating Impact:	Loss of operational functionality will likely result in reduction of maximum storage levels. Loss of water storage would impact the frequency and level of rationing for our SFPUC water customers. In addition, generation produced by water stored behind this dam contributes to about 13% of HHWP's annual generation.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 2,240	$ 0	$ 0	$ 0	$ 2,240	$ 0	$ 0
Environmental Review	$ 2,240	$ 0	$ 0	$ 0	$ 2,240	$ 0	$ 0
Design	$ 4,480	$ 0	$ 0	$ 0	$ 0	$ 4,480	$ 0
Construction Management	$ 3,296	$ 0	$ 0	$ 0	$ 0	$ 0	$ 3,296
Construction	$ 21,322	$ 0	$ 0	$ 0	$ 0	$ 0	$ 21,322
Total	$ 33,578	$ 0	$ 0	$ 0	$ 4,480	$ 4,480	$ 24,618

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15365-UH Hetchy Water - Joint Projec
Authority Level 2:	15365-UH Hetchy Water - Joint Project
Project ID/FSP ID	CUH102 - 10034501 / 10034501
Project Title:	HHW - R&R Power Distribution
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Tom Walker
Facility Category:	Joint Infrastructure
Type:	Capital
Description:	HHWP maintains several power distribution systems (<100 kV) to provide power to Moccasin Compound and remote operation sites (mainly Early Intake, Cherry and O'Shaughnessy). These systems are made up of transformers (to step down generation received from the powerhouses), poles, conductor and pole transformers for service connections. With the exception of about 40% of the poles and conductor up-country which was replaced following the Rim Fire, the remaining system has exceeded its life expectancy, resulting in multiple failures at Moccasin Camp last year. In addition, new loads to support operations at Moccasin Compound and remote sites (e.g., UV systems, Moccasin Fish Hatchery Recirculation System, new buildings/offices) are taxing the current system, requiring mitigation. The R&R Power Distribution Improvements program will support funding of: 1) Load studies at Moccasin and remote locations to evaluate current and future needs; 2) Replacement of failing systems designed to meet current/future needs; and 3) Long-lead spares to ensure reliable 24/7 water and power operations at Moccasin Compound and remote sites.
Justification:	This project will rehabilitate the HHWP power distribution system consistent with utility best practices to provide reliable electrical necessary to operations at Moccasin Camp and remote sites so staff can meet their obligations to operate the HHWP system. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	Not all HHWP offices have emergency generators. Failure to maintain these assets affects staffs ability to perform their job, placing existing Water Enterprise Levels of Service at risk.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 5,310	$ 0	$ 515	$ 530	$ 549	$ 568	$ 3,148
Construction	$ 5,630	$ 0	$ 715	$ 700	$ 681	$ 662	$ 2,872
Total	$ 10,940	$ 0	$ 1,230	$ 1,230	$ 1,230	$ 1,230	$ 6,020

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15365-UH Hetchy Water - Joint Projec
Authority Level 2:	15365-UH Hetchy Water - Joint Project
Project ID/FSP ID	CUH102 - 10035086 / 10035086
Project Title:	HHW - Bridge Replacement (4 Bridges)
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Jimmy Leong
Facility Category:	Joint Infrastructure
Type:	Capital
Description:	HHWP is responsible for maintaining 14 bridges located in the Cherry, Eleanor and Hetch Hetchy region. Condition assessment has identified the need for rehabilitation and/or replacement (age and to meet current seismic design criteria). Four of the fourteen bridges require substantial modification or replacement and have been combined into this project. This project includes rehabilitation and/or replacement of Cherry Lake Road Bridge (public access); Early Intake Bridge (public access); O'Shaughnessy Adit Access Bridge; and Lake Eleanor Dam Bridge. The Lake Eleanor Dam Bridge is a structural component of the Lake Eleanor Dam which is integral to the structural/seismic integrity of the arch dam and should be addressed immediately.
Justification:	Necessary compliance and safety improvements must be performed for these bridges that are used by HHWP staff and the general public.
Operating Impact:	Failure of these bridges restricts access to certain HHWP facilities.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 4,346	$ 0	$ 0	$ 0	$ 1,100	$ 1,289	$ 1,957
Construction	$ 11,854	$ 0	$ 0	$ 0	$ 3,000	$ 3,411	$ 5,443
Total	$ 16,200	$ 0	$ 0	$ 0	$ 4,100	$ 4,700	$ 7,400

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15365-UH Hetchy Water - Joint Projec
Authority Level 2:	15365-UH Hetchy Water - Joint Project
Project ID/FSP ID	CUH102 N01 / (N/A)
Project Title:	HHW - O'Shaughnessy Dam Outlet Works Phase II
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Tim Parkan
Facility Category:	Joint Infrastructure
Type:	Capital
Description:	O'Shaughnessy Dam (OSD) was completed in 1923 and raised in 1938. A condition assessment of the dam outlet works revealed deficiencies. This rehabilitation project addresses deficiencies of the existing outlet works system at OSD, including the drum gates and release system through OSD to Canyon Tunnel and the Tuolumne River. Seven projects were identified and have been prioritized. This project addresses Phase 2 projects including: 72" Needle Valve Replacement & 72" Butterfly Valve Rehabilitation; 60" Needle Valve & Controls Replacement; and Diversion Tunnel Rehabilitation.
Justification:	The SPFUC is legally and ethically responsible to develop and maintain mature dam safety management program. This project is to meet this objective. Water LOS Goal(s) Supported: Regional Delivery Reliability and Water Supply.
Operating Impact:	Loss of operational functionality will likely result in reduction of maximum storage levels. Loss of water storage would impact the frequency and level of rationing for our SFPUC water customers.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 7,230	$ 0	$ 0	$ 0	$ 7,230	$ 0	$ 0
Environmental Review	$ 7,230	$ 0	$ 0	$ 0	$ 7,230	$ 0	$ 0
Design	$ 14,893	$ 0	$ 0	$ 0	$ 0	$ 7,447	$ 7,447
Construction Management	$ 10,957	$ 0	$ 0	$ 0	$ 0	$ 0	$ 10,957
Construction	$ 71,913	$ 0	$ 0	$ 0	$ 0	$ 0	$ 71,913
Total	$ 112,223	$ 0	$ 0	$ 0	$ 14,460	$ 7,447	$ 90,317

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15365-UH Hetchy Water - Joint Projec
Authority Level 2:	15365-UH Hetchy Water - Joint Project
Project ID/FSP ID	CUH102 N02 / (N/A)
Project Title:	HHW-R&R Moccasin Old Powerhouse Hazard Mitigation
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Jimmy Leong
Facility Category:	Joint Infrastructure
Type:	Capital
Description:	The Moccasin Old Power House was constructed in 1926 and was abandoned in 1960's. The building has multiple structural and non-structural issues including cracks, scouring and spalling of structural concrete, water intrusion, broken windows, settlement, hazardous materials, seismic deficiencies, etc. The project is to design and install mitigation measures to prevent the building from collapsing and to prevent hazardous materials [such as lead based paint (LBP) and asbestos] from contaminating the water in Moccasin Reservoir.
Justification:	This project is to ensure the safety and water quality objectives.
Operating Impact:	If no suitable hazard mitigation actions are taken, the existing building will continue to deteriorate and increase the risks of collapse and water contamination.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 1,428	$ 0	$ 1,428	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 1,061	$ 0	$ 0	$ 1,061	$ 0	$ 0	$ 0
Construction	$ 6,579	$ 0	$ 0	$ 6,579	$ 0	$ 0	$ 0
Total	$ 9,068	$ 0	$ 1,428	$ 7,640	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15365-UH Hetchy Water - Joint Projec
Authority Level 2:	15365-UH Hetchy Water - Joint Project
Project ID/FSP ID	CUH102 N05 / (N/A)
Project Title:	HHW - Cherry Dam Spillway and Intake Tower Rehab
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Jimmy Leong
Facility Category:	Joint Infrastructure
Type:	Capital
Description:	This project resolves pending dam safety issues on the Cherry Intake Tower, Outlet Tunnel and the Spillway. As identified in the Needs Assessment Report by Stantec in February 20119, the following items must be addressed: 1) the intake tower requires seismic retrofitting and structural concrete repairs; 2) the intake tunnel requires tunnel lining repair, replacing the butterfly valve, and access improvement; and 3) the spillway crest is rated to pass 52,000 cubic feet per second (cfs) but the spillway channel overtops at flows exceeding 1,800 cfs with major erosion damage. The workd for the spillway includes major modifications to the existing spilway or constructing an additional spillway so that it can safely pass the design flood without overtopping Cherry Valley Dam.
Justification:	This project is to ensure long term safety and reliable water delivery. Water LOS Goal(s) Supported: Regional Delivery Reliability and Regional Seismic Reliability
Operating Impact:	The Needs Assessment report has shown that the Cherry Dam Intake tower is unstable and structurally in question. Design models show failure during the Maximum Credible Earthquake and would result in failure of the intake tower, limiting HHWP's ability to lower the reservoir elevation during normal operation and in case of an emergency. The Needs Assessment Report also shows that the Cherry Dam Spillway is not capable of passing the updated design flood and will not meet regulatory requirements. Design modesl have identified conditions that wwill lead to overtopping and erosion of the earthfill dam. Increasing the spillway channel capacity is required to eliminate overtopping and to prevent dam failure. If unresolved, DSOC will impose an operating restriction on the dam that will limit power generation and water deliveries.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 2,086	$ 0	$ 0	$ 0	$ 0	$ 0	$ 2,086
Environmental Review	$ 4,091	$ 0	$ 0	$ 0	$ 0	$ 0	$ 4,091
Design	$ 8,676	$ 0	$ 0	$ 0	$ 0	$ 0	$ 8,676
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 14,853	$ 0	$ 0	$ 0	$ 0	$ 0	$ 14,853

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15365-UH Hetchy Water - Joint Projec
Authority Level 2:	15365-UH Hetchy Water - Joint Project
Project ID/FSP ID	CUH101-16 / 10014088
Project Title:	HHW - Moccasin Penstock Rehabilitation
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Tim Parkan
Facility Category:	Joint Infrastructure
Type:	Capital
Description:	Moccasin Penstock was built in the early 1920's and conveys water from Moccasin Tunnel to Moccasin Powerhouse. A Condition Assessment Report, Phase I was submitted in 2011 by CH2MHill. The reports identified numerous deficiencies. The penstocks contain segments of hammer forged welded steel (HFWS) that has experienced failures in the past. This type of HFWS pipe has a history of brittle fracture failure at both Pacific Gas & Electric and Southern California Edison Penstocks. In addition, issues have been identified regarding the anchor/saddle system with respect to Alkali Reactive Silica which degrades the concrete. An Alternative Analysis Report and a Design Criteria report were submitted by MWH/Stantec in 2016. Due to lack of funds in the previous budget cycle, the project scope was reduced to limit the repair to one penstock. The design of the rehabilitation work for one penstock was completed and went out for bid. Because of the 2018 March Storm event and concerns about the isolation point at West Portal, the construction contract was terminated before the contractor started work. In view of long term asset reliability, HHWP decides to revisit the scope to include the rehabilitation work of both penstocks and other upgrade. The proposed new scope of this project includes rehabilitation of anchors blocks, penstock coating, penstock saddle, air valves, large diameter butterfly valves, bifurcation sections and flow meters; and upgrade of electrical system, power transformers, standby generator in the West Portal Valve House, and bulkhead isolation valves in the surge tower. The proposed project budget detailed below does not include the replacement of all HFWS pipes. This project will continue with the planning phase in FY2018-19 and further investigate if the HFWS in its' current condition meets the 100-year life span criteria. The existing allocated funds will be sufficient through Planning and Design Phases. The additional funding request is for additional scope in construction.
Justification:	The goal is to provide a reliable redundant conveyance with a 100-year life span. The project is also required to meet HHWP's Operational Objectives for Power including Power System Reliability. Water LOS Goal(s) Supported: Reegional Delivery Reliability and Water Supply
Operating Impact:	Failure of the Penstock will cause flooding, jeopardizing the safety of HHWP employees in Moccasin as well as damage to Moccasin facilities. There are two penstocks which provide for system redundancy for SFPUC water deliveries and power generation. If one penstock were to fail, this would reduce system redundancy.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction Management	$ 5,802	$ 0	$ 1,859	$ 1,933	$ 2,010	$ 0	$ 0
Construction	$ 35,472	$ 0	$ 11,824	$ 11,824	$ 11,824	$ 0	$ 0
Total	$ 41,274	$ 0	$ 13,683	$ 13,757	$ 13,834	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15365-UH Hetchy Water - Joint Projec
Authority Level 2:	15365-UH Hetchy Water - Joint Project
Project ID/FSP ID	CUH100 N09 / 10035420
Project Title:	HHW - Moccasin Dam Long Term Improvements
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Jimmy Leong
Facility Category:	Joint Infrastructure
Type:	Capital
Description:	The objectives of the project are to evaluate, design and construct long term solutions for Moccasin Dam and associated appurtenance so that the facilities can handle the updated design flood. The planning phase will start in Fall 2019. The main work may include concrete tanks, dam raise, additional spillway/bypass and re-contouring of the reservoir.
Justification:	This project is to ensure water quality, reliable water delivery, and dam safety. Water LOS Goal(s) Supported: Water Quality and Regional Delivery Reliability
Operating Impact:	The 2018 March Storm caused significant damage to the Moccasin diversion dam, Moccasin auxiliary spillway and the surrounding areas. The storm event almost overtopped the Moccasin Dam and caused emergency evacuation of the downstream areas. Without the Moccasin Reservoir, it will limit HHWP's ability to handle turbidity issues and would increase the likelihood of water delivery interruptions due to short term emergency shutdowns of the Hetch Hetchy Regional Water System (HHRWS).

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 3,752	$ 957	$ 2,795	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 5,598	$ 586	$ 1,864	$ 0	$ 0	$ 524	$ 2,624
Design	$ 16,280	$ 0	$ 0	$ 8,140	$ 8,140	$ 0	$ 0
Construction Management	$ 18,112	$ 0	$ 0	$ 0	$ 0	$ 4,402	$ 13,710
Construction	$ 83,740	$ 0	$ 0	$ 0	$ 0	$ 30,074	$ 53,666
Total	$ 127,482	$ 1,543	$ 4,659	$ 8,140	$ 8,140	$ 35,000	$ 70,000

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15365-UH Hetchy Water - Joint Projec
Authority Level 2:	15365-UH Hetchy Water - Joint Project
Project ID/FSP ID	CUH102 N09 / (N/A)
Project Title:	HHW - R&R Power Distrib Line High Risk Fire Reduct
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	
Facility Category:	Joint Infrastructure
Type:	Capital
Description:	Implement multiple electrical distribution line fire prevention solutions in high-risk fire areas including re-conductoring, increasing safe-clearance distances, undergrounding, and developing alternative power sources to overhead electrical distribution lines, including adding micro-hydropower units to Cherry Valley Dam and O'Shaughnessy Dam.
Justification:	HHWP owns and maintains multiple power distribution lines, including nearly 800 power distribution poles that are located upcountry in and around the Stanislaus National Forest and Yosemite National Park. The power distribution lines are necessary to power infrastructure located at Eleanor, Cherry, Early Intake, Hetch Hetchy, and Camp Mather. This project will design and construct projects that will reduce the SFPUC's risk associated with fires in these remote, heavily forested areas. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	Due to the recent wildfires in California, there is an industry shift to address the risks associated with power distribution lines. HHWP intends to follow suit and implement mitigation measures to reduce the probability of a similar wildfire event occurring on the HHWP system.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 745	$ 0	$ 745	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 745	$ 0	$ 745	$ 0	$ 0	$ 0	$ 0
Design	$ 1,489	$ 0	$ 1,489	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 2,401	$ 0	$ 0	$ 1,281	$ 1,120	$ 0	$ 0
Construction	$ 14,406	$ 0	$ 0	$ 7,526	$ 6,880	$ 0	$ 0
Total	$ 19,786	$ 0	$ 2,979	$ 8,807	$ 8,000	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15365-UH Hetchy Water - Joint Projec
Authority Level 2:	15365-UH Hetchy Water - Joint Project
Project ID/FSP ID	CUH102 N10 / (N/A)
Project Title:	HHW- R&R HH Reservoir Boat Ramp & Access Improve
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Tom Walker
Facility Category:	Joint Infrastructure
Type:	Capital
Description:	The existing O'Shaughnessy (OSH) Boat ramp is deteriorating. The boat ramp and supporting gabion baskets were poorly designed and constructed. Access to the lake is needed to perform water quality sampling in the reservoir. Access is also used by NPS for law enforcement and patrol activities. This project would evaluate alternatives to provide safe access, design, and construction of the preferred alternative. The project would also address the safety issues of the floating dock and provide adjustable access to the dock due to changing water elevations.
Justification:	The OSH boat ramp is necessary to access the reservoir to perform water quality monitoring and sampling to meet regulatory requirements. The boat ramp also is required to from law enforcement access to the reservoir to enforce regulatory access (security) requirements to the reservoir and inflow reservoirs and creeks. Water LOS Goal(s) Supported: Water Quality
Operating Impact:	Safe access to the reservoir will not be possible without the boat ramp in place for the regulatory access enforcement or water quality monitoring.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 68	$ 0	$ 68	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 68	$ 0	$ 68	$ 0	$ 0	$ 0	$ 0
Design	$ 135	$ 0	$ 135	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 212	$ 0	$ 0	$ 212	$ 0	$ 0	$ 0
Construction	$ 1,315	$ 0	$ 0	$ 1,315	$ 0	$ 0	$ 0
Total	$ 1,798	$ 0	$ 271	$ 1,527	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15365-UH Hetchy Water - Joint Projec
Authority Level 2:	15365-UH Hetchy Water - Joint Project
Project ID/FSP ID	CUH10206 - 10014099 / 10014099
Project Title:	HHW - O'Shaughnessy Dam Outlet Works Phase I
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Tim Parkan
Facility Category:	Joint Infrastructure
Type:	Capital
Description:	O'Shaughnessy Dam (OSD) was completed in 1923 and raised in 1938. A condition assessment of the dam outlet works revealed deficiencies. This rehabilitation project addresses deficiencies of the existing outlet works system at OSD, including the drum gates and release system through OSD to Canyon Tunnel and the Tuolumne River. Seven projects were identified and have been prioritized. Phase 1 will include four projects: Access & Drainage Improvements; Drum Gate Rehabilitation (upgrading the hinges and rivets, recoating the gate, existing seals and repairing the spillway concrete); Installation of New Bulkhead System; and Rehabilitation of Slide Gates & Installation of Diversion Pipe Butterfly Valve. Additional $4.0M is requested in FY21-22 due to the higher than expected design cost and construction estimate for the Access & Drainage Improvement.
Justification:	The SFPUC is legally and ethically responsible to develop and maintain mature dam safety management program. This project is to meet this objective.
Operating Impact:	Loss of operational functionality will likely result in reduction of maximum storage levels. Loss of water storage would impact the frequency and level of rationing for our SFPUC water customers.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 10,102	$ 0	$ 10,102	$ 0	$ 0	$ 0	$ 0
Total	$ 10,102	$ 0	$ 10,102	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15365-UH Hetchy Water - Joint Projec
Authority Level 2:	15365-UH Hetchy Water - Joint Project
Project ID/FSP ID	CUH10219 / 10014112
Project Title:	Mountain Tunnel Access/Adit Im
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	
Facility Category:	Joint Infrastructure
Type:	Capital
Description:	To meet water delivery goals and address the critical nature of the potential impact on water delivery commitments, the Mountain Tunnel must be capable of return to service within three months in the event of an interruption in water service. In order to accommodate quick entry of construction crews and equipment into Mountain Tunnel, improvements at Adit 5/6 and 8/9 access roads and adits will be constructed to minimize the time required to return the tunnel to service. An Emergency Restoration Plan (ERP) will be established for basic restoration plans and procedures. The monitoring system currently assessing changed conditions in the tunnel will be enhanced to complement the existing system. The emergency implementation component will be produced at the completion of the access and adit improvements.
Justification:	This project was approved in an earlier CIP and no funding is being requested in this plan.
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15365-UH Hetchy Water - Joint Projec
Authority Level 2:	15365-UH Hetchy Water - Joint Project
Project ID/FSP ID	CUH10220 / 10014113
Project Title:	Mountain Tunnel Inspection
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	
Facility Category:	Joint Infrastructure
Type:	Capital
Description:	The objective of this project is to assess the current condition of the Mountain Tunnel and complete any urgent interim repairs to reduce the risk of tunnel lining failure until the completion of the long-term Mountain Tunnel Improvements project in 2026. The project consists of: • A tunnel inspection in 2017 to update the Condition Assessment conducted in 2008; and • Short term repairs in 2017 and 2018-19 to reduce the risk of failures in the concrete lining.
Justification:	This project was approved in an earlier CIP and no funding is being requested in this plan.
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15365-UH Hetchy Water - Joint Projec
Authority Level 2:	15365-UH Hetchy Water - Joint Project
Project ID/FSP ID	CUH10223 / 10030758
Project Title:	UH O'sh Dam Access & Drainage
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	
Facility Category:	Joint Infrastructure
Type:	Capital
Description:	The key objective of this project is to provide safe access for Hetch Hetchy Water and Power (HHWP) operators inside the O'Shaughnessy Dam by improving fall protection, access, and drainage. The key elements include: • Replace Access Structures in Ladder Wells. The existing access structures in the four (4) vertical ladder wells (shafts) include vertical ladders and horizontal grating platforms that are spaced throughout the ladder wells. • Install Fall Protection Systems. Install new Occupational Safety and Health Administration (OSHA)-compliant ladders and landings with safety cage and/or install fall restraint systems. • Seal or Mitigate Existing Leakage. Address flowing water by sealing leaks or otherwise diverting, collecting and disposing of flows. • Drainage Improvements. Clear the drains in the dam so that water can drain as designed and/or install sump pumps, if appropriate. • Replace Watertight Door between Ladder Wells 3 & 4. This scope item includes replacing the existing watertight door between Ladder Wells 3 & 4.
Justification:	This project was approved in an earlier CIP and no funding is being requested in this plan.
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15364-UH Hetchy Water - Power Infras
Authority Level 2:	15364-UH Hetchy Water - Power Infras
Project ID/FSP ID	10033964 / 10033964
Project Title:	Joint Projects - Power Bonds
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	
Facility Category:	Power Infrastructure
Type:	Capital
Description:	The project funds financing costs for Commercial Paper and other Debt issuances for the Power Portion of the capital improvements for Joint funded Hetchy Water assets
Justification:	N/A
Operating Impact:	N/A

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	10279-UH Sustainable Energy Account
Authority Level 2:	10279-UH Sustainable Energy Account
Project ID/FSP ID	TBD / 10014451
Project Title:	Solar Energy Incentive Fund
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Sam Larano
Facility Category:	Energy Efficiency
Type:	Capital
Description:	The San Francisco Public Utilities Commission's (SFPUC) GoSolarSF program provides monetary incentives for residential and commercial property owners to install solar panels. Incentives start at $100 per kilowatt (kW) for residential customers, with a cap of 4 kW per meter, with additional incentives and/or caps for low income residents, businesses, non-profits, and multi-unit housing. Residential customers may also receive an additional $250 per kW for installations completed by San Francisco installers. Solar panels may be either owned or leased. Property owners must select authorized solar installers, who are required to participate in a workforce development program. After the panels are installed, the property owner (or their designee) receives the incentive payment.
Justification:	The Electric Resource Plan approved by SFPUC and the SF Board of Supervisors, along with the Mayor's Solar and Energy Efficiency Executive Directives, establishes goals to maximize energy efficiency, develop renewable power, reduce greenhouse gas emissions, and assure reliable power in San Francisco. The GoSolarSF program meets the SFPUC Technology Policy adopted in July 24, 2012. This program provides incentives to install solar photovoltaic (PV) projects in San Francisco. Solar PV projects inherently mitigate the impacts of climate change as they generate energy from a renewable resource, the sun. Solar PV is a proven technology that the SFPUC has installed reliably for over 10 years. This program also promotes local job creation and workforce development as it requires contractors to provide entry level job opportunities for referred workers.
Operating Impact:	PV power from the projects developed as a result of the GoSolarSF program is used by the individual recipient of the incentive and not by the SFPUC. It reduces the amount of grid power the SFPUC provides to the customer.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15371-UH Alice Griffith-candlestick
Authority Level 2:	15371-UH Alice Griffith-candlestick
Project ID/FSP ID	CUH86400 / (N/A)
Project Title:	HHP-HP Phase 2 - Alice Griffith/Candlestick Point
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Sam Larano
Facility Category:	Redevelopment
Type:	Capital
Description:	This project initiated the second phase of development at Hunters Point Shipyard, Candlestick Point, and the Alice Griffith Housing Complex. The project includes the installation of new underground 12- kilovolt (kV) electrical distribution system in all three areas. The HPS Phase 2 service will use the underground 12-kV electric distribution that was installed as part of Phase 1 and to replace the existing overhead 12-kV system in place. The Development Project Team comprised of the Office of Community Investment and Infrastructure (OCII) and the Master Developer (Lennar) will pay for the installation of the required infrastructure and substructures required for the new 12-kV underground electric distribution system that includes, but not limited to, the following: utility joint trench, duct banks, conduits and pull wires, utility vaults and pull boxes, transformer pads, etc. The SFPUC as the electric utility provider will install the conductors in the conduits, transformers, switches, and metering equipment required for the electric distribution system. The costs include the installation of temporary replacement 12-kV overhead distribution facilities as needed and provides for the implementation of an energy efficiency and renewables program incentives. This project will be continued with funding requested under the Distribution Services Retail Authority. No additional funding is being requested under the Alice Griffith spending authority (15371).
Justification:	This project is consistent with the SFPUC's role as the exclusive electric service provider to Hunters Point Shipyard and will utilize existing 12-kV electric service points into each area as well as the existing 12-kV underground electric distribution system. The project will consider the use and implementation of proven, as well as, new and emerging technologies. Beneficial technologies will be identified, researched, and analyzed, prior to making a proposal for any implementation on the project, where ratepayer benefit is demonstrated along with consistency with Triple Bottom Line principles. The project will also look into the feasibility and implementation of a supervisory control and data acquisition (SCADA) system, automated metering information (AMI) system, and integration of both with other technologies into a possible smart grid electric system.
Operating Impact:	The existing overhead 12-kV electric distribution system at Hunters Point Shipyard, Candlestick Point, and Alice Griffith Housing Complex will need to be relocated and undergrounded and are not capable of supporting the electrical needs of the new development project.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15372-UH Distribution Services Retai
Authority Level 2:	15372-UH Distribution Services Retail
Project ID/FSP ID	TBD / 10034720
Project Title:	Mission Rock
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Manuel Ramirez
Facility Category:	Transmission/Distribution
Type:	Capital
Description:	This project provides for the design and construction of the new 12-kilovolt (kV) underground electric distribution system at Seawall Lot #337 and Piers 48 and 50 for the San Francisco Public Utilities Commission (SFPUC) to serve this new development and continue to serve Piers 48 and 50. The project will require the installation of new underground 12-kV electrical distribution system to replace existing antiquated overhead and underground systems. The Port of San Francisco and its Developers will pay for the installation of required infrastructure and substructures for the new underground system that includes, but is not limited to, the following: utility joint trench, duct banks, conduits and pull wires, utility vaults and pull boxes, and transformer pads. The SFPUC, as the electric utility provider, will install the conductors in the conduits, transformers, switches, and metering equipment required for the electric distribution system. Project costs include the installation of temporary replacement 12-kV overhead distribution facilities as needed.
Justification:	This project is consistent with the SFPUC's role as the exclusive electric service provider for these locations. The project will consider the use and implementation of proven, as well as new and emerging technologies. Beneficial technologies will be identified, researched, and analyzed, prior to making a proposal for any implementation on the project, where ratepayer benefit is demonstrated along with consistency with Triple Bottom Line principles. The project will also look into the feasibility and implementation of a supervisory control and data acquisition (SCADA) system, automated metering information (AMI) system, and integration of both with other technologies into a possible smart grid electric system.
Operating Impact:	The proposed plan provides for the SFPUC to install, own, operate, and maintain the required electric circuits and equipment to supply electricity to this project. It avoids paying Pacific Gas & Electric (PG&E) the income tax component of construction (ITCC) at 22-34% of the total cost and the cost to own and operate the equipment at 0.60% per month or 7.2% per year for the life of the equipment. The alternative is for the City to pay PG&E at two times the cost to install, own, operate, and maintain electric circuits and equipment to serve City facilities and buildings.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15372-UH Distribution Services Retai
Authority Level 2:	15372-UH Distribution Services Retail
Project ID/FSP ID	TBD / 10034721
Project Title:	Sunnydale - HopeSF
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Manuel Ramirez
Facility Category:	Transmission/Distribution
Type:	Capital
Description:	"This project provides for the design and construction of the new 12-kilovolt (kV) underground electric distribution system at the Sunnydale-Velasco Housing Development for the San Francisco Public Utilities Commission (SFPUC) to continue to provide electric services. The project will require the installation of new underground 12-kV electrical distribution system to replace an existing antiquated overhead system. The San Francisco Housing Authority and its Developers will pay for the installation of required infrastructure and substructures for the new underground system that includes, but is not limited to, the following: utility joint trench, duct banks, conduits and pull wires, utility vaults and pull boxes, and transformer pads. The SFPUC, as the electric utility provider, will install the conductors in the conduits, transformers, switches, and metering equipment required for the electric distribution system. Project costs include the installation of temporary replacement 12-kV overhead distribution facilities as needed.
Justification:	This project is consistent with the SFPUC's role as the exclusive electric service provider for this location and will use the existing 12-kV electric service points into each area as well as the existing distribution system until the new system is built. The project will consider the use and implementation of proven, as well as, new and emerging technologies. Beneficial technologies will be identified, researched, and analyzed, prior to making a proposal for any implementation on the project, where ratepayer benefit is demonstrated along with consistency with Triple Bottom Line principles. The project will also look into the feasibility and implementation of a supervisory control and data acquisition (SCADA) system, automated metering information (AMI) system, and integration of both with other technologies into a possible smart grid electric system.
Operating Impact:	The existing overhead 12-kV electric distribution system at Sunnydale-Velasco Housing is not capable of supporting the electrical needs of the project and will need to be relocated and undergrounded.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15372-UH Distribution Services Retai
Authority Level 2:	15372-UH Distribution Services Retail
Project ID/FSP ID	TBD / 10034722
Project Title:	Better Market Street
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Manuel Ramirez
Facility Category:	Transmission/Distribution
Type:	Capital
Description:	This project provides for the installation of an electric duct bank along Market Street as part of the Better Market Street project. The duct bank alignment along Market Street is approximately 2.2 miles and will provide for at least four (4) 12-kilovolt electric circuits, communications, and control and include at least six 6-inch diameter conduits, four (4) 2-inch diameter conduits, and utility vaults to provide electric service to customers along the route.
Justification:	This project is consistent with the goal/objective from the San Francisco Public Utilities Commission's (SFPUC) 2020 Strategic Plan for reliable service and investment in assets. The project will consider the use and implementation of proven, as well as new and emerging technologies. Beneficial technologies will be identified, researched, and analyzed, prior to making a proposal for any implementation on the project, where ratepayer benefit is demonstrated along with consistency with Triple Bottom Line principles. The project will also look into the feasibility and implementation of a supervisory control and data acquisition (SCADA) system, automated metering information (AMI) system, and integration of both with other technologies into a possible smart grid electric system.
Operating Impact:	The proposed plan provides for the SFPUC to install, own, operate, and maintain the required electric circuits and equipment to supply electricity to this project. It avoids paying Pacific Gas & Electric (PG&E) the income tax component of construction (ITCC) at 22-34% of the total cost and the cost to own and operate the equipment at 0.60% per month or 7.2% per year for the life of the equipment. The alternative is for the City to pay PG&E at two times the cost to install, own, operate, and maintain electric circuits and equipment to serve City facilities and buildings.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15372-UH Distribution Services Retai
Authority Level 2:	15372-UH Distribution Services Retail
Project ID/FSP ID	TBD / 10034724
Project Title:	Pier 70
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Manuel Ramirez
Facility Category:	Transmission/Distribution
Type:	Capital
Description:	This project provides for the design and construction of the new 12-kilovolt (kV) underground electric distribution system at Pier 70 for the San Francisco Public Utilities Commission (SFPUC) to continue to serve SF Shipyard Repair and Dry dock, Historic Core (Orton Development Inc.), the Waterfront Site Development (Forest City), the Illinois Parcels (Forest City), Crane Cove Park, and 19th Street Parcels. The project will require the installation of a new underground 12-kV electrical distribution system to replace existing antiquated overhead and underground systems. The Port of SF and its Developers will pay for the installation of required infrastructure and substructures for the new underground system that includes, but is not limited to, the following: utility joint trench, duct banks, conduits and pull wires, utility vaults and pull boxes, and transformer pads. The SFPUC, as the electric utility provider, will install the conductors in the conduits, transformers, switches, and metering equipment required for the electric distribution system. The costs include the installation of temporary replacement 12-kV overhead distribution facilities as needed.
Justification:	This project is consistent with the SFPUC's role as the exclusive electric service provider to Pier 70 and will use two existing 12-kV electric service points into each area as well as the existing distribution system until the new system is built. The project will consider the use and implementation of proven, as well as, new and emerging technologies. Beneficial technologies will be identified, researched, and analyzed, prior to making a proposal for any implementation on the project, where ratepayer benefit is demonstrated along with consistency with Triple Bottom Line principles. The project will also look into the feasibility and implementation of a supervisory control and data acquisition (SCADA) system, automated metering information (AMI) system, and integration of both with other technologies into a possible smart grid electric system.
Operating Impact:	The existing 12-kV electric distribution system at Pier 70 is antiquated and will need to be relocated and undergrounded as part of the new development. The existing facilities are also not capable of supporting the electrical needs of the new development project.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15372-UH Distribution Services Retai
Authority Level 2:	15372-UH Distribution Services Retail
Project ID/FSP ID	CUHSFO / 10033822
Project Title:	SFO Substation Improvements
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Danny Phung
Facility Category:	Power Infrastructure
Type:	Capital
Description:	The SFPUC provides about 50 megawatts (MW) of electricity to the San Francisco International Airport (SFO) at transmission level voltage of 115,000 volts or kilovolts (kV) through two exising 115-kV transmission substations, one located in Millbrae, CA and the other in San Bruno CA. SFO is implementing a new 10-year Master Utility Infrastructure Plan and Capital Program that will result in SFO's electric load increasing to about 60 MW by 2020 and 100 MW by 2030. To provide for the load increase, the existing transmission substations will have to be retrofitted in the short term and potentially a new substation built for the long term.
Justification:	The SFO Substation Improvement Project provides for the SFPUC continue to serve SFO and the anticipated load increase at SFO from 55 MW to 100 MW, which is approximately 82 percent. The project will plan, design, and construct needed electric facilities at SFO and provide for SFO to continue to receive safe, reliable, low cost Hetch Hetchy power that is 100 percent greenhouse gas free from SFPUC.
Operating Impact:	Funding this project is critical for SFPUC Power Enterprise to maintain its ability to provide electric services to SFO today and in the future. The project will design and build the short term facility improvements for the load increase to 60 MW by 2020 and plan for the long term facility improvements. SFPUC Power and SFO need to have dedicated staffing and expert resources to effectively and efficiently design, contract, and construct the short term (interim) improvments by 2020 while working on the long term improvements to serve 100 MW by 2030. SFPUC Power needs to have the necessary financial resources to fund this projectin planning, design and construction to be able to continue to serve the load at SFO.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 743	$ 0	$ 0	$ 0	$ 0	$ 75	$ 668
Environmental Review	$ 2,138	$ 0	$ 0	$ 0	$ 0	$ 225	$ 1,913
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 4,500	$ 0	$ 0	$ 0	$ 0	$ 450	$ 4,050
Construction	$ 112,000	$ 0	$ 0	$ 0	$ 0	$ 10,200	$ 101,800
Total	$ 119,381	$ 0	$ 0	$ 0	$ 0	$ 10,950	$ 108,431

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15372-UH Distribution Services Retai
Authority Level 2:	15372-UH Distribution Services Retail
Project ID/FSP ID	CUH87005 / 10014230
Project Title:	HHP-EE Programs for New Retail Customers
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Sam Larano
Facility Category:	Transmission/Distribution
Type:	Capital
Description:	The Customer Programs group oversees all SFPUC Power activities related to the development, implementation, and operations of Customer Programs for both Hetch Hetchy Power and CleanPowerSF customers of the Power Enterprise. Customer Programs are essential in providing effective service and relevant timely response to the needs of our Customers in meeting their efficiency, environmental and sustainability goals. This new budget request would increase and enable Power's Customer Programs to provide additional incentives to existing programs and offer new programs that promote decarbonization, net zero energy contruction, electrification of various modes of transport, renewable energy generation and storage, etc. The new programs would provide offerings and serve the City's rapidly expanding multifamily new construction sector, retrofit electrification programs, electric vehicle charging and storage infrastructure, and support for residential energy efficiency and renewable projects in the retrofit of existing and construction of new affordable residentila housing developments, as well as market rate existing buildings. In addition to supporting the City's aggressive environmental goals, these programs can provide substantial value to Power's customers and increase customer satisfaction.
Justification:	Customer Programs are also an essential element in Power's customer acquisition and engagement strategy to meet Power's Business Plan goal of Customer and load growth. In keeping with our environmental and sustainability goals and maintaining a a competitive edge in the utility market, Power has and continues to work on providing ts existing and prospective customers a robust portfolio of energy efficiency, renewable energy, and electric vehicle program offerings.
Operating Impact:	The current budget of Customer Programs limits number of programs available to Power Customers and if it were to continue would severely impact the development and implementation of a number of incentive and service programs that have been and currently offered by other Utilities. It would also slow Power's ability in achieving its growth goals and meeting its environmental and sustainability goals.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 32,755	$ 2,069	$ 2,686	$ 3,500	$ 3,500	$ 3,500	$ 17,500
Total	$ 32,755	$ 2,069	$ 2,686	$ 3,500	$ 3,500	$ 3,500	$ 17,500

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15372-UH Distribution Services Retai
Authority Level 2:	15372-UH Distribution Services Retail
Project ID/FSP ID	CUH870 03 / 10014226
Project Title:	Distribution Interface - Redevelopment Projects
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Manuel Ramirez
Facility Category:	Transmission/Distribution
Type:	Capital
Description:	This project provides for the design and construction of new electric duct bank and 12-kilovolt (kV) underground electric distribution system for the SFPUC to provide electric services to various new developments within San Francisco and for the design and construction of new electrical facilities to provide electric power to various new projects on SF Port properties. For the larger redevelopment projects, the Master Developer will pay for the installation of required infrastructure and substructures for the new underground system that includes, but not limited to, the following: utility joint trench, duct banks, conduits and pull wires, utility vaults and pull boxes, transformer pads, etc. The SFPUC, as the electric utility provider, will install the conductors in the conduits, transformers, switches, and metering equipment required for the electric distribution system. The costs include the installation of temporary replacement 12-kV overhead distribution facilities as needed and infrastructure to support electric vehicle charging. This project provides for the installation of an electric duct bank along Market Street as part of the Better Market Street project. The duct bank alignment along Market Street is approximately 2.2 miles and will provide for at least four (4) 12-kilovolt electric circuits, communications and control and include at least six 6-inch diameter conduits, four (4) 2-inch diameter conduits, and utility vaults to provide electric service to customers along the route. This project will also include distribution facilities and other infrastructure as needed to support electric vehicle charging.
Justification:	This project is consistent with the SFPUC's role as the exclusive electric service provider for this project. The project will consider the use and implementation of proven, as well as, new and emerging technologies. Beneficial technologies will be identified, researched, and analyzed, prior to making a proposal for any implementation on the project, where ratepayer benefit is demonstrated along with consistency with Triple Bottom Line principles. The project will also look into the feasibility and implementation of a supervisory control and data acquisition (SCADA) system, automated metering information (AMI) system, and integration of both with other technologies into a possible smart grid electric system.
Operating Impact:	The proposed plan provides for SFPUC to install, own, operate and maintain the required electric circuits and equipment to supply electricity to this project. It avoids paying PG&E the income tax component of construction (ITCC) at 22-34% of the total cost and cost to own and operate the equipment at 0.60% per month or 7.2% per year for the life of the equipment. The alternative is for the City to pay PG&E at two times the cost to install, own, operate and maintain electric circuits and equipment to serve City facilities and buildings. Existing 12-kV electric distribution system that is antiquated will need to be relocated and undergrounded as part of new developments.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 224,897	$ 23,327	$ 21,286	$ 30,785	$ 24,786	$ 27,786	$ 96,928
Total	$ 224,897	$ 23,327	$ 21,286	$ 30,785	$ 24,786	$ 27,786	$ 96,928

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15372-UH Distribution Services Retai
Authority Level 2:	15372-UH Distribution Services Retail
Project ID/FSP ID	CUH_INTFAC / 10033821
Project Title:	HHP-Intervening Facilities
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Matthew Ho
Facility Category:	Transmission/Distribution
Type:	Capital
Description:	The Interconnection Agreement with Pacific Gas & Electric (PG&E) sunset in 2015. Since that time, the only way the City can interconnect and wheel power over PG&E's line is through the WDT process. This affects all City departments that come to SFPUC as its electric utility provider.
Justification:	Intervening facilities are a way to demarcate the change in ownership and maintenance responsibility between two different utilities. Quite often, PG&E refuses to interconnect with the City without some sort of intervening facility.
Operating Impact:	Without intervening facilities, PG&E will refuse to provide power. Municipal customers with power needs would be forced to go through PG&E's retail process and Power Enterprise will cut out of the process.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,194	$ 0	$ 0	$ 149	$ 149	$ 149	$ 746
Environmental Review	$ 398	$ 0	$ 0	$ 50	$ 50	$ 50	$ 249
Design	$ 5,572	$ 0	$ 0	$ 697	$ 697	$ 697	$ 3,483
Construction Management	$ 2,388	$ 0	$ 0	$ 299	$ 299	$ 299	$ 1,493
Construction	$ 38,448	$ 0	$ 0	$ 4,806	$ 4,806	$ 4,806	$ 24,030
Total	$ 48,000	$ 0	$ 0	$ 6,001	$ 6,001	$ 6,001	$ 30,001

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15372-UH Distribution Services Retai
Authority Level 2:	15372-UH Distribution Services Retail
Project ID/FSP ID	CUH86400 / 10014221
Project Title:	HHP-HP Phase 2 - Alice Griffith/Candlestick Point
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Manuel Ramirez
Facility Category:	Redevelopment
Type:	Capital
Description:	This project provides for the second phase of development at Hunters Point Shipyard, Candlestick Point, and the Alice Griffith Housing Complex. The project will require the installation of new underground 12-kilovolt (kV) electrical distribution system in all three areas. The HPS Phase 2 service will use the underground 12-kV electric distribution that was installed as part of Phase 1 and to replace the existing overhead 12-kV system in place. The Development Project Team comprising of the Office of Community Investment and Infrastructure (OCII) and the Master Developer (Lennar) will pay for the installation of the required infrastructure and substructures required for the new 12-kV underground electric distribution system that includes, but is not limited to, the following: utility joint trench, duct banks, conduits and pull wires, utility vaults and pull boxes, transformer pads, etc. The SFPUC as the electric utility provider will install the conductors in the conduits, transformers, switches, and metering equipment required for the electric distribution system. The costs include the installation of temporary replacement 12-kV overhead distribution facilities as needed and provides for the implementation of an energy efficiency and renewables program incentives.
Justification:	This project is consistent with the SFPUC's role as the exclusive electric service provider to Hunters Point Shipyard and will utilize existing 12-kV electric service points into each area as well as the existing 12-kV underground electric distribution system. The project will consider the use and implementation of proven as well as new and emerging technologies. Beneficial technologies will be identified, researched, and analyzed, prior to making a proposal for any implementation on the project, where ratepayer benefit is demonstrated along with consistency with Triple Bottom Line principles. The project will also look into the feasibility and implementation of a supervisory control and data acquisition (SCADA) system, automated metering information (AMI) system, and integration of both with other technologies into a possible smart grid electric system.
Operating Impact:	The existing overhead 12-kV electric distribution system at Hunters Point Shipyard, Candlestick Point and Alice Griffith Housing Complex are not capable of supporting the electrical needs of the new development project and will need to be relocated and undergrounded.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 35,634	$ 0	$ 0	$ 5,567	$ 5,567	$ 5,567	$ 18,934
Total	$ 35,634	$ 0	$ 0	$ 5,567	$ 5,567	$ 5,567	$ 18,934

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15372-UH Distribution Services Retai
Authority Level 2:	15372-UH Distribution Services Retail
Project ID/FSP ID	CUH 870 02 / 10014227
Project Title:	Bay Corridor Transmission Distribution (BCTD)
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Ramon Abueg
Facility Category:	Transmission/Distribution
Type:	Capital
Description:	The Bay Corridor Transmission Distribution Program (BCTD) comprises taking transmission level voltage at 230 kV from PG&E at Potrero substation, and then transforming that voltage to a distribution level voltage at 12.47 kV at a SFPUC substation proposed to be located on Quint Street. The 12.47 kV distribution system will comprise underground ductbanks and cables to provide power to Power Enterprise customers. Scope of work includes underground ductbank work, cable pulls, transformer substation and transmission connections to PG&E Potrero and related customer interface equipment and cables. Work will extend initially from Southeast Plant to the Mission Rock.
Justification:	The BCTD program will provide significant benefits to Power Enterprise customers including independence from PG&E's control of the distribution grid, ease of customer connections, ability to easily implement green grid options such as local solar, wind and cogeneration, importantly savings in the Low Voltage Transmission Access Charge (LVTAC) and PG&E distribution charge, independence of PG&E Wholesale Distribution Tariff (WDT) problems, potentially limited WDT capacity at Potrero and better ability to market and plan for customer connection and service.
Operating Impact:	SFPUC and Power Enterprise need to develop the necessary staffing and resources to effectively and efficiently plan, design, contract, construct, operate and maintain a transmission infrastructure, as implemented in the Potrero transmission connection, underground transmission and the SFPUC substation, and for the effective operation and maintenance of the distribution infrastructure. Power Enterprise needs to have the necessary financial resources to fund this program both in construction and operation, and to have the necessary qualified staffing to implement the program, and for effective marketing to customers.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 360	$ 360	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 9,993	$ 9,993	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 10,353	$ 10,353	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15377-UH Streetlight Replacement
Authority Level 2:	15377-UH Streetlight Replacement
Project ID/FSP ID	CUW89627 / 10014304
Project Title:	LED Conversion Project
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Rich Stephens
Facility Category:	Streetlights
Type:	Capital
Description:	This project provides for the San Francisco Public Utilities Commission's (SFPUC) replacement of inefficient High Pressure Sodium (HPS) fixtures on its streetlights with Light Emitting Diodes (LED). The majority of standard cobrahead fixtures within the City have been converted in prior years, with decorative fixtures remaining to be replaced.
Justification:	The Electric Resource Plan approved by SFPUC and the SF Board of Supervisors, along with the Mayor's Solar and Energy Efficiency Executive Directives, establishes goals to maximize energy efficiency, develop renewable power, reduce greenhouse gas emissions, and assure reliable power in San Francisco. The LED conversion project aims to replace inefficient HPS lights with LEDs. LEDs have better color rendering, higher efficency in electricity to light transformations, and lower maintenance requirements compared to HPS lights.
Operating Impact:	SFPUC has already converted 18,500 cobrahead fixtures from HPS to LEDs. This has resulted in energy savings as well as reduced maintenance costs.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15377-UH Streetlight Replacement
Authority Level 2:	15377-UH Streetlight Replacement
Project ID/FSP ID	CUH89632 / 10014308
Project Title:	Van Ness Bus Rapid Transit Project
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Rich Stephens
Facility Category:	Streetlights
Type:	Capital
Description:	The San Francisco Public Utilities Commission (SFPUC) previously owned four series loop lighting circuits along Van Ness Avenue. The SFPUC has partnered with the San Francisco Municipal Transportation Agency (SFMTA) to replace the incandescent lights with light emitting diodes (LED) and convert the High Voltage 4-kilovolt (kV) series circuit to secondary 120/240 volt (V) & 120/208V services.
Justification:	The Electric Resource Plan approved by SFPUC and the SF Board of Supervisors, along with the Mayor's Solar and Energy Efficiency Executive Directives, establishes goals to maximize energy efficiency, develop renewable power, reduce greenhouse gas emissions, and assure reliable power in San Francisco. High voltage incandescent lights are an obsolete technology; these lights need to be specially made and the SFPUC has previously run out of replacement parts. This project allows for the replacement of the obsolete incandescent lights with energy efficient LEDs. Because SFMTA was working on their transit improvement project throughout the entire corridor and SFPUC had a planned project, the SFPUC partnered with SFMTA on a combined project.
Operating Impact:	This project will reduce maintenance costs by eliminating the need to purchase custom parts, and reduce energy costs by using energy efficient LEDs. Additionally, this project will make it safer for SFPUC electricians to operate and repair the lights.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15377-UH Streetlight Replacement
Authority Level 2:	15377-UH Streetlight Replacement
Project ID/FSP ID	CUH89630 / 10014306
Project Title:	Various Streetlighting Replacement & Repairs
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Rich Stephens
Facility Category:	Streetlights
Type:	Capital
Description:	The SFPUC owns and maintains 25,500 streetlights in the the City of San Francisco. The reports received through the SF311 system have escalated tremendously for streetlights that need repair and replacement work. SFPUC's Utility Services Division receives the complaints, schedules and performs the appropriate actions to fix them. This project only covers simple outages and minor repairs and replacement of street lights in problematic areas.
Justification:	This project is consistent with SFPUC's Technology Policy by utilizing current lighting codes to improve street lights' system reliability and economic value. The budget request would cover the cost of buying more materials and getting more resources to repair and replace streetlights in problematic areas.
Operating Impact:	The SFPUC will be able to provide a higher level of public service through reduced wait time for repairs and replacement to 2 days or less for the City-owned streetlights.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 168	$ 0	$ 0	$ 21	$ 21	$ 21	$ 105
Environmental Review	$ 32	$ 0	$ 0	$ 4	$ 4	$ 4	$ 20
Design	$ 344	$ 0	$ 0	$ 43	$ 43	$ 43	$ 215
Construction Management	$ 416	$ 0	$ 0	$ 52	$ 52	$ 52	$ 260
Construction	$ 3,440	$ 0	$ 0	$ 430	$ 430	$ 430	$ 2,150
Total	$ 4,400	$ 0	$ 0	$ 550	$ 550	$ 550	$ 2,750

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15377-UH Streetlight Replacement
Authority Level 2:	15377-UH Streetlight Replacement
Project ID/FSP ID	CUH89631 / 10014307
Project Title:	Various Streetlighting Area Improvements
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Rich Stephens
Facility Category:	Streetlights
Type:	Capital
Description:	This project aims to correct inadequate lighting and provide a safer street and pedestrian-friendly environment. It covers the improvements requested by constituents that are more expensive than simple bulb replacements or street light repairs. SFPUC evaluates the list of open cases based on a set of criteria that prioritizes the poorly lighted areas with high crime rates, night time accidents, and locations of general public safety concerns. Areas of higher priority level are entered into the Capital Improvement Project (CIP). The number of projects that are implemented per year primarily depends on corresponding fiscal year's approved funds. With the CIP wait list stretching out 10 years for locations that needs streetlight improvements, the Power Enterprise's Utility Services Division seeks the requested funding approved so that the CIP list can be taken care of.
Justification:	This project is consistent with SFPUC's Technology Policy by utilizing current lighting codes to improve street lights' system reliability and economic value. The needs identified under the CIP waitlist for Street Light Area Improvements exceeded historical funding. The budget request for FY21 and FY22 would cover the cost of street light improvements for 20 locations.
Operating Impact:	Reduce turnaround time to enforce upgrades and the necessary street light area improvements.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 312	$ 0	$ 0	$ 39	$ 39	$ 39	$ 195
Environmental Review	$ 64	$ 0	$ 0	$ 8	$ 8	$ 8	$ 40
Design	$ 624	$ 0	$ 0	$ 78	$ 78	$ 78	$ 390
Construction Management	$ 752	$ 0	$ 0	$ 94	$ 94	$ 94	$ 470
Construction	$ 6,248	$ 0	$ 0	$ 781	$ 781	$ 781	$ 3,905
Total	$ 8,000	$ 0	$ 0	$ 1,000	$ 1,000	$ 1,000	$ 5,000

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15377-UH Streetlight Replacement
Authority Level 2:	15377-UH Streetlight Replacement
Project ID/FSP ID	CUH89640 / 10014316
Project Title:	High Voltage 5 kV Series Loop Conversion
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Rich Stephens
Facility Category:	Streetlights
Type:	Capital
Description:	SFPUC-owned incandescent and mercury vapor street lights are currently operated through high voltage series loop systems that are energy inefficient and no longer supported by manufacturers. In a series loop, the entire system fails when the loop breaks. The fixture type varies by location and ranges from Tear Drop to Post Top and Cobra Head type fixtures. This project aims to replace an inefficient lighting systems through the conversion of high voltage series loop circuits into multiple standard voltage services and replace fixtures with LEDs.
Justification:	This project is consistent with SFPUC's Technology Policy by utilizing current lighting codes to improve street lights' system reliability and economic value. The age and deteriorated condition of the systems posed serious reliability issues and caused prolonged downtime due to difficulty to repair a component or part of the system. The budget request would allow the conversion of approximatley 54,000 circuit feet of high voltage series loop systems to multiple standard voltage services of all locations in San Francisco.
Operating Impact:	Regular maintenance is costly because the series loop circuit conduits and cables are old and will continue to fail over time. The conversion would also reduce operation, maintenance and energy costs.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15377-UH Streetlight Replacement
Authority Level 2:	15377-UH Streetlight Replacement
Project ID/FSP ID	CUH89645 / 10014325
Project Title:	HHP-Pedestrian Lighting Project
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Rich Stephens
Facility Category:	Streetlights
Type:	Capital
Description:	Insufficient pedestrian lighting on the streets invite more crime, fuel a lack of security, and reduce livability for the general public at night. With improved pedestrian lighting, walking can become a more attractive option for people of all ages to utilize because of improved community safety. The addition of pedestrian lighting does not require complete re-design of current area lighting infrastructure. Two options recommended by SFPUC Power Enterprise are: (1) mounting of pedestrian lights on existing street light poles; (2) addition of pedestrian-scale lights between existing street lights. This project aims to foster citywide pedestrian-friendly environment by installing lights 16 to 18 feet above the sidewalk.
Justification:	This project is consistent with SFPUC's Technology Policy by utilizing current lighting codes to improve street lights' system reliability and economic value. The budget request would cover the cost to install citywide pedestrian-scale lights in San Francisco.
Operating Impact:	Increase the quality of service to the the public.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 296	$ 0	$ 0	$ 37	$ 37	$ 37	$ 185
Environmental Review	$ 64	$ 0	$ 0	$ 8	$ 8	$ 8	$ 40
Design	$ 600	$ 0	$ 0	$ 75	$ 75	$ 75	$ 375
Construction Management	$ 720	$ 0	$ 0	$ 90	$ 90	$ 90	$ 450
Construction	$ 2,320	$ 0	$ 0	$ 290	$ 290	$ 290	$ 1,450
Total	$ 4,000	$ 0	$ 0	$ 500	$ 500	$ 500	$ 2,500

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15377-UH Streetlight Replacement
Authority Level 2:	15377-UH Streetlight Replacement
Project ID/FSP ID	CUH89649 / 10014324
Project Title:	HHP-Holiday and Festivity Pole Use
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Rich Stephens
Facility Category:	Streetlights
Type:	Capital
Description:	One of the goals of the Street Light Pole Use Policy is to allow the use of street light poles by other City agencies for municipal use and non-profit organizations such as neighborhood and community groups for festivity, decorative and holiday lighting purposes. SFPUC's Power Enterprise handles request through an application process under the Street Light Pole Use Policy. This project would cover the cost to process the special pole use requests, technical evaluation of engineering options, City staff's labor cost and purchase of necessary materials.
Justification:	This project is consistent with SFPUC's Technology Policy by utilizing current lighting codes to improve street lights' system reliability and economic value. There has been a tremendous increase of requests in the use of our poles since the policy was adopted. This will fund the cost of materials and additional resouces to retrofit or modify our street poles and brackets for this type of request.
Operating Impact:	Improve the quality of service to the public particularly in commercial and merchant district areas.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 64	$ 0	$ 0	$ 8	$ 8	$ 8	$ 40
Environmental Review	$ 16	$ 0	$ 0	$ 2	$ 2	$ 2	$ 10
Design	$ 120	$ 0	$ 0	$ 15	$ 15	$ 15	$ 75
Construction Management	$ 144	$ 0	$ 0	$ 18	$ 18	$ 18	$ 90
Construction	$ 2,056	$ 0	$ 0	$ 257	$ 257	$ 257	$ 1,285
Total	$ 2,400	$ 0	$ 0	$ 300	$ 300	$ 300	$ 1,500

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15377-UH Streetlight Replacement
Authority Level 2:	15377-UH Streetlight Replacement
Project ID/FSP ID	CUH89651 / 10014326
Project Title:	HHP-Street and Pedestrian Light Pole Assessment
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Rich Stephens
Facility Category:	Streetlights
Type:	Capital
Description:	This project covers a Citywide Street and Pedestrian Light Pole Assessment Program of SFPUC pole assets. It aims to conduct an extensive field assessment, establish a criteria to determine the severity of deterioration of pole conditions, and develop a plan for implementation as part of the Street Lights Pole Rehabilitation in the CIP for the next 10 years.
Justification:	This project is consistent with SFPUC's Technology Policy by utilizing current lighting codes to improve street lights' system reliability and economic value. Majority of streetlights installed in old San Francisco neighborhoods were installed more than 40 years ago. Poor and deteriorated conditions of street and pedestrian light poles and bases have been visually observed in various streets. The outcome of the assssement will be used to prioritze and schedule the replacement of poles. The information will be used to proactively identify poles that are in need of immediate repair.
Operating Impact:	Minimize public liability and reduce operation, maintenance and energy costs.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 160	$ 0	$ 0	$ 20	$ 20	$ 20	$ 100
Environmental Review	$ 32	$ 0	$ 0	$ 4	$ 4	$ 4	$ 20
Design	$ 312	$ 0	$ 0	$ 39	$ 39	$ 39	$ 195
Construction Management	$ 376	$ 0	$ 0	$ 47	$ 47	$ 47	$ 235
Construction	$ 3,120	$ 0	$ 0	$ 390	$ 390	$ 390	$ 1,950
Total	$ 4,000	$ 0	$ 0	$ 500	$ 500	$ 500	$ 2,500

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15377-UH Streetlight Replacement
Authority Level 2:	15377-UH Streetlight Replacement
Project ID/FSP ID	CUH89652 / 10014327
Project Title:	HHP-Streetlights Pole Rehabilitation
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Rich Stephens
Facility Category:	Streetlights
Type:	Capital
Description:	Many of the streetlights installed in old San Francisco neighborhoods were installed more than 40 years ago. Prominent streetlight pole base deterioration were visually observed in Guerrero (between Market Street and San Jose Avenue), Geneva (between Mission and Santos Streets), and North Beach (between Columbus and Greenwich Streets). This project would cover the rehabilitation of transformer-based poles as well as poles that are due for replacement as determined in the Citywide Street and Pedestrian Light Pole Assessment Program and the replacement of luminairies to LEDs.
Justification:	This project is consistent with SFPUC's Technology Policy by utilizing current lighting codes to improve street lights' system reliability and economic value. Budget request for FY18 and FY19 would allow the streetlight poles' urgent rehabilitation in Guerero, Geneva, and North Beach areas. Replacement of deteriorated poles, bases and wiring would provide public safety from pole knockdowns, improve efficient streetlight system and ensure reduction in future repairs.
Operating Impact:	Minimize public liability and reduce operation, maintenance and energy costs.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 160	$ 0	$ 0	$ 20	$ 20	$ 20	$ 100
Environmental Review	$ 32	$ 0	$ 0	$ 4	$ 4	$ 4	$ 20
Design	$ 320	$ 0	$ 0	$ 40	$ 40	$ 40	$ 200
Construction Management	$ 384	$ 0	$ 0	$ 48	$ 48	$ 48	$ 240
Construction	$ 3,104	$ 0	$ 0	$ 388	$ 388	$ 388	$ 1,940
Total	$ 4,000	$ 0	$ 0	$ 500	$ 500	$ 500	$ 2,500

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15377-UH Streetlight Replacement
Authority Level 2:	15377-UH Streetlight Replacement
Project ID/FSP ID	CUH896DA / 10014328
Project Title:	Distributed Antenna Services
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Mark Torres
Facility Category:	Streetlights
Type:	Capital
Description:	The SFPUC owns and maintains 25,500 streetlights in the City and County of San Francisco. Wireless carriers expressed a desire to access SFPUC-owned streetlight poles for the installation of Distributed Antenna Systems (DAS) thereby providing better enhanced wireless services to customers in San Francisco. DAS helps boost mobile broadband coverage, improve reliability in heavily trafficked areas and enhance network capacity. The DAS Program provides an opportunity to maximize the revenue-generating potential of its streetlight pole assets and provide better wireless services for the City.
Justification:	Power Enterprise - Utility Services supports DAS connections through engineering review, planning, design, construction management, construction and maintenance. The budget request would cover the cost of engineering, construction management, construction and maintenance costs for these sites.
Operating Impact:	Power Enterprise - Utility Services will be able to maximize the revenue-generating potential of its streetlight pole assets through DAS service connections. Wireless carriers pay a $900 pole license administrative fee which covers the entire DAS approval process, a $4,000 per site (streetlight pole) license fee, and a $440 power connection fee.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 200	$ 0	$ 0	$ 25	$ 25	$ 25	$ 125
Environmental Review	$ 720	$ 0	$ 0	$ 90	$ 90	$ 90	$ 450
Design	$ 1,200	$ 0	$ 0	$ 150	$ 150	$ 150	$ 750
Construction Management	$ 400	$ 0	$ 0	$ 50	$ 50	$ 50	$ 250
Construction	$ 1,200	$ 0	$ 0	$ 150	$ 150	$ 150	$ 750
Total	$ 3,720	$ 0	$ 0	$ 465	$ 465	$ 465	$ 2,325

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15383-UH Alternative Transmission
Authority Level 2:	15383-UH Alternative Transmission
Project ID/FSP ID	TBD / 10034512
Project Title:	Power Asset Acquisition Analysis
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Pamela Husing
Facility Category:	Transmission/Distribution
Type:	Capital
Description:	The Power Asset Acquisition Analysis funds financial, technical, regulatory, and legal analysis and City staff time toward assessment of acquiring PG&E's electrical assets, preparing to execute the possible transaction, and readying the SFPUC for operation of the acquired system. The existing funding for this project was approved in a prior CIP and no additional funding is being requested under this authority at this time.
Justification:	In January 2019, Mayor Breed requested that the San Francisco Public Utilities Commission (SFPUC) study the possibility of acquiring Pacific Gas & Electric's (PG&E) electric distribution assets servicing San Francisco. In April 2019, the San Francisco Board of Supervisors (BOS) approved Resolution No. 174-19 determining the public interest and necessity of changing electric service provided to San Francisco, including potential purchase of PG&E assets, and directing the SFPUC to further study the potential acquisition. In September 2019, San Francisco issued a non-binding indication of interest (IOI) to PG&E to purchase PG&E's San Francisco electrical assets at a cost of $2.5 billion. The BOS unanimously approved Resolution 403-19 in support of the IOI.
Operating Impact:	The analysis funded by this request is essential to determine the feasibility of acquiring and operating PG&E' s electric distribution facilities that serve San Francisco.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15384-UH Load Meter Program
Authority Level 2:	15384-UH Load Meter Program
Project ID/FSP ID	CUW972 / 10014500
Project Title:	Load Meter Program
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Olivia De Lancie
Facility Category:	Transmission/Distribution
Type:	Capital
Description:	The Load Meter Program created a strategy to identify, procure, and install an Advanced Metering Infrastructure (AMI) system for the San Francisco Public Utilities Commission (SFPUC) Power Enterprise electric and gas meters. The AclaraONE head end system has been procured, and the installation of a radio frequency network is currently underway. Once the network is in place, SFPUC-owned electric meters will be replaced with AMI meters that will transmit 5-minute and 15-minute interval meter reads remotely. SFPUC-owned gas meters on Treasure Island will be outfitted with an AMI meter transmission unit that will transmit hourly interval meter reads remotely.
Justification:	AMI systems provide utilities and their customers with timely and remote collection of customer usage data, remote connection and disconnection of meters, remote power outage status collection, and remote voltage information. By eliminating the need for in-person visits to meters, AMI systems significantly reduce field staff time needed to complete monthly customer billing. Continuous collection of interval data enables customer service representatives to bill customers in a timely manner and empowers customers to take steps to improve their energy efficiency and reduce their bills.
Operating Impact:	Once the Load Meter Project is complete, AMI meters will send reads automatically to the AclaraONE head end system. This will eliminate the need for field staff to visit meters on a monthly basis to collect reads. Further benefits include the ability to pull reads on demand and start or stop service remotely, also eliminating the need for an in-person visit. This should result in significant time savings for the small meter shop team, enabling them to better meet the needs of our growing customer base.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15390-UH Hunters Point Municipal
Authority Level 2:	15390-UH Hunters Point Municipal
Project ID/FSP ID	TBD / 10014575
Project Title:	Hunters Point Municipal Power
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Manuel Ramirez
Facility Category:	TBD
Type:	Capital
Description:	This project provides for the second phase of development at Hunters Point Shipyard (HPS), Candlestick Point, and the Alice Griffith Housing Complex. The project will require the installation of new underground 12-kilovolt (kV) electrical distribution system in all three areas. The Development Project Team comprised of the Office of Community Investment and Infrastructure (OCII) and the Master Developer (Lennar) will pay for the installation of the required infrastructure and substructures for the new 12-kV underground electric distribution system that includes, but is not limited to, the following: utility joint trench, duct banks, conduits and pull wires, utility vaults and pull boxes, and transformer pads. The San Francisco Public Utilities Commission (SFPUC), as the electric utility provider, will install the conductors in the conduits, transformers, switches, and metering equipment required for the electric distribution system. The cost for this project includes the installation of temporary replacement 12-kV overhead distribution facilities as needed and provides for the implementation of energy efficiency and renewable energy incentives.
Justification:	This project is consistent with the SFPUC's role as the exclusive electric service provider to Hunters Point Shipyard, Alice Griffith Housing, and Candlestick Point Project Areas and will utilize existing 12-kV electric service points into each area as well as the existing 12-kV underground electric distribution system. The project will consider the use and implementation of proven, as well as new and emerging technologies. Beneficial technologies will be identified, researched, and analyzed, prior to making a proposal for any implementation on the project, where ratepayer benefit is demonstrated along with consistency with Triple Bottom Line principles. The project will also look into the feasibility and implementation of a supervisory control and data acquisition (SCADA) system, automated metering information (AMI) system, and integration of both with other technologies into a possible smart grid electric system.
Operating Impact:	The existing overhead 12-kV electric distribution system at Hunters Point Shipyard, Candlestick Point, and Alice Griffith Housing Complex is not capable of supporting the electrical needs of the new development project and will need to be relocated and undergrounded.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15391-UH Treasure Island Capital Imp
Authority Level 2:	15391-UH Treasure Island Capital Imp
Project ID/FSP ID	CUH980N01 / (N/A)
Project Title:	New Underground 12 kV Distribution System - TI&YBI
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Manuel Ramirez
Facility Category:	Redevelopment
Type:	Capital
Description:	The future development of Treasure Island (TI) will have a brand new underground 12-kV electrical distribution system on-island replacing the existing overhead 12-kV system. The master developer will pay for the installation of the new underground 12-kV electric distribution system that includes the installation of the utility trench, the duct banks, conduits and pull wires, utility vaults, transformer pads, etc. The SFPUC as the electric utility provider will be responsible for installing the wires in the conduits, transformers, switches, and metering equipment and connecting the existing electrical distribution system with the new system. The cost to relocate the existing overhead 12-kV electric distribution system, interconnect and transition facilities between the new and existing system, and install temporary facilities needed for construction will be the responsibility of the applicant or customer requesting the service from the utility.
Justification:	This project is consistent with the SFPUC continuing as the electric service provider at TI/YBI under a public power scenario. The project will consider proven as well as new and emerging technologies. Beneficial technologies will be identified, researched, and analyzed, prior to proposal for full-scale implementation of the project, where ratepayer benefit is demonstrated, along with consistency with Triple Bottom Line principles. The project will look into the feasibility and implementation of a supervisory control and data acquisition (SCADA) system, automated metering information (AMI) system, and integration of both with other technologies into a smart grid electric system.
Operating Impact:	The existing overhead 12-kV electric distribution system at TI is antiquated and will not support the new development.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 13,711	$ 1,483	$ 1,483	$ 1,483	$ 1,483	$ 1,483	$ 6,299
Total	$ 13,711	$ 1,483	$ 1,483	$ 1,483	$ 1,483	$ 1,483	$ 6,299

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15391-UH Treasure Island Capital Imp
Authority Level 2:	15391-UH Treasure Island Capital Imp
Project ID/FSP ID	CUH98N04 / 10014576
Project Title:	Treasure Island Utility Cost Setup
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Manuel Ramirez
Facility Category:	Redevelopment
Type:	Capital
Description:	This project reflects the capital cost associated with creating a public power utility at Treasure Island (TI) in support of the future development. The cost accounts for the purchase of office and service equipment, hardware monitoring and measuring devices, software for power forecasting and purchasing, billing, and customer service, metering, operation and maintenance equipment.
Justification:	This project is consistent with the SFPUC continuing as the TI electric service provider under a public power scenario, The project will consider proven as well as new and emerging technologies. Beneficial technologies will be identified, researched, and analyzed, prior to proposal for full-scale implementation of the project, where ratepayer benefit is demonstrated, along with consistency with Triple Bottom Line principles. The project will look into the feasibility and implementation of a supervisory control and data acquisition (SCADA) system, automated metering information (AMI) system, and integration of both with other technologies into a smart grid electric system.
Operating Impact:	The TI Development will require the SFPUC to provide services to 8,000 new residential accounts and a number of commercial accounts that includes hotels, restaurants, retail shops, and offices.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 50	$ 0	$ 0	$ 0	$ 50	$ 0	$ 0
Design	$ 100	$ 0	$ 0	$ 0	$ 100	$ 0	$ 0
Construction Management	$ 100	$ 0	$ 0	$ 0	$ 100	$ 0	$ 0
Construction	$ 1,000	$ 0	$ 0	$ 0	$ 1,000	$ 0	$ 0
Total	$ 1,250	$ 0	$ 0	$ 0	$ 1,250	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15391-UH Treasure Island Capital Imp
Authority Level 2:	15391-UH Treasure Island Capital Imp
Project ID/FSP ID	CUH980N02 / (N/A)
Project Title:	New Underground 12 kV Distribution System -Oakland
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Manuel Ramirez
Facility Category:	Redevelopment
Type:	Capital
Description:	This project provides for the shared cost to install approx. 22,000 linear feet or about 4.2 miles of new underground 12-kV electric distribution circuits from the Davis Substation located on 7th Street and Maritime Street in Oakland, California to land's end by the San Francisco-Oakland Bay Bridge. The 12-kV line traverses several properties that are owned by the Port of Oakland, the City of Oakland, and CalTrans. The development plans by the Port of Oakland and the City of Oakland require that the existing overhead lines on their property be relocated and installed underground in a new alignment. Electricity to Treasure Island (TI) is served primarily through a 115-kV transmission line and substation in Oakland, California. The U.S. Navy has capacity rights to the transmission line and to the Port of Oakland-owned Davis Substation. After electricity is transformed at the Davis Substation from 115-kV to 12-kV, it is conveyed through Navy-owned overhead poles and lines to land's end by the Bay Bridge.
Justification:	This project is consistent with the SFPUC continuing as the TI electric service provider under a public power scenario and that the electric service to TI continues through the 115-kV transmission line and substation. It also provides for extending existing agreements and arrangements for the delivery of electricity to TI and maintains the value of the existing capacity rights and assets associated with the 115-kV transmission line and 12-kV distribution lines that will be included as part of the property transfer of TI from the U.S. Navy to the City and County of San Francisco. The project will consider proven as well as new and emerging technologies. Beneficial technologies will be identified, researched, and analyzed, prior to proposal for full-scale implementation of the project, where ratepayer benefit is demonstrated, along with consistency with Triple Bottom Line principles. The project will look into the feasibility and implementation of a supervisory control and data acquisition (SCADA) system, automated metering information (AMI) system, and integration of both with other technologies into a smart grid electric system.
Operating Impact:	This project provides for keeping the existing agreements and arrangements for the delivery of electricity to TI. The consequences of not funding this project will result in eliminating the distribution system, cutting off the delivery of electricity to TI, and stranding the capacity rights associated with the 115-kV transmission line and substation. The alternative would be for the SFPUC sell the stranded capacity rights, pay to remove 12-kV distribution lines, lease or purchase property in Oakland to install a new substation, and enter into a wholesale distribution tariff service connection with Pacific Gas and Electric and pay additional distribution costs.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction Management	$ 500	$ 250	$ 250	$ 0	$ 0	$ 0	$ 0
Construction	$ 5,450	$ 2,850	$ 2,600	$ 0	$ 0	$ 0	$ 0
Total	$ 5,950	$ 3,100	$ 2,850	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15394-UH Transbay Transit Center
Authority Level 2:	15394-UH Transbay Transit Center
Project ID/FSP ID	CUW985 / 10014593
Project Title:	Transbay Transit Center
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Manuel Ramirez
Facility Category:	Transmission/Distribution
Type:	Capital
Description:	The City and County of San Francisco (the City), through its Public Utilities Commission (SFPUC), has provided construction services and, since 2018, provided permanent electric services to Phase 1 of the new Transbay Transit Center (TTC), including adjacent bus ramps, and the new bus storage facility at Stillman Street in San Francisco. The SFPUC, in agreement with the Transbay Joint Powers Authority (TJPA), provides electric service to the TTC using two 12-kilovolt (kV) electric circuits, 12-kV switchgear, transformers, and other electrical equipment.
Justification:	Pursuant to Section 16.101 of the City Charter and Chapter 99 of the City Administrative Code, the SFPUC Power Enterprise performed a feasibility assessment and determined that it is operationally and financially feasible for the SFPUC to be the exclusive provider of electric services to the TTC as a municipal customer. The project meets the SFPUC Technology Policy adopted on July 24, 2012 - The project considers proven as well as new and emerging technologies. Beneficial technologies are identified, researched, and analyzed, prior to proposal for full-scale implementation, where ratepayer benefit is demonstrated, along with consistency with Triple Bottom Line principles. The project is in the process of implementing a supervisory control and data acquisition (SCADA) system and automated metering information (AMI) system, and integrating both with other technologies into a smart grid electric system."
Operating Impact:	The TTC will require the SFPUC to provide services to the new multi-modal regional transportation building, including an underground train box and Downtown Rail Extension (DTX), bus ramps, and bus storage facility. To date, the SFPUC has installed 2 primary meters for the TTC and 20 secondary meters for new commercial accounts.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15400-UH Renewable-generation - Smal
Authority Level 2:	15400-UH Renewable-generation - Smal
Project ID/FSP ID	TBD / 10014652
Project Title:	Marina Middle School Solar
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Jamie Seidel
Facility Category:	Renewable and Generation
Type:	Capital
Description:	Through this project, the San Francisco Public Utilities Commission (SFPUC) will design and install a 61.5 kilowatt (kW) rooftop solar electric system at Marina Middle School. The design phase includes DC/AC electrical and structural design for a photovoltaic (PV) rack mounted array and related electrical equipment. The Construction Phase will include the installation of a grid connected PV system. Once completed, the PV system will be interconnected to the Pacific Gas & Electric Company (PG&E) electrical distribution system.
Justification:	The Electricity Resource Plan approved by the SFPUC and the San Francisco Board of Supervisors, along with the Mayor's solar directive, established goals to develop renewable power, reduce greenhouse gas emissions, and assure reliable power in San Francisco. This project location will provide additional solar and renewable power for new load growth and diversify our portfolio.
Operating Impact:	Renewable projects at SFPUC or client department facilities can generate additional energy that can be used on-site. This project will be 61.5kW, generate on average 77,300 kilowatt hours per year, and provide approximately 35% of the annual electrical load for Marina Middle School.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15400-UH Renewable-generation - Smal
Authority Level 2:	15400-UH Renewable-generation - Smal
Project ID/FSP ID	TBD / 10014653
Project Title:	Moscone West
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Jamie Seidel
Facility Category:	Renewable and Generation
Type:	Capital
Description:	Through this project, the San Francisco Public Utilities Commission (SFPUC) will design and install a 875 kilowatt (kW) rooftop solar electric system at the Moscone West Convention Center. The design phase includes DC/AC electrical and structural design for a photovoltaic (PV) rack mounted array and related electrical equipment. The Construction Phase will include the installation of a grid connected PV system. Once completed, the PV system will be interconnected to the Pacific Gas & Electric Company (PG&E) electrical distribution system.
Justification:	The Electricity Resource Plan approved by the SFPUC and the San Francisco Board of Supervisors, along with the Mayor's solar directive, established goals to develop renewable power, reduce greenhouse gas emissions, and assure reliable power in San Francisco. This project location will provide additional solar and renewable power for new load growth and diversify our portfolio.
Operating Impact:	Renewable projects at SFPUC or client department facilities can generate additional energy that can be used on-site. This project will be 875kW, generate on average 1.30 gigawatt hours per year, and provide approximately 10% of the annual electrical load for Moscone West Convention Center.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15400-UH Renewable-generation - Smal
Authority Level 2:	15400-UH Renewable-generation - Smal
Project ID/FSP ID	CUW99301 / 10014646
Project Title:	Renewable/Generation - Small Renewables
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Jamie Seidel
Facility Category:	Renewable and Generation
Type:	Capital
Description:	Funds are requested in the amount of $1 Million a year to fund municipal renewable energy projects, this includes: site identification, site development, RFQ qualification process, RFP preparation, bidding process, contract negotiation, award of contracts, and management of construction and commissioning. These renewable energy projects can include solar PV, wind projects, and other renewable projects.
Justification:	The Electricity Resource Plan approved by the SFPUC and the SF Board of Supervisors along with the Mayor's solar and energy efficiency directives established goals to maximize energy efficiency, develop renewable power, reduce greenhouse gas emissions, and assure reliable power in San Francisco. The program will provide additional solar and renewable power for new load growth, diversify our portfolio, and help meet renewable portfolio requirements. This program funds renewable technologies such as Solar PV. Renewable projects inherently mitigate the impacts of climate change as they generate energy from renewable resources such as the sun and wind. Solar PV is a proven technology that the SFPUC has installed reliably for the last 14 years. The Power Enterprise continues to research and install the most cost effective, efficient, and reliable renewable technologies on the market.
Operating Impact:	Renewable projects at SFPUC or client department facilities can generate additional energy used on-site. Excess power above on-site needs can be exported to other municipal loads pursuant to California Public Utilities Code 2828 - HHWP Remote Renewable Generation.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 900	$ 90	$ 90	$ 90	$ 90	$ 90	$ 450
Environmental Review	$ 100	$ 10	$ 10	$ 10	$ 10	$ 10	$ 50
Design	$ 2,000	$ 200	$ 200	$ 200	$ 200	$ 200	$ 1,000
Construction Management	$ 1,000	$ 100	$ 100	$ 100	$ 100	$ 100	$ 500
Construction	$ 6,000	$ 600	$ 600	$ 600	$ 600	$ 600	$ 3,000
Total	$ 10,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 5,000

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15404-UH Hetchy Cap And Trade Allowa
Authority Level 2:	15404-UH Hetchy Cap And Trade Allowa
Project ID/FSP ID	CUH98601 / (N/A)
Project Title:	Energy Efficiency General Fund
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Jamie Seidel
Facility Category:	Advanced Energy
Type:	Capital
Description:	This budget funds advanced energy projects in facilities of Power Enterprise's General Fund-rate customers. Funds cover the planning, design and construction of advanced energy projects for "direct install", as well as technical assistance and project assistance for departments with their own capital funds. Advanced energy projects include lighting, heating and ventilation, retro-commissioning, energy management systems, renewable, battery storage, fuel switching projects, and others. The budget funds projects in municipal facilities for general fund departments such as SFPD, SFFD, SFUSD, Real Estate, Rec. & Parks, Public Health, and Fine Arts Departments, and others, as well as staff time to implement and assist with projects.
Justification:	SFPUC-Power Enterprise receives project funding through the Cap & Trade Program which is administered by the California Air Resources Board and has been implemented as part of AB 32. All funds expended through the Cap & Trade Program are required to achieve greenhouse gas emissions reductions. These planned expenditures also align with SFPUC's advanced energy investments and numerous other local Clean Energy policies approved by the State, the SFPUC and the SF Board of Supervisors along with the Mayor's Energy Efficiency & Renewable Energy Directives. Providing advanced energy services also helps meets customer expectations of services and/or incentives provided by their electric utility which is a goal of the Power Enterprise Business Plan.
Operating Impact:	Advanced energy projects will provide carbon reduction projects to the client department, enabling the department to redirect cost savings to other mission critical services. Also, electricity saved will be available to offset power purchases and for resale to Power Enterprise retail and wholesale customers.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,400	$ 140	$ 140	$ 140	$ 140	$ 140	$ 700
Environmental Review	$ 100	$ 10	$ 10	$ 10	$ 10	$ 10	$ 50
Design	$ 1,000	$ 100	$ 100	$ 100	$ 100	$ 100	$ 500
Construction Management	$ 1,000	$ 100	$ 100	$ 100	$ 100	$ 100	$ 500
Construction	$ 6,500	$ 650	$ 650	$ 650	$ 650	$ 650	$ 3,250
Total	$ 10,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 5,000

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	20815-ERAF PUC Utility Acq Assessment
Authority Level 2:	20815-ERAF PUC Utility Acq Assessment
Project ID/FSP ID	TBD / 10034512
Project Title:	Power Asset Acquisition Analysis
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Pamela Husing
Facility Category:	Transmission/Distribution
Type:	Capital
Description:	The Power Asset Acquisition Analysis funds financial, technical, regulatory, and legal analysis and City staff time toward assessment of acquiring PG&E's electrical assets, preparing to execute the possible transaction, and readying the SFPUC for operation of the acquired system. The existing funding for this project was approved in a prior CIP and no additional funding is being requested under this authority at this time.
Justification:	In January 2019, Mayor Breed requested that the San Francisco Public Utilities Commission (SFPUC) study the possibility of acquiring Pacific Gas & Electric's (PG&E) electric distribution assets servicing San Francisco. In April 2019, the San Francisco Board of Supervisors (BOS) approved Resolution No. 174-19 determining the public interest and necessity of changing electric service provided to San Francisco, including potential purchase of PG&E assets, and directing the SFPUC to further study the potential acquisition. In September 2019, San Francisco issued a non-binding indication of interest (IOI) to PG&E to purchase PG&E's San Francisco electrical assets at a cost of $2.5 billion. The BOS unanimously approved Resolution 403-19 in support of the IOI.
Operating Impact:	The analysis funded by this request is essential to determine the feasibility of acquiring and operating PG&E's electric distribution facilities that serve San Francisco.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0

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

Hetch Hetchy Enterprise

Fiscal Years 2021-2030

Programmatic Projects

June 22, 2020

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	15375-UH Sf Electrical Reliability-t
Authority Level 2:	
Project ID/FSP ID	CUH887 / (N/A)
Project Title:	SF Electric Reliability-Trans Bay Cable Funding
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Jamie Seidel
Facility Category:	Program - Project
Type:	Programmatic
Description:	In its Operating License, TransBay Cable (TBC) is obligated to make annual payments of $2 million for 10 years, from late 2010 through late 2020, to be paid in 10 separate installments (subject to CPI) commencing 30 days following commercial operation of the cable. In Resolution No 414-07, the Board of Supervisors approved the terms of the (TBC) Operating License, and provided direction on how these funds would be appropriated. Per 414-07, the SFPUC shall consider renewable energy, conservation, and environmental health programs which benefit low income, at-risk and environmentally disadvantaged communities. These funds will fund small solar and energy efficiency projects located on schools, libraries, public health, and other facilities that will benefit low income and environmentally disadvantages communities. These funds will also support green jobs training and placement programs which benefit low income, at-risk and environmentally disadvantaged communities and maximize community benefits as we develop specific environmental health programs, identify renewable energy and conservation programs.
Justification:	Based upon approval from the Board of Supervisors (BOS) and release of the funds, appropriate programs and projects will be identified and implemented that fit the requirements specified in the ordinance.
Operating Impact:	Renewable projects at SFPUC or client department facilities can generate additional energy used on-site. Excess power above on-site needs can be exported to other municipal loads pursuant to California Public Utilities Code 2828 - HHWP Remote Renewable Generation.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 280	$ 280	$ 0	$ 0	$ 0	$ 0	$ 0
Environmental Review	$ 20	$ 20	$ 0	$ 0	$ 0	$ 0	$ 0
Design	$ 200	$ 200	$ 0	$ 0	$ 0	$ 0	$ 0
Construction Management	$ 200	$ 200	$ 0	$ 0	$ 0	$ 0	$ 0
Construction	$ 2,400	$ 2,400	$ 0	$ 0	$ 0	$ 0	$ 0
Total	$ 3,100	$ 3,100	$ 0	$ 0	$ 0	$ 0	$ 0

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	15812-Hetchy Water - Facilities Main
Authority Level 2:	15812-Hetchy Water - Facilities Main
Project ID/FSP ID	FUH10001 - 10016956 / 10016956
Project Title:	HHW - Facilities Maintenance
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Tom Walker
Facility Category:	Program - Project
Type:	Programmatic
Description:	The facilities program provides funding for preventative and corrective maintenance to improve, maintain, and program operate the multibillion dollar Hetch Hetchy Water and Power infrastructure. Many Hetch Hetchy assets are at or beyond their service lives, and maintenance funding is used to ensure continued operation of the Hetch Hetchy system. Annual maintenance includes work performed to maintain serviceability, repair work to restore damaged or worn out components, and preventative maintenance that recurs on a periodic or cyclical schedule. Annual maintenance also includes the repair of unscheduled or catastrophic failure of facility components. Maintenance also includes work needed to meet laws, regulations, codes, including security and safety improvements. When work is not performed when needed or scheduled it becomes deferred maintenance. When allowed to accumulate deferred maintenance leads to deterioration of performance, increased costs to repair, and a decrease in facility value. Failure to comply with code, or applicable standards is considered deferred maintenance. Deferred maintenance work includes the repair, rehabilitation, or replacement of a facility or components of the facility. This program provides for the routine and cyclical repair and maintenance of over 150 buildings and structures throughout the Hetch Hetchy Project. Annual maintenance funding needs have been increasing due to the aging of facilities and the critically low level of building and facilities upgrades due to the lack of capital project funding. A partial list of deferred maintenance components includes the following: KPH Bypass Energy Dissipater, Spare Guide & Thrust bearings for generator units, Air conditioner failures (e.g. server and communications facilities in Moccasin, where temperatures can average over 100 degrees for pro-longed periods of time.), OPS System repairs for Canyon Portal Valve house, Road maintenance (that is not bond-fundable), Transmission tower components (insulators, tower bent members), San Joaquin Pipeline Component repairs (e.g. manhole covers, patching and coating, inspection services for non-SFPUC projects near pipelines), Security component failures (card readers, cameras, fences), Communications components (radios, fiber, and microwave network components), Buildings/Facilities safety corrections – lighting, electrical upgrades, plumbing, lead removal, asbestos removal, Office Space Modular replacement (for modulars that have exceeded life-expectancy), Temporary warehouse space for critical components (due to hazardous materials in existing space), Parking structures for vehicles and equipment In order to keep the current deferred maintenance and capital improvement backlog from growing, an annual program of $9 million would be required (2019 dollars). $5 million would be used for ongoing corrective maintenance, and $4 million would be used to develop maintenance programs in each fiscal year (FY120-21 and FY21-22). After the maintenance programs have been developed in the second year, the ongoing levelized funding would drop down to $5 million per year (2019 dollars).
Justification:	Routine and cyclical repair of the facilities awaiting capital improvement project funding is a growing concern within the division. The facilities are increasingly prone to failure, for a system that is 85% of the water supply source for 2.7 million people. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	Failure to budget for corrective and emergency maintenance has been impacting and delaying capital project completion. As infrastructure fails, capital projects are defunded and deferred to address the failed asset. This ultimately impacts service reliability of the system.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 28,928	$ 5,960	$ 6,334	$ 1,224	$ 1,449	$ 1,693	$ 12,268
Total	$ 28,928	$ 5,960	$ 6,334	$ 1,224	$ 1,449	$ 1,693	$ 12,268

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	17661-Wecc-Nerc Compliance
Authority Level 2:	17661-Wecc-Nerc Compliance
Project ID/FSP ID	PUH50401 / 10025172
Project Title:	HHW - WECC/NERC Compliance
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Margaret Hannaford
Facility Category:	Program - Project
Type:	Programmatic
Description:	The reliability of the Nation's power grid, the Bulk Electric System (BES), is regulated by the Federal Energy Regulatory Commission (FERC) through agreement with the North American Electric Reliability Corporation (NERC). Hetch Hetchy Water and Power (HHWP) is a NERC registered Generator Owner, Generator Operator, Transmission Owner, Transmission Operator and Transmission Planner, and as such is subject to mandatory and enforceable NERC Reliability Standards. In the western US, NERC delegates primary responsibility for monitoring and enforcement of NERC Reliability Standards to the Western Electricity Coordinating Council (WECC). The SFPUC Electric Power Reliability Compliance Program (NERC Compliance Program) establishes internal processes and provides funding to assure HHWP compliance with almost 1,000 NERC Standards requirements that apply to HHWP. Day-to-day compliance with NERC Standards relies upon the extensive participation of HHWP power operations staff, engineering staff, IT staff, vegetation management staff, and HR staff under the leadership of the HHWP NERC Compliance Manager.
Justification:	The need to comply with NERC Reliability Standards is recognized by the SFPUC as a permanent part of doing business in the electric power industry. The NERC Compliance Program documents the SFPUC's responsibility and commitment to meet its NERC regulatory obligation. In addition to on-going compliance with existing NERC Standards, HHWP is required to stay on top of new and revised standards. As a result HHWP compliance processes must expand or evolve to address a growing number of NERC Standards, and their increased complexity.The proposal also addresses upcoming regulatory requirements associated with the expansion of the Power Enterprise's footprint in San Francisco. As a result of the increased load at the SFIA and Bay Corridor Transmission Distribution project, the SFPUC will have to also register as a Distribution Provider. Water LOS Goal(s) Supported: N/A
Operating Impact:	Violations either discovered by WECC or self-reported by HHWP may have significant financial and reputational implications. Along with monetary penalties ranging from $1,000 to $1,250,000 per day, violations of Reliability Standards impact the SFPUC by involving: expenditures on legal defense, development of costly mitigation plans, SFPUC and City Attorney staff time, and impacts on CCSF's reputation within the industry and with the public.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 28,329	$ 2,242	$ 1,788	$ 2,084	$ 2,335	$ 2,596	$ 17,284
Construction	$ 11,714	$ 827	$ 671	$ 1,109	$ 1,153	$ 1,199	$ 6,755
Total	$ 40,043	$ 3,069	$ 2,459	$ 3,193	$ 3,488	$ 3,795	$ 24,039

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	17662-Wecc-Nerc Transmission Line Cl
Authority Level 2:	17662-Wecc-Nerc Transmission Line Cl
Project ID/FSP ID	PUH506 / 10025175
Project Title:	HHW - WECC/NERC Transmission Line Clearance
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Mike Vroman
Facility Category:	Program - Project
Type:	Programmatic
Description:	In October 2010, NERC issued the Facility Ratings Alert (FAC Alert) to identify power transmission line clearances deficiencies. The SFPUC performed a condition assessment of their lines in 2012-2014. The condition assessment identified 195 locations (detections) where federal and State regulations for safety were not being met. The WECC-NERC Transmission Line Mitigation Program will mitigate these detections. Over the next 20 years. Program activities include: 1) Notification to impacted parties of safety concerns; 2) Restricting access at detection points, including information signage; and 3) Ground re-contouring. Detections requiring structural improvements will be completed under CUH10101 □ 10014074, HHW-Transmission Lines Renewal & Replacement.
Justification:	Inadequate line clearances are a hazard to both the SFPUC employees and the public. Water LOS Goal(s) Supported: Regional Delivery Reliability
Operating Impact:	Inadequate line clearance is a liability to HHWP.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 2,134	$ 0	$ 0	$ 232	$ 241	$ 250	$ 1,411
Total	$ 2,134	$ 0	$ 0	$ 232	$ 241	$ 250	$ 1,411

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	19459-UW Treasure Island - Maintena
Authority Level 2:	
Project ID/FSP ID	PUW511 / (N/A)
Project Title:	Treasure Island Facilities Maintenance
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Manuel Ramirez
Facility Category:	Program - Project
Type:	Programmatic
Description:	Since 1997, the SFPUC Power Enterprise has operated and maintained the electric and natural gas distribution system at Treasure Island and Yerba Buena Island (TI/YBI) on behalf of the Treasure Island Development Authority (TIDA). Electricity to TI/YBI is solely supplied from Oakland, California. The electrical utility system consists of the 115-kV PG&E-owned transmission lines, the Davis Substation in Oakland, overhead lines on Port of Oakland and Oakland Base Reuse Authority (OBRA) property, a submarine transmission line between Oakland and TI, the TI Main Substation, and a series of distribution lines on TI/YBI. The SFPUC currently purchases power from the Western Area Power Administration (WAPA). The SFPUC Power Enterprise has two 2,000-kilowatt diesel power generators at TI as backup supply. The natural gas system includes the PG&E owned transmission line from Oakland to TI and the Navyowned distribution lines on TI/YBI. Natural gas is supplied by PG&E via a 50-year old underwater 10-inch pipeline at 125 psi. The transmission line is connected to a distribution station on TI. Pressure is reduced to 10 psi for distribution to customers on TI/YBI. The system is controlled through a network of valves. The system consists of multi-material piping, including plastic pipes that were used by the Navy to fix the damaged pipes after the Loma Prieta earthquake.
Justification:	This programmatic project funds the routine maintenance required to keep the Power Facilities on Treasure Island functional.
Operating Impact:	Failure at the TI power facilities could result in loss of all electrical supply to the island.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 46,545	$ 3,825	$ 4,016	$ 4,217	$ 4,428	$ 4,649	$ 25,410
Total	$ 46,545	$ 3,825	$ 4,016	$ 4,217	$ 4,428	$ 4,649	$ 25,410

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Water

Authority Level 1:	17726-GE Youth Employment & Environm
Authority Level 2:	17726-GE Youth Employment & Environm
Project ID/FSP ID	PYEAES-HHW / (N/A)
Project Title:	Youth Employment Project
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Water
Project Manager:	Carol Isen
Facility Category:	Program - Project
Type:	Programmatic
Description:	The Earth Stewards is a collaborative effort by the SFPUC, the San Francisco Sheriff's Department and the Garden Project to provide at-risk, young, San Franciscans with horticultural and landscaping work experience on SFPUC properties. The Garden Project is a non-profit corporation founded in 1992 for the purpose of reducing recidivism among ex-offenders and inmates of the San Francisco County Jail. Earth Stewards, the program funded by the SFPUC, was created in response to a 2004-2005 Board of Supervisors add-back appropriation in the amount of $2.5 million for youth employment. The Earth Stewards Program began on October 19, 2004 with the enrollment of an initial group of 33 at-risk youth referred by the Mayor's Office of Community Development. Since then an additional 42 participants selected by Garden Project staff have enrolled in the program, for a total of 75 enrollees, 12 of which are still enrolled in the program. The program currently has capacity for 12 at-risk youth and develops an individualized 24-month program for each participant. The Earth Stewards are scheduled to perform landscaping and maintenance services for the City Distribution Division, Hetch Hetchy, and Crystal Springs Reservoir during FY 2011-12 and FY 2012-13.
Justification:	The project provides at-risk, young San Franciscans with work experience with the intent of reducing recidivism among ex-offenders and inmates of the San Francisco County Jail.
Operating Impact:	None.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 1,500	$ 150	$ 150	$ 150	$ 150	$ 150	$ 750
Total	$ 1,500	$ 150	$ 150	$ 150	$ 150	$ 150	$ 750

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	19460-UW 525 Golden Gate - O & M
Authority Level 2:	17682-UW 525 Golden Gate - O & M
Project ID/FSP ID	PUW514 / (N/A)
Project Title:	525 Golden Gate - Operations & Maintenance
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	None
Facility Category:	Program - Project
Type:	Programmatic
Description:	The headquarters for the San Francisco Public Utilities Commission, 525 Golden Gate is a 13-story building plus basement for total building area of 277,500 square feet, which houses over 900 PUC employees. It is a LEED Platinum certified building that includes solar and wind renewable energy sources, an on-site wastewater system called the Living Machine, and Smart Building features with fully integrated systems.
Justification:	The Maintenance Project is required for costs related to the annual operating and maintenance costs of the building as shown below. The cost to operate and maintain the building on an annual basis is estimated to have an average annual increase of 3.0%. These costs include building engineering, property management, janitorial and maintenance service contracts.
Operating Impact:	None.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 8,936	$ 1,277	$ 779	$ 802	$ 826	$ 850	$ 4,402
Total	$ 8,936	$ 1,277	$ 779	$ 802	$ 826	$ 850	$ 4,402

SFPUC Capital Project Plan
Hetch Hetchy Enterprise
Hetch Hetchy Power

Authority Level 1:	19461-UW 525 Golden Gate - Lease Pay
Authority Level 2:	17683-UW 525 Golden Gate - Lease Pay
Project ID/FSP ID	PUW515 / (N/A)
Project Title:	525 Golden Gate - Lease Payments
Enterprise:	Hetch Hetchy Enterprise
Organization:	Hetch Hetchy Power
Project Manager:	Charles Perl
Facility Category:	Program - Project
Type:	Programmatic
Description:	The headquarters for the San Francisco Public Utilities Commission, 525 Golden Gate is a 13-story building plus basement for total building area of 277,500 square feet, which houses over 900 PUC employees. It is a LEED Platinum certified building that includes solar and wind renewable energy sources, an on-site wastewater system called the Living Machine, and Smart Building features with fully integrated systems.
Justification:	In October of 2009, the City and County of San Francisco issued its $38,120 Certificates of Participation, Series 2009C (525 Golden Gate Avenue □ San Francisco Public Utilities Commission Office Project) (Tax-Exempt) and its $129,550 Certificates of Participation, Series 2009D (525 Golden Gate Avenue □ San Francisco Public Utilities Commission Office Project) (Federally Taxable □ Build America Bonds □ Direct Payment) to provide financing for the planning and construction of a new office building for the SFPUC. Under the terms of a Memorandum of Understanding between the City and the SFPUC dated October 1, 2009, the SFPUC will make annual Base Rental Payments to the City for the building equal to annual debt service on the Certificates of Participation.
Operating Impact:	None.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 12,225	$ 1,248	$ 1,248	$ 1,250	$ 1,244	$ 1,234	$ 6,001
Total	$ 12,225	$ 1,248	$ 1,248	$ 1,250	$ 1,244	$ 1,234	$ 6,001

Page intentionally left blank

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

CleanPowerSF

Fiscal Years 2021-2030

Ten Year CIP

June 22, 2020

SFPUC Capital Project Plan
CleanPowerSF
CleanPowerSF

Authority Level 1:	TBD - CleanPowerSF
Authority Level 2:	TBD
Project ID/FSP ID	New / (N/A)
Project Title:	Local Renewable Energy Program
Enterprise:	CleanPowerSF
Organization:	CleanPowerSF
Project Manager:	Michael Hyams
Facility Category:	Power Generation
Type:	Capital
Description:	This project will fund the development of new renewable energy (solar photovoltaic) and battery storage projects on select SFPUC sites. The project is structured around six major phases, including: Planning, Request for Proposals, Construction and Commissioning, Power Purchase Agreement, Asset Management, and Project Buyout. The initial renewable energy facilities developed under this program would be structured as power purchase agreements (PPA) with third parties that would develop and operate the projects for an initial period of time. The PPAs would include a buy-out option for the City and the proposed project includes budget for the estimated acquisition cost of the projects. The Planning Phase of the project will finalize the sites for bidding during the RFP Phase. The Planning Phase will also include a Capital Master Plan for renewable energy projects component, which will identify/propose the best path forward for structuring the ownership/financing and operation of the facilities.
Justification:	Investment in local clean energy and the related jobs is a goal of the CleanPowerSF program articulated by the SFPUC, Board of Supervisors and Mayor when the program was authorized.
Operating Impact:	The PPA Phase of the project is projected to result in a total of approximately $1.7 million in power purchasing expenditures in FY 2021-2022 and a total of approximately $7.4 million in power purchasing expenditures starting in FY 2022-2023. The timing of the impact of these expenses will depend on project development schedules and on-line dates to be finalized during the RFP Phase. The timeline here represents the earliest possible on-line dates and cost impacts.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Planning	$ 1,577	$ 241	$ 286	$ 175	$ 175	$ 175	$ 525
Design	$ 261	$ 111	$ 0	$ 0	$ 0	$ 150	$ 0
Construction Management	$ 398	$ 0	$ 9	$ 49	$ 49	$ 49	$ 242
Construction	$ 59,817	$ 0	$ 0	$ 0	$ 0	$ 0	$ 59,817
Construction	$ 540	$ 85	$ 214	$ 0	$ 0	$ 115	$ 125
Total	$ 62,593	$ 437	$ 509	$ 224	$ 224	$ 489	$ 60,709

SFPUC Capital Project Plan
CleanPowerSF
CleanPowerSF

Authority Level 1:	TBD - CleanPowerSF
Authority Level 2:	TBD
Project ID/FSP ID	10014230 / (N/A)
Project Title:	CleanPowerSF Customer Programs
Enterprise:	CleanPowerSF
Organization:	CleanPowerSF
Project Manager:	Sam Larano
Facility Category:	Customer Energy Programs
Type:	Capital
Description:	This project will fund the development and implementation of new customer programs for CleanPowerSF, including programs supporting demand response, electric mobility, local renewable energy generation, and building decarbonization technologies. The project will fund the planning, development and operations of a select set of new customer programs to be developed during the next fiscal year. Funds are requested to support additional program planning to scale and expand customer programs over the 10-year capital planning period.
Justification:	One of the four goals adopted by the Commission for the CleanPowerSF program is investment in local clean energy technology and jobs. Programs that incentivize customer investment in new clean energy technologies are an important and powerful way to help customers reduce their energy bills, transform the way energy is produced and used, and develop local jobs in the clean energy sector.
Operating Impact:	Some customer programs may have an operating impact. For example, a feed-in tariff will procure local renewable power through long-term power purchase agreements, which will be an operating expense in CleanPowerSF's power purchasing budget. Other programs, like incentives for electric mobility, may generate new revenue as electricity supplied by CleanPowerSF replaces gasoline or other fuels used to power passenger vehicles. No significant operating impact is anticipated to occur from programs developed in the next two years.

All values in $1,000	2021-2030	2021	2022	2023	2024	2025	2026-2030
Construction	$ 13,227	$ 1,461	$ 1,924	$ 1,249	$ 1,199	$ 1,149	$ 6,245
Total	$ 13,227	$ 1,461	$ 1,924	$ 1,249	$ 1,199	$ 1,149	$ 6,245

APPENDIX A

Commission Staff Reports and Resolutions

10

AGENDA ITEM
Public Utilities Commission
City and County of San Francisco

DEPARTMENT Business Services

AGENDA NO. **13**

MEETING DATE February 11, 2020

Adopt the Two-Year SFPUC Capital Budget and authorize associated bond financing for FY 2020-21 and FY 2021-22: Regular
Manager: Eric Sandler

Summary of Proposed Commission Action:	Discussion and possible action to **adopt** the Two-Year Capital Budget of the San Francisco Public Utilities Commission consisting of $435,699,986 for FY 2020-21 and $835,878,748 for FY 2021-22; **authorize** the General Manager to seek Board of Supervisors approval for (1) de-appropriation of $3,528,113 in Revenue Funded Water Capital Projects, (2) de-appropriation and re-appropriation of $15,324,167 in Water Capital Projects, (3) de-appropriation and re-appropriation $391,415,748 Wastewater Capital Projects, and (4) de-appropriation and re-appropriation of $341,001 in Revenue Funded Power Capital Projects; and **authorize** the General Manager to seek Board of Supervisors approval for the issuance of (1) $370,762,889 aggregate principal amount of Water Revenue Bonds and other forms of indebtedness, including commercial paper and State Revolving Fund (SRF) loans, (2) $387,719,556 aggregate principal amount of Wastewater Revenue Bonds and other forms of indebtedness, including commercial paper and SRF loans, and (3) $142,970,073 aggregate principal amount of Power Revenue Bonds and other forms of indebtedness, including commercial paper and loans, subject to the terms of Charter Sections 9.107(6) and 9.107(8).
Background & Description:	The SFPUC General Manager and staff presented the proposed FY 2020-21 and FY 2021-22 Capital Budget to the Commission at duly noticed public meetings held on January 16, January 23, and January 30, 2020 for the Water Enterprise, Wastewater Enterprise, and Hetch Hetchy Water and Power including the Power Enterprise and CleanPowerSF. Copies of the Capital Budget materials from those hearings are on file with the Commission Secretary and available online at https://sfwater.org/index.aspx?page=1314

APPROVAL: _____

COMMISSION SECRETARY Donna Hood

2–Year Capital Budget Development

The development of the attached 2–Year Capital Budget for FY 2020-21 and FY 2021-22 occurred from June through December 2019 and was directed by the Budget Steering Committee, comprised of the SFPUC executive team. The 2-Year Capital Budget is developed along with and is consistent with the 10-Year Capital Plan that the Commission is also adopting on February 11th. As a preliminary step to 2–Year Capital budget development, a baseline review of all existing project appropriations was completed for potential closeout or repurposing to new capital budget needs. This important step focused on capital project delivery and reduced to the amount of funding request in the 2–Year Capital budget and more efficient use of existing project appropriations, commercial paper and bond funding issuances.

The budget development and baseline review resulted in project budget re-appropriations and closeouts. The Wastewater Enterprise is re-appropriating $391.4 million of prior year project appropriations to fund the 2-year budget request. The Water Enterprises is closing un-spent project balances returning $3.5 million to the Waters fund balance and re-appropriating $15.3 million to fund Water Supply projects in next the 2- year budget request. The Power Enterprise is including reallocations for project closeout. The above is shown in the attached 2-Year Capital Budget and included in the 2-Year Supplemental Appropriation Ordinances.

Capital Plan Quality Review

New to the capital planning cycle, Capital Plan project submissions were reviewed and validated by the SFPUC Infrastructure Bureau, resulting in a consistent and comprehensive capital planning approach across the agency comprised of individual project datasheets describing the project budget, schedule and scope. The three Enterprise's 2–Year budget requests went through a separate project quality review process involving 1) validation of costs and schedule of all proposed projects, 2) assessment of the ability to deliver projects as scheduled including looking at historic versus planned spending and available resources, and 3) the Enterprises assessment of their ability to onboard new assets as planned. This new capital planning effort helps assure the 2–Year budget requests meets the Enterprise's long-range capital needs, reflects a sound project prioritization process and supports affordability by promoting efficient use of ratepayer funds.

Budgetary Control

Attachment A to this staff report provides an overview of the Two-Year Capital Budget for each enterprise. On the far left column of each page is a column titled "Authority," which contains a 5-digit code (referred to herein as the "Authority Code"). If this budget is adopted by the Commission, the General Manager would have authority during the next two years to re-allocate project appropriations within the same Authority Code, subject to the procedures set forth in the Infrastructure Division's Procedures Manual on Project Change Management. This procedure establishes a formal process for all SFPUC capital projects or programs to identify, track, and approve or deny Change Authorization Requests to project scope, schedule and/or budgets. However, the

	reallocation of project appropriations from one Authority Code to a different one would require both Commission and Board of Supervisors approval. This level of capital project budgetary control is consistent with the Board of Supervisors level of control, as determined by the 2–Year Capital budget appropriation ordinances. **FY 2020-21 and FY 2021-22 Capital Budget Approval** This Resolution approves the SFPUC Capital Budget of $435,699,986 for FY 2020-21 and $835,878,748 for FY 2021-22 as presented at the budget hearings on January 16, January 23, and January 30, 2020, and as shown on Attachment A to this staff report. It also authorizes the General Manager to submit capital project supplemental appropriation ordinances and associated bond authorization ordinances to the Mayor and Board of Supervisors. These ordinances are also scheduled to be presented to the City's Capital Planning Committee in March 2020 and the Board of Supervisors in May 2020.

Result of Inaction	Not approving this item would delay the Capital Budget submittal to the Controller and Mayor's Office.
Budget & Financing Costs:	The SFPUC 2–year capital budget and associated financing costs are as follows:

FY 2020-21 Capital Budget	**Amount**	**Financing Costs**	**Total**
Wastewater Enterprise	$ 179,421,679	$ 9,834,208	$ 189,255,887
Water Enterprise	134,686,937	15,094,048	149,780,985
Hetchy Water	38,501,775	5,006,144	43,507,919
Hetchy Power	42,331,958	8,540,574	50,872,532
CleanPowerSF	2,282,663	0	2,282,663
Totals	$ 397,225,012	$ 38,474,974	$ 435,699,986

FY 2021-22 Capital Budget	**Amount**	**Financing Costs**	**Total**
Wastewater Enterprise	$ 399,405,834	$ 48,323,725	$ 447,729,559
Water Enterprise	195,902,795	24,226,376	220,129,171
Hetchy Water	111,474,483	11,287,866	122,762,349
Hetchy Power	30,304,069	12,904,937	43,209,006
CleanPowerSF	2,048,663	0	2,048,663
Totals	$ 739,135,844	$ 96,742,904	$ 835,878,748

Bond Authorization: Bond authorization amounts associated with the 2-Year capital budget are as follows:

Wastewater Bond Authorization	**FY 2020-21**	**FY 2021-22**	**Bonds Total**
Wastewater Bonds	$ 55,727,179	$ 273,834,444	$ 329,561,623
Financing Costs	9,834,208	48,323,725	58,157,933
Totals	$ 65,561,387	$ 322,158,169	$ 387,719,556

Water Bond Authorization	**FY 2020-21**	**FY 2021-22**	**Bonds Total**
Water Bonds	$ 85,532,937	$ 137,282,795	$ 222,815,732
Financing Costs	15,094,048	24,226,376	39,320,424
Hetchy Water Bonds	28,368,149	63,964,574	92,332,723
Financing Costs	5,006,144	11,287,866	16,294,010
Totals	$ 134,001,278	$ 236,761,611	$ 370,762,889

Power Bond Authorization	**FY 2020-21**	**FY 2021-22**	**Bonds Total**
Hetchy Power Bonds	$ 48,396,584	$ 73,127,978	$ 121,524,562
Financing Costs	8,540,574	12,904, 937	21,445,511
Totals	$ 56,937,158	$ 86,032 ,915	$ 142,970,073

Environmental Review:	The Bureau of Environmental Management determined that this action does not constitute a project under the California Environmental Quality Act (CEQA) Guidelines Section 1578(b)(4). Subsequent action by this Commission to approve capital projects to be funded through the proposed capital budget would be subject to environmental review consistent with CEQA, Administrative Code Chapter 31, and including Proposition E, approved by the voters in 2002 for Water and Wastewater projects.
Recommendation	SFPUC staff recommends that the Commission adopt the attached resolution.
Attachments	Attachment A: 2-Year Capital Budget

PUBLIC UTILITIES COMMISSION

City and County of San Francisco

RESOLUTION NO. 20-0031

WHEREAS, The General Manager of the San Francisco Public Utilities Commission (SFPUC) and staff presented the proposed FY 2020-21 and FY 2021-22 Capital Budget for the Water Enterprise, Wastewater Enterprise and Hetch Hetchy Water & Power, including the Power Enterprise and CleanPowerSF ("Capital Budget") including the list of projects, cost estimates, and schedules to the Commission at public hearings held on January 16, January 23, January 30, and February 11, 2020, and copies of those presentations are on file with the Commission Secretary and incorporated herein by reference; and

WHEREAS, An overview of the proposed FY 2020-21 and FY 2021-22 Capital Budget for each enterprise is set forth as Attachment A to the staff report for the February 11, 2020 Commission hearing is on file with the Commission Secretary; and

WHEREAS, As a preliminary step to development of the Two-Year Capital Budget, a baseline review of all existing project appropriations was completed for potential closeout or repurposing to new capital budget need; and

WHEREAS, The Two-Year Capital Budget submittals went through a quality review to assure the budget addressees the Enterprises immediate capital improvement needs and reflects a sound project prioritization process; and

WHEREAS, The quality review included a validation of costs and schedule of all proposed projects and an assessment of the ability to deliver the projects within the 2-year timeframe; and

WHEREAS, If the Two-Year Capital Budget shown on Attachment A is adopted by this Commission, the General Manager would have authority during the next two years to re-allocate project appropriations within the same Authority Code, which is the five-digit code on the far left column of Attachment A, but any reallocation of project appropriations from one Authority Code to a different one would require Commission and Board of Supervisors approval; and

WHEREAS, The proposed FY 2020-21 and FY 2021-22 Capital Budget must be submitted to, and approved by the Mayor and the Board of Supervisors; and

WHEREAS, The SFPUC General Manager recommends that the Commission request a supplemental appropriation ordinance for the capital expenditures for each of the three Enterprises presented in the proposed FY 2020- 21 and FY 2021-22 Capital Budget to timely implement public improvement projects; and

WHEREAS, The subsequent approvals of projects to be funded through this Capital Budget would only be granted following the consideration of environmental review pursuant to the California Environmental Quality Act (CEQA), Administrative Code Chapter 31, and Proposition E (approved by the voters in 2002 for Water and Wastewater projects) by this Commission; and

WHEREAS, The Water Enterprise is de-appropriating $3,528,113 in Revenue Funded Water Capital Projects being closed-out with the unspent balance returned to the Water Operating Fund, and de-appropriating and re-appropriating $15,324,167 in Water Capital Projects to fund project spending in FY 2020-21; and

WHEREAS, The Wastewater Enterprise is de-appropriating and re-appropriating $391,415,748 in Wastewater Capital Projects to fund project spending in FY 2020-21; and

WHEREAS, The Hetch Hetchy Enterprise is de-appropriating and re-appropriating $341,001 in Hetchy Capital Projects for project close out in FY 2020-21; and

WHEREAS, This Commission has considered the proposed FY2020-21 and FY2021-22 Capital Budget for the Water Enterprise, Wastewater Enterprise, and Hetch Hetchy Water and Power, including the Power Enterprise and CleanPowerSF, which total $397,225,012 for FY 2020-21 and $739,135,844 for FY 2021-22, as set forth in Attachment A to the February 11, 2020 staff report, a copy of which is attached hereto; now, therefore, be it

RESOLVED, That this Commission hereby adopts the FY2020-21 and FY2021-22 SFPUC Capital Budget in the amount of $435,699,986 for FY 2020-21 and $835,878,748 for FY 2021-22 for the Water Enterprise, the Wastewater Enterprise, and Hetch Hetchy Water and Power, including the Power Enterprise and CleanPowerSF as presented at the public hearings on January 16, January 23, and January 30, 2020 and as set forth in the attached Attachment A, as follows:

FY 2020-21 Capital Budget		**Amount**		**Financing Costs**		**Total**
Wastewater Enterprise	$	179,421,679	$	9,834,208	$	189,255,887
Water Enterprise		134,686,937		15,094,048		149,780,985
Hetchy Water		38,501,775		5,006,144		43,507,919
Hetchy Power		42,331,958		8,540,574		50,872,532
CleanPowerSF		2,282,663		0		2,282,663
Total	$	397,225,012	$	38,474,974	$	435,699,986

FY 2021-22 Capital Budget		**Amount**		**Financing Costs**		**Total**
Wastewater Enterprise	$	399,405,834	$	48,323,725	$	447,729,559
Water Enterprise		195,902,795		24,226,376		220,129,171
Hetchy Water		111,474,483		11,287,866		122,762,349
Hetchy Power		30,304,069		12,904,937		43,209,006
CleanPowerSF		2,048,663		0		2,048,663
Total	$	739,135,844	$	96,742,904	$	835,878,748

and be it;

FURTHER RESOLVED, That this Commission authorizes the General Manager to seek Board of Supervisors approval for the de-appropriation of $3,528,113 in Revenue Funded Water Capital Projects, the de-appropriation and re-appropriation of $15,324,167 in Water Capital Projects, de-appropriation and re-appropriation of $391,415,748 in Wastewater Capital Project funding, and de-appropriation and re-appropriation of $341,001 in Power Capital Project funding; and, be it

FURTHER RESOLVED, That the SFPUC General Manager is authorized to make further technical adjustments to these approved amounts as may be necessary, or upon further direction from the Commission, the Mayor and the Board of Supervisors; and, be it

FURTHER RESOLVED, The General Manager is hereby authorized and directed to submit to the Board of Supervisors proposed ordinances authorizing the issuance of (1) not to exceed $370,762,889 aggregate principal amount of Water Revenue Bonds and other forms of indebtedness, including commercial paper and State Revolving Fund (SRF) loans, (2) $387,719,556 aggregate principal amount of Wastewater Revenue Bonds and other forms of indebtedness, including commercial paper and SRF loans, under the terms of Proposition E (approved by the voters November 2002), and (3) $142,970,073 aggregate principal amount of Power Revenue Bonds and other forms of indebtedness, including commercial paper and loans, subject to the terms of Charter Sections 9.107(6) and 9.107(8). The General Manager shall return to this Commission for a subsequent discretionary approval of any disclosure and transaction related documents prepared in connection with the issuance of such Bonds and other forms of indebtedness.

I hereby certify that the foregoing resolution was adopted by the Public Utilities Commission at its meeting of February 11, 2020.

Donna Wood

Secretary, Public Utilities Commission

AGENDA ITEM
Public Utilities Commission
City and County of San Francisco

DEPARTMENT Business Services

AGENDA NO. **14**

MEETING DATE February 11, 2020

Adopt the SFPUC 10-Year Capital Plan for FY 2020-21 to FY 2029-30: Regular

Manager: Eric Sandler

Summary of Proposed Commission Action:	Discussion and possible action to adopt the San Francisco Public Utilities Commission 10-Year Capital Plan for FY 2020-21 through FY 2029-30 totaling $8,995,702,530.
Background & Description:	Charter Section 8B.123 requires that the Commission hold public hearings on an annual basis to review, update, and adopt a Long-Term Capital Improvement Program (referred to herein as the "10-Year Capital Plan" or "Capital Plan") and a Long- Range Financial Plan ("10-Year Financial Plan" or "Financial Plan"). The Capital Plan is to contain a list of projects to be executed during the 10-year planning horizon, including cost estimates and schedules. The Financial Plan is to contain estimates of operations and maintenance expenses, repair and replacement costs, debt costs and projected rate increases. Together, the two plans provide visibility into the capital investment required to meet service levels and the rate impacts of these investments. In addition, they serve as a basis and supporting documentation for the Commission's capital budget and the issuance of revenue bonds and other indebtedness to support the SFPUC capital program. The SFPUC General Manager and staff presented the proposed SFPUC 10-Year Capital Plan for FY 2020-21 through FY 2029-30 to the Commission at duly noticed public meetings held on January 16, January 23, and January 30, 2020, for the Water Enterprise, Wastewater Enterprise, and Hetch Hetchy Water and Power (including CleanPowerSF). The project details presented at those public meetings, including a list of projects, cost estimates, and schedules are attached here. A stand-alone document of the Commission's adopted 10-year Capital Plans and 2-year Capital Budget will be published at the beginning of the next fiscal year. The document will describe the capital planning process, identify high priority elements of the plan and present project-level details. Specifically, it will provide project descriptions and justifications, details on asset classification plans, project implementation schedules by phases, and budget information at a project level.

APPROVAL: _____

COMMISSION SECRETARY Donna Hood

	Capital Plan Development The SFPUC 10-Year Capital Plan provides an assessment of the agency's capital needs aligned with the Commission's Strategic Plan goals, as well as the required investments to meet those needs. The development of the plans occurred from June through December 2019 and was directed by the Budget Steering Committee comprised of the SFPUC executive team. As a preliminary step to Capital Plan development, a baseline review of all existing project appropriations was completed for potential closeout or repurposing to new capital budget needs. This important step focused on capital project delivery and reduced the 2-year capital budget request resulting in a more efficient use of financial resources. **Capital Plan Quality Review** New this capital planning cycle, Capital Plan project submissions were reviewed and validated by the SFPUC Infrastructure Bureau, resulting in a consistent and comprehensive capital planning approach across the agency comprised of individual project datasheets describing the project budget, schedule and scope. The three Enterprises' Capital Plan submissions also went through a separate project quality review process involving 1) validation of costs and schedule of all proposed projects, 2) assessment of the ability to deliver projects as scheduled including looking at historic versus planned spending and available resources, and 3) the Enterprises' assessment of their ability to onboard new assets as planned. This new capital planning effort helps assure the 10-Year Capital Plan meets the Enterprises' long-range capital needs, reflects a sound project prioritization process and supports affordability by promoting efficient use of ratepayer funds. **Overview of Proposed Capital Plan** The proposed 10-Year Capital Plan for FY 2020-21 through FY 2029-30 is attached hereto as Attachment A, which contains project summaries for each Enterprise, as well as the individual project data sheets describing each project's projected scope, schedule, and cost over the 10-year period. Wastewater - The Wastewater's overall capital plan decreased approximately $469 million. The SSIP decreased $1 billion as project budgets were move out of the 10-Year Plan timeframe based on updated project schedules. Renewal and Replacement increased approximately $500 million for Large Diameter Sewers that were part of the SSIP in the prior plan. Water – The Water Capital Plan increased approximately $480 million. The Regional Water Program increased $130 million mainly for Water Supply (purification/recycled water) and Storage (Dam Upgrade) projects. Local Water increased $350 million specifically to fund the new CDD Headquarters.

	Hetchy – The Hetchy Capital Plan Increase $286 million. Hetchy Water increased $115 million including new project security and dam safety projects. Hetchy Power projects increase $171 million mainly to fund Retail Distribution Service Projects. This is the first Clean Power Plan funding $76 million over the 10 years including the Local Renewable Energy Program and CleanPowerSF Customer Programs. **Capital Plan Approval** If approved by the Commission, the SFPUC 10-Year Capital Plan will be submitted to the Mayor and presented to the Citywide Capital Planning Committee in the Spring for review. The first two years of the 10-Year Capital Plan forms the SFPUC's FY 2020-21 and FY 2021-22 Capital Budget and is covered under a separate action item scheduled for February 11, 2020.
Result of Inaction:	SFPUC would not be in compliance with Charter Section 8B.123.
Budget & Costs:	**10-Year Capital Plan** — **FYE 2021-2030** Wastewater Enterprise — $5,146,868,226 Water Enterprise — 2,206,188,787 Hetch Hetchy Water — 1,024,375,458 Hetch Hetchy Power — 542,450,733 CleanPowerSF — 75,819,326 **Total** — **$8,995,702,530**
Environmental Review:	The Bureau of Environmental Management determined that this action does not constitute a project under the California Environmental Quality Act (CEQA) Guidelines Section 1578(b)(4). Subsequent action by this Commission to approve capital projects to be funded through the proposed capital plan would be subject to environmental review consistent with CEQA, Administrative Code Chapter 31, and including Proposition E, approved by the voters in 2002 for Water and Wastewater projects.
Recommendation:	SFPUC staff recommends that the Commission adopt the attached resolution.
Attachments:	1. SFPUC 10-Year Capital Plan Summaries FYE 2021-2030 and Project Datasheets

PUBLIC UTILITIES COMMISSION

City and County of San Francisco

RESOLUTION NO.: 20-0032

WHEREAS, San Francisco Charter Section 8B.123 requires that the San Francisco Public Utilities Commission annually hold public hearings to review, update and adopt a long-term Capital Plan covering projects during the next 10-year period, including cost estimates and schedules; and

WHEREAS, The SFPUC General Manager and staff presented the proposed SFPUC 10-Year Capital Plan for FY 2020-21 through FY 2029-30 for the Water Enterprise, Wastewater Enterprise, and Hetch Hetchy Water and Power, including the Power Enterprise and CleanPowerSF, to the Commission at public hearings held on January 16, January 23, and January 30, 2020, and such presentations included a list of projects, cost estimates, and schedules, together comprising the SFPUC 10-Year Capital Plan; and

WHEREAS, On February 11, 2020, staff presented as Attachment A to the staff report the SFPUC 10-Year Capital Plan Summaries FYE 2021-2030 and Project Datasheets, a copy of which is on file with the Commission Secretary; and

WHEREAS, The SFPUC 10-Year Capital Plan provides an assessment of the agency's capital needs aligned with the Commission's Strategic Plan goals as well as the investments to meet those needs; and

WHEREAS, As a preliminary step to 10-Year Capital Plan development, a baseline review of all existing project appropriations was completed for potential close-out or repurposing to new capital budget needs; and

WHEREAS, The SFPUC Infrastructure Bureau reviewed and validated all 10-Year Capital Plan project submittals resulting in a consistent and comprehensive capital planning approach across the agency comprised of individual project datasheets describing the project budget, schedule and scope; and

WHEREAS, Capital Plan project quality review meetings were held to assure the Capital Plan meets the Enterprise's infrastructure needs, reflects a sound project prioritization process and supports affordability by promoting efficient use of ratepayer funds; and

WHEREAS, The SFPUC Capital Plan development process included an assessment of SFPUC's ability to deliver projects looking at historic versus planned spending and aligning project plans with available delivery resources; and

WHEREAS, The subsequent approvals of projects to be funded through this Capital Plan would only be granted following the consideration of environmental review pursuant to the California Environmental Quality Act (CEQA), Administrative Code Chapter 31, and Proposition E (approved by the voters in 2002 for Water and Wastewater projects) by this Commission; and

WHEREAS, The Commission-approved 10-Year Capital Plan for FY 2020-21 to FY 2029-30 will be submitted to the Mayor, presented to the City's Capital Planning Committee, for review; and

WHEREAS, The SFPUC's 10-Year Capital Plan is used to develop the agency's two-year capital budgets, 10-Year Financial Plan, projected debt issuances, and estimated rate changes; now, therefore, be it

RESOLVED, That the Commission hereby adopts the SFPUC 10-Year Capital Plan for FY 2021-2030 comprised of the project summaries and project datasheets included in Attachment A presented to the Commission on February 11, 2020, which describes project costs, scope, and schedule over the 10-year period with total costs as follows:

10-Year Capital Plan	**FYE 2021-2030**
Wastewater Enterprise	$5,146,868,226
Water Enterprise	2,206,188,787
Hetch Hetchy Water	1,024,375,458
Hetch Hetchy Power	542,450,733
CleanPowerSF	75,819,326
Total	**$8,995,702,530**

I hereby certify that the foregoing resolution was adopted by the Public Utilities Commission at its meeting of February 11, 2020.

Donna Hood

Secretary, Public Utilities Commission

Page intentionally left blank

APPENDIX B

Board Staff Report and Ordinances

AMENDED IN COMMITTEE
08/21/2020

FILE NO. 200832 ORDINANCE NO. 168-20

RO#21002
SA#40-2

[Appropriation - Proceeds from Revenue Bonds, State Loans/Grants, Wastewater Revenues/Capacity Fees - $579,185,142; De-Appropriation and Re-Appropriation - Wastewater Capital Improvements - SFPUC - $391,415,748 - FY2020-2021 and FY2021-2022]

Ordinance appropriating a total of $579,185,142 of proceeds from revenue bonds, State of California Water Resources Control Board's revolving loan funds (State Loan Funds) or grant funds (State Grant Funds), wastewater revenue and capacity fees for the San Francisco Public Utilities Commission (SFPUC) Wastewater Enterprise's Capital Improvement Program for FY2020-2021 at $170,869,066 and for FY2021-2022 at $408,316,076, de-appropriating and re-appropriating $391,415,748, and placing $349,919,252 in Revenue Bonds or State Loan or Grant Funds by project on Controller's Reserve subject to the Controller's certification of funds availability, including proceeds of indebtedness, and for construction related expenditures (excluding program management, planning and design) for these projects, as applicable, is also subject to the prior occurrence of the SFPUC's and the Board of Supervisors' discretionary adoption of California Environmental Quality Act Findings for projects, following review and consideration of completed project related environmental analysis, where required.

Note: **Unchanged Code text and uncodified text** are in plain Arial font.
Additions to Codes are in *single-underline italics Times New Roman font*.
Deletions to Codes are in ~~*strikethrough italics Times New Roman font.*~~
Board amendment additions are in double-underlined Arial font.
Board amendment deletions are ~~in strikethrough Arial font.~~
Asterisks (* * * *) indicate the omission of unchanged Code subsections or parts of tables.

Be it ordained by the People of the City and County of San Francisco:

Section 1. The sources of funding outlined below are herein appropriated to reflect the funding available for Fiscal Year 2020-2021.

SOURCES Appropriation

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10026508-0001 Bond-Commercial Paper Expense / 17732 WW Bond-commercial Paper Exp	480111 Proceeds from Sale of Bonds- Face Amount	Proceeds from Sale of Bonds	$11,122,002
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10026508-0001 Bond-Commercial Paper Expense / 17732 WW Bond-commercial Paper Exp	480111 Proceeds from Sale of Bonds- Face Amount	Proceeds from Sale of Bonds	$46,052,564
20550 WWE CPF Repair & Replace / 229267 WWE0101 Administration	10031235-0001 R&R Collection System / 15722 WWE R&R Collection System	495022 ITI Fr 5C-Cleanwater ProgramFd	Wastewater Enterprise Revenue	$107,894,500

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20530 WWE CPF Capacity Fee Prog / 229267 WWE0101 Administration	10031235-0001 R&R Collection System / 15722 WWE R&R Collection System	479993 Capacity Fees	Wastewater Capacity Fee	$5,800,000
Total SOURCES Appropriation				**$170,869,066**

Section 2. The uses of funding outlined below are herein appropriated in Accounts 567000 (Buildings, Structures, and Improvements), 584030 (Capital Renewal Projects), 581130 (CON-Internal Audits), 573110 (Bond Issuance Cost-Unamortized), and 567000 (Revenue Bond Oversight Committee), reflecting the projected uses of funding to support the Wastewater Capital Improvement Program at the San Francisco Public Utilities Commission for Fiscal Year 2020-2021.

1 **USES Appropriation**

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10026823-0001 Treatment Plants - Southeast / 15735 WW Treatment Plant Improvement	567000 Blds; Structures & Improvements	Treatment Plants - Southeast	$4,356,803
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10015813-0001 Treatment Plant Improvement / 15736 WW Treatment Plant Improvement	567000 Blds; Structures & Improvements	Treatment Plants – North Point	$885,007
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10015813-0001 Treatment Plant Improvement / 15736 WW Treatment Plant Improvement	567000 Blds; Structures & Improvements	Treatment Plants – Oceanside	$1,650,000

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10015791-0001 Collection System Improvements / 15726 WW Collection System Improvement	567000 Blds; Structures & Improvements	Collection System Improvements	$423,216
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10026827-0001 Collection Pump Station / 15726 WW Collection System Improvement	567000 Blds; Structures & Improvements	Pump Station/ Force Mains	$1,366,676
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10002780-0001 Drainage Basin-Early Implement / 15729 WW Stormwater Management	567000 Blds; Structures & Improvements	Green Infrastructure Projects	$772,000

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20550 WWE CPF Repair & Replace / 229267 WWE0101 Administration	10031235-0001 R&R Collection System / 15722 WWE R & R Collection System	584030 Capital Renewal Projects	R & R Collection System	$82,537,000
20530 WWE CPF Capacity Fee Prog / 229267 WWE0101 Administration	10031235-0001 R&R Collection System / 15722 WWE R & R Collection System	584030 Capital Renewal Projects	R & R Collection System	$5,800,000
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10031235-0001 R&R Collection System / 15722 WWE R & R Collection System	567000 Blds; Structures & Improvements	R & R Collection System	$18,798,000
20550 WWE CPF Repair & Replace / 229267 WWE0101 Administration	10031247-0001 R&R Treatment Facilities / 15724 WWE R & R Treatment Facilities	584030 Capital Renewal Projects	R & R Treatment Facilities	$25,357,500

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10015556-0001 Southeast Community Center / 15716 WW Southeast Community Center	567000 Blds; Structures & Improvements	Southeast Community Center	$4,500,000
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10015557-0001 Islais Creek Outlet / 15717 WW Islais Creek Outfall	567000 Blds; Structures & Improvements	Islais Creek Outlet	$15,846,679
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10026508-0001 Bond-Commercial Paper Expense / 17732 WW Bond-commercial Paper Exp	573110 Bond Issuance Cost- Unamortized	Financing Costs	$1,662,739

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10026508-0001 Bond-Commercial Paper Expense / 17732 WW Bond-commercial Paper Exp	567000 Blds; Structures & Improvements	Revenue Bond Oversight Committee 0.05%	$5,561
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10026508-0001 Bond-Commercial Paper Expense / 17732 WW Bond-commercial Paper Exp	573110 Bond Issuance Cost- Unamortized	Financing Costs	$6,657,470
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10026508-0001 Bond-Commercial Paper Expense / 17732 WW Bond-commercial Paper Exp	581130 GF-CON-Internal Audits	CSA 0.2% Controller's Audit Fund	$227,389

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10026508-0001 Bond-Commercial Paper Expense / 17732 WW Bond-commercial Paper Exp	567000 Blds; Structures & Improvements	Revenue Bond Oversight Committee 0.05%	$23,026
Total USES Appropriation				**$170,869,066**

Section 3. Of the above appropriated amount, $227,389, representing 0.2% of the expenditure budget net of bond financing and audit costs, shall be allocated to support the Controller's Audit Fund, pursuant to Charter Appendix F1.113; and $28,587, representing 0.05% of gross bond proceeds, shall be allocated to support the Public Utilities Commission Revenue Bond Oversight Committee, pursuant to Administrative Code Section 5A.31. These appropriations may be increased or decreased by the Controller based on changes to expenditure appropriations or actual gross bond proceeds to conform to the applicable Charter and Administrative Code formulas.

Section 4. $57,174,566 of the total appropriation is hereby placed on Controller's Appropriation Reserve, as set forth below. Release of appropriation reserves by the Controller is subject to the Controller's certification of funds availability, including proceeds of indebtedness, and for construction related expenditures (excluding program management, planning and design) for these projects, as applicable, is also subject to the prior occurrence of the SFPUC's and the Board of Supervisors' discretionary adoption of California

Environmental Quality Act (CEQA) Findings for projects, following review and consideration of completed project related environmental analysis, where required.

Appropriation on Reserve

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10026823-0001 Treatment Plants - Southeast / 15735 WW Treatment Plant Improvement	567000 Blds; Structures & Improvements	Treatment Plants - Southeast	$4,356,803
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10015813-0001 Treatment Plant Improvement / 15736 WW Treatment Plant Improvement	567000 Blds; Structures & Improvements	Treatment Plants – North Point	$885,007

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10015813-0001 Treatment Plant Improvement / 15736 WW Treatment Plant Improvement	567000 Blds; Structures & Improvements	Treatment Plants – Oceanside	$1,650,000
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10015791-0001 Collection System Improvements / 15726 WW Collection System Improvement	567000 Blds; Structures & Improvements	Collection System Improvements	$423,216
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10026827-0001 Collection-Pump Station / 15726 WW Collection System Improvement	567000 Blds; Structures & Improvements	Pump Station/ Force Mains	$1,366,676

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10002780-0001 Drainage Basin-Early Implement / 15729 WW Stormwater Management	567000 Blds; Structures & Improvements	Green Infrastructure Projects	$772,000
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10031235-0001 R&R Collection System / 15722 WWE R & R Collection System	567000 Blds; Structures & Improvements	R & R Collection System	$18,798,000
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10015556-0001 Southeast Community Center / 15716 WW Southeast Community Center	567000 Blds; Structures & Improvements	Southeast Community Center	$4,500,000

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10015557-0001 Islais Creek Outlet / 15717 WW Islais Creek Outfall	567000 Blds; Structures & Improvements	Islais Creek Outlet	$15,846,679
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10026508-0001 Bond-Commercial Paper Expense / 17732 WW Bond-commercial Paper Exp	573110 Bond Issuance Cost- Unamortized	Financing Costs	$1,662,739
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10026508-0001 Bond-Commercial Paper Expense / 17732 WW Bond-commercial Paper Exp	567000 Blds; Structures & Improvements	Revenue Bond Oversight Committee 0.05%	$5,561

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10026508-0001 Bond-Commercial Paper Expense / 17732 WW Bond-commercial Paper Exp	573110 Bond Issuance Cost- Unamortized	Financing Costs	$6,657,470
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10026508-0001 Bond-Commercial Paper Expense / 17732 WW Bond-commercial Paper Exp	581130 GF-CON-Internal Audits	CSA 0.2% Controller's Audit Fund	$227,389
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10026508-0001 Bond-Commercial Paper Expense / 17732 WW Bond-commercial Paper Exp	567000 Blds; Structures & Improvements	Revenue Bond Oversight Committee 0.05%	$23,026
Total Appropriation on Reserve				~~**$170,869,066**~~ **57,174,566**

Section 5. Associated bond financing costs up to $8,320,209 are also hereby appropriated, including but not limited to, issuance costs, debt service reserve, capitalized interest, rating agency, and disclosure costs, all on Controller's reserve pending receipt of bond proceeds. To the extent that net available bond proceeds after financing costs are more than budgeted, the SFPUC may use such surplus bond proceeds as a substitute for other sources budgeted in this ordinance.

Section 6. The Controller is authorized to record transfers between funds and adjust the accounting treatment of sources and uses appropriated in this ordinance as necessary to conform to Generally Accepted Accounting Principles and other laws.

Section 7. The sources of funding outlined below are herein appropriated to reflect the funding available for Fiscal Year 2021-2022.

SOURCES Appropriation

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10026508-0001 Bond-Commercial Paper Expense / 17732 WW Bond-commercial Paper Exp	480111 Proceeds from Sale of Bonds- Face Amount	Proceeds Sale of Bonds	$212,875,055

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10026508-0001 Bond-Commercial Paper Expense / 17732 WW Bond-commercial Paper Exp	480111 Proceeds from Sale of Bonds- Face Amount	Proceeds Sale of Bonds	$79,869,631
20550 WWE CPF Repair & Replace / 229267 WWE0101 Administration	10031235-0001 R&R Collection System / 15722 WWE R&R Collection System	495022 ITI Fr 5C-Cleanwater ProgramFd	Wastewater Enterprise Revenue	$110,252,390
20530 WWE CPF Capacity Fee Prog / 229267 WWE0101 Administration	10031235-0001 R&R Collection System / 15722 WWE R&R Collection System	479993 Capacity Fees	Wastewater Capacity Fee	$5,319,000
Total SOURCES Appropriation				**$408,316,076**

Section 8. The uses of funding outlined below are herein appropriated in Accounts 567000 (Buildings, Structures, and Improvements), 584030 (Capital Renewal Projects), 581130 (CON-Internal Audits), 573110 (Bond Issuance Cost-Unamortized), and 567000

(Revenue Bond Oversight Committee), reflecting the projected uses of funding to support the Wastewater Capital Improvement Program at the San Francisco Public Utilities Commission for Fiscal Year 2021-2022.

USES Appropriation

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10015795-0001 Biosolids/Digestor Project / 15728 Biosolids/Digestor Project	567000 Blds; Structures & Improvements	Biosolids/Digestor Project	$81,744,663
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10026823-0001 Treatment Plants – Southeast / 15735 WW Treatment Plant Improvement	567000 Blds; Structures & Improvements	Treatment Plants – Southeast	$14,033,381

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10015813-0001 Treatment Plant Improvement / 15736 WW Treatment Plant Improvement	567000 Blds; Structures & Improvements	Treatment Plants – North Point	$10,209,884
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10015813-0001 Treatment Plant Improvement / 15736 WW Treatment Plant Improvement	567000 Blds; Structures & Improvements	Treatment Plants – Oceanside	$13,363,824
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10015791-0001 Collection System Improvements / 15726 WW Collection System Improvement	567000 Blds; Structures & Improvements	Collection System Improvements	$12,710,141

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10026827-0001 Collection- Pump Station / 15726 WW Collection System Improvement	567000 Blds; Structures & Improvements	Pump Station/ Force Mains	$2,337,536
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10015801-0001 Flood Resilience-hydraulic / 15730 WW Flood Resilience-hydraulic	567000 Blds; Structures & Improvements	Flood Resilience	$45,000,000
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10002780-0001 Drainage Basin/Early Implement / 15729 WW Stormwater Management	567000 Blds; Structures & Improvements	Green Infrastructure Projects	$1,544,368

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20550 WWE CPF Repair & Replace / 229267 WWE0101 Administration	10031235-0001 R&R Collection System / 15722 WWE R & R Collection System	584030 Capital Renewal Projects	R & R Collection System	$83,627,015
20530 WWE CPF Capacity Fee Prog / 229267 WWE0101 Administration	10031235-0001 R&R Collection System / 15722 WWE R & R Collection System	584030 Capital Renewal Projects	R & R Collection System	$5,319,000
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10031235-0001 R&R Collection System / 15722 WWE R & R Collection System	567000 Blds; Structures & Improvements	R & R Collection System	$26,756,985
20550 WWE CPF Repair & Replace / 229267 WWE0101 Administration	10031247-0001 R&R Treatment Facilities / 15724 WWE R & R Treatment Facilities	584030 Capital Renewal Projects	R & R Treatment Facilities	$26,625,375

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10015546-0001 Treasure Island Improvements / 15707 WW Treasure Island Capital Imp	567000 Blds; Structures & Improvements	Treasure Island Improvements	$35,000,000
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10015554-0001 Ocean Beach Project / 15714 WW Ocean Beach Project	567000 Blds; Structures & Improvements	Ocean Beach Project	$2,416,702
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10015557-0001 Islais Creek Outlet / 15717 WW Islais Creek Outfall	567000 Blds; Structures & Improvements	Islais Creek Outlet	$3,715,499

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10026508-0001 Bond-Commercial Paper Expense / 17732 WW Bond-commercial Paper Exp	573110 Bond Issuance Cost- Unamortized	Financing Costs	$31,824,820
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10026508-0001 Bond-Commercial Paper Expense / 17732 WW Bond-commercial Paper Exp	567000 Blds; Structures & Improvements	Revenue Bond Oversight Committee 0.05%	$106,438
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10026508-0001 Bond-Commercial Paper Expense / 17732 WW Bond-commercial Paper Exp	573110 Bond Issuance Cost- Unamortized	Financing Costs	$11,709,367

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10026508-0001 Bond-Commercial Paper Expense / 17732 WW Bond-commercial Paper Exp	581130 GF-CON-Internal Audits	CSA 0.2% Controller's Audit Fund	$231,143
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10026508-0001 Bond-Commercial Paper Expense / 17732 WW Bond-commercial Paper Exp	567000 Blds; Structures & Improvements	Revenue Bond Oversight Committee 0.05%	$39,935
Total USES Appropriation				**$408,316,076**

Section 9. Of the above appropriated amount, $231,143, representing 0.2% of the expenditure budget net of bond financing and audit costs, shall be allocated to support the Controller's Audit Fund, pursuant to Charter Appendix F1.113; and $146,373, representing 0.05% of gross bond proceeds is to be allocated to support the Public Utilities Commission Revenue Bond Oversight Committee, pursuant to Administrative Code Section 5A.31. These appropriations may be increased or decreased by the Controller based on changes to expenditure appropriations or actual gross bond proceeds to conform to the applicable Charter and Administrative Code formulas.

Section 10. $292,744,686 of the total appropriation is hereby placed on Controller's Appropriation Reserve, as set forth below. Release of appropriation reserves by the Controller is subject to the Controller's certification of funds availability, including proceeds of indebtedness, and for construction related expenditures (excluding program management, planning and design) for these projects, as applicable, is also subject to the prior occurrence of the SFPUC's and the Board of Supervisors' discretionary adoption of California Environmental Quality Act (CEQA) Findings for projects, following review and consideration of completed project related environmental analysis, where required.

Appropriation on Reserve

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10015795-0001 Biosolids/Digestor Project / 15728 Biosolids/Digestor Project	567000 Blds; Structures & Improvements	Biosolids/Digestor Project	$81,744,663

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10026823-0001 Treatment Plants – Southeast / 15735 WW Treatment Plant Improvement	567000 Blds; Structures & Improvements	Treatment Plants – Southeast	$14,033,381
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10015813-0001 Treatment Plant Improvement / 15736 WW Treatment Plant Improvement	567000 Blds; Structures & Improvements	Treatment Plants – North Point	$10,209,884
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10015813-0001 Treatment Plant Improvement / 15736 WW Treatment Plant Improvement	567000 Blds; Structures & Improvements	Treatment Plants – Oceanside	$13,363,824

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10015791-0001 Collection System Improvement / 15726 WW Collection System Improvement	567000 Blds; Structures & Improvements	Collection System Improvements	$12,710,141
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10026827-0001 Collection-Pump Station / 15726 WW Collection System Improvement	567000 Blds; Structures & Improvements	Pump Station/ Force Mains	$2,337,536
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10015801-0001 Flood Resilience-hydraulic / 15730 WW Flood Resilience-hydraulic	567000 Blds; Structures & Improvements	Flood Resilience	$45,000,000

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10002780-0001 Drainage Basin-Early Implement / 15729 WW Stormwater Management	567000 Blds; Structures & Improvements	Green Infrastructure Projects	$1,544,368
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10031235-0001 R&R Collection System / 15722 WWE R & R Collection System	567000 Blds; Structures & Improvements	R & R Collection System	$26,756,985
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10015546-0001 Treasure Island Improvements / 15707 WW Treasure Island Capital Imp	567000 Blds; Structures & Improvements	Treasure Island Improvements	$35,000,000

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10015554-0001 Ocean Beach Project/ 15714 WW Ocean Beach Project	567000 Blds; Structures & Improvements	Ocean Beach Project	$2,416,702
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10015557-0001 Islais Creek Outlet / 15717 WW Islais Creek Outfall	567000 Blds; Structures & Improvements	Islais Creek Outlet	$3,715,499
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10026508-0001 Bond-commercial Paper Expense / 17732 WW Bond-commercial Paper Exp	573110 Bond Issuance Cost- Unamortized	Financing Costs	$31,824,820

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20719 SSIP CPF 2021 Bond Fund / 229267 WWE0101 Administration	10026508-0001 Bond-commercial Paper Expense / 17732 WW Bond-commercial Paper Exp	567000 Blds; Structures & Improvements	Revenue Bond Oversight Committee 0.05%	$106,438
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10026508-0001 Bond-commercial Paper Expense / 17732 WW Bond-commercial Paper Exp	573110 Bond Issuance Cost- Unamortized	Financing Costs	$11,709,367
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10026508-0001 Bond-commercial Paper Expense / 17732 WW Bond-commercial Paper Exp	581130 GF-CON-Internal Audits	CSA 0.2% Controller's Audit Fund	$231,143

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20707 Wastewater 2021 Capital Bond Fund / 229267 WWE0101 Administration	10026508-0001 Bond-commercial Paper Expense / 17732 WW Bond-commercial Paper Exp	567000 Blds; Structures & Improvements	Revenue Bond Oversight Committee 0.05%	$39,935
Total Appropriation on Reserve				**$292,744,686**

Section 11. Associated bond financing costs up to $43,534,187 are also hereby appropriated, including but not limited to, issuance costs, debt service reserve, capitalized interest, rating agency, and disclosure costs, all on Controller's reserve pending receipt of bond proceeds. To the extent that net available bond proceeds after financing costs are more than budgeted, the SFPUC may use such surplus bond proceeds as a substitute for other sources budgeted in this ordinance.

Section 12. The Controller is authorized to record transfers between funds and adjust the accounting treatment of sources and uses appropriated in this ordinance as necessary to conform to Generally Accepted Accounting Principles and other laws.

Section 13. De-Appropriating and Re-appropriating of $391,415,748 in the Wastewater Enterprise Capital Improvement Program for FY 2020-2021 and placing $391,415,748 in Controller's reserve by project. The uses of funding outlines below are herein de-appropriated and re-appropriated in account 567000 (Buildings, Structures, and Improvements) and reflect

the projected uses to fund the Wastewater Enterprise Capital Budget for Fiscal Year 2020-2021.

USES De-Appropriation

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20510 WWE CPF 2016A Bond Fund / 229267 WWE0101 Administration	10015793-0001 Central Bayside System Improvement / 15727 Central Bayside System Improvement	567000 Blds; Structures & Improvements	Central Bayside System Improvement	$24,800,000
20715 WWE CPF 2017A Rev Bond / 229267 WWE0101 Administration	10015793-0001 Central Bayside System Improvement / 15727 Central Bayside System Improvement	567000 Blds; Structures & Improvements	Central Bayside System Improvement	$27,745,788

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20706 Wastewater Capital Fund / 229267 WWE0101 Administration	10015793-0001 Central Bayside System Improvement / 15727 Central Bayside System Improvement	567000 Blds; Structures & Improvements	Central Bayside System Improvement	$20,350,000
20715 WWE CPF 2017A Rev Bond / 229267 WWE0101 Administration	10015795-0001 Biosolid Digestor / 15728 Biosolid Digestor Project	567000 Blds; Structures & Improvements	Biosolid Digestor Project	$38,600,803
20706 Wastewater Capital Fund / 229267 WWE0101 Administration	10015795-0001 Biosolid Digestor / 15728 Biosolid Digestor Project	567000 Blds; Structures & Improvements	Biosolid Digestor Project	181,201,650

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20706 Wastewater Capital Fund / 229267 WWE0101 Administration	10002780-0001 Drainage Basin-Early Implement / 15729 Drainage Basin/Early Implement	567000 Blds; Structures & Improvements	Drainage Basin/Early Implement	$34,011,490
20706 Wastewater Capital Fund / 229267 WWE0101 Administration	10015813-0001 Treatment Plant Improvements / 15736 Treatment Plant Improvements	567000 Blds; Structures & Improvements	Treatment Plant Improvements - North Point	$64,706,017
Total USES De-Appropriation				**$391,415,748**

USES Re-Appropriation

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20715 WWE CPF 2017A Rev Bond / 229267 WWE0101 Administration	10015791-0001 Collection System Improvements / 15726 Collection System Improvements	567000 Blds; Structures & Improvements	Collection System Improvements	$55,580,148

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20715 WWE CPF 2017A Rev Bond / 229267 WWE0101 Administration	10015801-0001 Flood Resilience/Hydraulic Improvements / 15730 Flood Resilience/Hydraulic Improvements	567000 Blds; Structures & Improvements	Flood Resilience/Hydraulic Improvements	$10,766,443
20706 Wastewater Capital Fund / 229267 WWE0101 Administration	10015801-0001 Flood Resilience/Hydraulic Improvements / 15730 Flood Resilience/Hydraulic Improvements	567000 Blds; Structures & Improvements	Flood Resilience/Hydraulic Improvements	67,758,942
20706 Wastewater Capital Fund / 229267 WWE0101 Administration	10029731-0002 Ssip Program-wide Management / 15733 WW Ssip Program-wide Management	567000 Blds; Structures & Improvements	Ssip Program-wide Management	$7,893,744

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
20706 Wastewater Capital Fund / 229267 WWE0101 Administration	10026823-0001 Treatment Plant Improvements-Southeast / 15735 Treatment Plant Improvements	567000 Blds; Structures & Improvements	Treatment Plant Improvements-Southeast	$224,616,471
20510 WWE CPF 2016A Bond Fund / 229267 WWE0101 Administration	10026823-0001 Treatment Plant Improvements-Southeast / 15735 Treatment Plant Improvements	567000 Blds; Structures & Improvements	Treatment Plant Improvements-Southeast	$24,800,000
Total USES Re-Appropriation				**$391,415,748**

Section 14. This Board, by Ordinance No. 89-15, authorized the SFPUC to enter into one or more State of California State Water Resources Control Board Installment Sale Agreements under the Clean Water State Revolving Fund (State Loan Funds); by Ordinance No. 144-18, authorized the SFPUC to enter into one or more federal Water Infrastructure Financing Innovation Act loans (Federal Loan Funds); and amended and supplemented Ordinance No. 107-14 to authorize, in addition to the issuance of Wastewater revenue bonds, the execution and delivery of State Loan Funds to finance projects, provided that any such

indebtedness shall not exceed in an aggregate principal amount $819,035,941. The Board is concurrently considering with this Ordinance a SFPUC Wastewater Revenue Bond issuance, including authorization to obtain one or more State Revolving Fund (SRF) and Water Infrastructure Finance and Innovation Act (WIFIA) loans, not to exceed $987,414,494. The Sources of Funds herein appropriated in Section 1 and Section 7 of this Ordinance, or previously appropriated by Ordinance 105-14, may include State Loan Funds, State Grant Funds, Federal Grant Funds, or Federal Loan Funds when available, subject to compliance with the terms of the authorizing legislation for such Funds. The Controller is authorized to record substitution of the source of funds appropriated with State Loan Funds, State Grant Funds, Federal Grant Funds, or Federal Loan Funds as necessary to conform to Generally Accepted Accounting Principles and other laws.

APPROVED AS TO FORM:
DENNIS J. HERRERA, City Attorney

By: /s/
JON GIVNER
Deputy City Attorney

FUNDS AVAILABLE
BEN ROSENFIELD, Controller

By: /s/
BEN ROSENFIELD
Controller

City and County of San Francisco
Tails
Ordinance

City Hall
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4689

File Number: 200832 **Date Passed:** September 29, 2020

Ordinance appropriating a total of $579,185,142 of proceeds from revenue bonds, State of California Water Resources Control Board's revolving loan funds (State Loan Funds) or grant funds (State Grant Funds), wastewater revenue and capacity fees for the San Francisco Public Utilities Commission (SFPUC) Wastewater Enterprise's Capital Improvement Program for Fiscal Year (FY) 2020-2021 at $170,869,066 and for FY2021-2022 at $408,316,076, de-appropriating and re-appropriating $391,415,748, and placing $349,919,252 in Revenue Bonds or State Loan or Grant Funds by project on Controller's Reserve subject to the Controller's certification of funds availability, including proceeds of indebtedness, and for construction related expenditures (excluding program management, planning and design) for these projects, as applicable, is also subject to the prior occurrence of the SFPUC's and the Board of Supervisors' discretionary adoption of California Environmental Quality Act Findings for projects, following review and consideration of completed project related environmental analysis, where required.

August 13, 2020 Budget and Appropriations Committee - CONTINUED

August 21, 2020 Budget and Appropriations Committee - AMENDED

August 21, 2020 Budget and Appropriations Committee - RECOMMENDED AS AMENDED

September 15, 2020 Board of Supervisors - CONTINUED ON FIRST READING

Ayes: 11 - Fewer, Haney, Mandelman, Mar, Peskin, Preston, Ronen, Safai, Stefani, Walton and Yee

September 22, 2020 Board of Supervisors - PASSED ON FIRST READING

Ayes: 10 - Fewer, Haney, Mandelman, Mar, Peskin, Preston, Ronen, Safai, Walton and Yee
Noes: 1 - Stefani

September 29, 2020 Board of Supervisors - FINALLY PASSED

Ayes: 10 - Fewer, Haney, Mandelman, Mar, Peskin, Preston, Ronen, Safai, Walton and Yee
Noes: 1 - Stefani

File No. 200832

I hereby certify that the foregoing Ordinance was FINALLY PASSED on 9/29/2020 by the Board of Supervisors of the City and County of San Francisco.

Angela Calvillo
Clerk of the Board

London N. Breed
Mayor

10/1/2020
Date Approved

Page intentionally left blank

[Appropriation - Proceeds from Revenue Bonds, State Loan/Grant Funds, Water Revenues/Capacity Fees - $344,846,164; De- and Re-Appropriation - Capital Improvement Projects - $14,413,167; De-appropriation - Capital Projects - $3,528,113 - FYs 2020-2022]

Ordinance appropriating a total of $344,846,164 of proceeds from Revenue Bonds, State of California Water Resources Control Board's revolving loan funds (State Loan Funds) or grant funds (State Grant Funds), water revenues, and water capacity fees for the San Francisco Public Utilities Commission (SFPUC) Water Enterprise's Capital Improvement Program for FY2020-2021 at $132,133,926 and for FY2021-2022 at $212,712,238; and de-appropriating $3,528,113 Water Capital Project funding to Water's Fund balance in FY2020-2021; and de-appropriating and re-appropriating Water Capital Project appropriations of $14,413,167 in FY2020-2021 and placing $238,514,485 of Revenue Bond and State Loan Funds or State Grant Funds proceeds by project on Controller's Reserve subject to the Controller's certification of funds availability, including proceeds of indebtedness, and for construction related expenditures (excluding program management, planning and design) for these projects, as applicable, is also subject to the prior occurrence of the SFPUC's and the Board of Supervisors' discretionary adoption of California Environmental Quality Act findings for projects, following review and consideration of completed project related environmental analysis, where required.

Note: **Unchanged Code text and uncodified text** are in plain Arial font.
Additions to Codes are in *single-underline italics Times New Roman font*.
Deletions to Codes are in ~~*strikethrough italics Times New Roman font.*~~
Board amendment additions are in double-underlined Arial font.
Board amendment deletions are ~~in strikethrough Arial font.~~
Asterisks (* * * *) indicate the omission of unchanged Code subsections or parts of tables.

Be it ordained by the People of the City and County of San Francisco:

Section 1. The sources of funding outlined below are herein appropriated to reflect the funding available for Fiscal Year 2020-2021.

SOURCES Appropriation

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26418 Water Regional 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Ex / 17731 UB Non-WSIP Water Bond-CP Exp	480111 Proceeds from Sale of Bonds- Face Amount	Proceeds from Sale of Bonds	$40,574,300
26419 Water Local 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Ex / 17731 UB Non-WSIP Water Bond-CP Exp	480111 Proceeds from Sale of Bonds- Face Amount	Proceeds from Sale of Bonds	$42,405,626

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26570 WTR CPF Other Fund / 232396 WTR01 Administration	10015493-0001 Wtr:Revenue Transfer-Sub Fund / 15680 UW WTR Revenue Transfer	495030 ITI Fr 5W-Water Department Fd	Water Enterprise Revenue	$7,000,000
26600 WTR CPF Wholesale Customer / 232396 WTR01 Administration	10015493-0001 Wtr:Revenue Transfer-Sub Fun / 15680 UW WTR Revenue Transfer	495030 ITI Fr 5W-Water Department Fd	Water Enterprise Revenue	$ 13,000,000
25960 WTR Revenue Continuing / 232396 WTR01 Administration	10015493-0001 Wtr:Revenue Transfer-Sub Fun / 15680 UW WTR Revenue Transfer	495030 ITI Fr 5W-Water Department Fd	Water Enterprise Revenue	$27,600,000

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26510 WTR CPF Capacity Fee Prog / 232396 WTR01 Administration	10015134_0001 Local Water Conveyance / 15526 UW Local Water Conveyance	479993 Capacity Fees	Water Capacity Fees	$1,554,000
Total SOURCES Appropriation				**$132,133,926**

Section 2. The uses of funding outlined below are herein appropriated in Accounts 567000 (Buildings, Structures, and Improvements), 584030 (Capital Renewal Projects), 581130 (CON-Internal Audits), 573110 (Bond Issuance Cost-Unamortized), and 567000 (Revenue Bond Oversight Committee), reflecting projected uses of funding to support the Water Capital Improvement Program at the San Francisco Public Utilities Commission for Fiscal Year 2020-2021.

1 **USES Appropriation**

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26418 Water Regional 2021 Bond Fund / 232421 WTR0501 WST Admin	10015056-0001 Regional Water Treatment Program / 15479 UW Regional Water Treatment Program	567000 Blds; Structures & Improvements	Regional Water Treatment Program	$9,225,155
26570 Revenue Local / 232421 WTR0501 WST Admin	10015102-0001 Watershed & Land Management / 15499 UW Watershed & Land Management	584030 Capital Renewal Projects	Watershed & Land Management	$7,000,000
26600 Revenue Wholesale / 232421 WTR0501 WST Admin	10015102-0001 Watershed & Land Management / 15499 UW Watershed & Land Management	584030 Capital Renewal Projects	Watershed & Land Management	$13,000,000

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26418 Water Regional 2021 Bond Fund / 232421 WTR0501 WST Admin	10015102-0001 Watershed & Land Management / 15499 UW Watershed & Land Management	567000 Blds; Structures & Improvements	Watershed & Land Management	$17,720,000
26418 Water Regional 2021 Bond Fund / 232421 WTR0501 WST Admin	10015117-0001 Communication & Monitoring Program / 15513 UW Communication & Monitoring	567000 Blds; Structures & Improvements	Communication & Monitoring Program	$500,000
26418 Water Regional 2021 Bond Fund / 232421 WTR0501 WST Admin	10015123-0001 Buildings & Grounds Regional / 15516 UW Buildings & Grounds - Regional	567000 Blds; Structures & Improvements	Buildings & Grounds Regional	$3,000,000

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26418 Water Regional 2021 Bond Fund / 232421 WTR0501 WST Admin	10015233-0001 Long Term Monitoring & Permit Program / 15549 UW Long Term Monitoring & Perm	567000 Blds; Structures & Improvements	Long Term Monitoring & Permit Program	$4,043,000
26510 Capacity Fees / 232406 WTR0304 CDD Engineering	10015134-0001 Local Water Conveyance / 15531 UW Pipeline Replacement	584030 Capital Renewal Projects	Local Water Conveyance/ Distribution	$1,554,000
25960 Revenue Continuing / 232406 WTR0304 CDD Engineering	10015134-0001 Local Water Conveyance / 15531 UW Pipeline Replacement	584030 Capital Renewal Projects	Local Water Conveyance/ Distribution	$27,600,000

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10015134-0001 Local Water Conveyance / 15531 UW Pipeline Replacement	567000 Blds; Structures & Improvements	Local Water Conveyance/ Distribution	$4,896,000
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10033818-0001 Town of Sunol Pipeline / 20505 Town of Sunol Pipeline	567000 Blds; Structures & Improvements	Town of Sunol Pipeline	$525,000
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10015425-0001 Automated Water Meter Program / 15612 UW Automated Meter Reading System	567000 Blds; Structures & Improvements	Automated Water Meter Program	$4,239,638

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10015222-0001 Local Tanks & Reservoirs / 15538 UW Local Reservoir	567000 Blds; Structures & Improvements	Local Tanks & Reservoirs	$3,325,000
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10033819-0001 Lombard Geotechnical Improvements / 21006 Lombard Geotechnical Improvement	567000 Blds; Structures & Improvements	Lombard Geotechnical Improvements	$150,000
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10015242-0001 SF Westside Recycled Water Project / 15558 UW Recycled Water Project	567000 Blds; Structures & Improvements	SF Westside Recycled Water Project	$5,057,144

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10015427-0001 Buildings & Ground Improvements / 15617 UW Building & Grounds Improvement	567000 Blds; Structures & Improvements	Buildings & Ground Improvements	$15,150,000
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10034505-0001 Water Supply Project / 20711 Water Supply Project	567000 Blds; Structures & Improvements	Water Supply Project	$2,702,000
26418 Water Regional 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Expense / 17731 UB Non-WSIP Water Bond-CP Exp	573110 Bond Issuance Cost-Unamortized	Financing Cost	$6,025,858

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26418 Water Regional 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Expense / 17731 UB Non-WSIP Water Bond-CP Exp	581130 GF-CON-Internal Audits	CSA 0.2% Controller's Audit Fund	$40,000
26418 Water Regional 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Expense / 17731 UB Non-WSIP Water Bond-CP Exp	567000 Blds; Structures & Improvements	Revenue Bond Oversight Committee 0.05%	$20,287
26419 Water Local 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Expense / 17731 UB Non-WSIP Water Bond-CP Exp	573110 Bond Issuance Cost-Unamortized	Financing Cost	$6,281,333

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26419 Water Local 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Expense / 17731 UB Non-WSIP Water Bond-CP Exp	581130 GF-CON-Internal Audits	CSA 0.2% Controller's Audit Fund	$58,308
26419 Water Local 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Expense / 17731 UB Non-WSIP Water Bond-CP Exp	567000 Blds; Structures & Improvements	Revenue Bond Oversight Committee 0.05%	$21,203
Total USES Appropriation				**$132,133,926**

Section 3. Of the above appropriated amount, $98,308, representing 0.2% of the expenditure budget net of bond financing and audit costs, shall be allocated to support the Controller's Audit Fund, pursuant to Charter Appendix F1.113; and $41,490, representing 0.05% of gross bond proceeds, shall be allocated to support the Public Utilities Commission Revenue Bond Oversight Committee, pursuant to Administrative Code Section 5A.31. These appropriations may be increased or decreased by the Controller based on changes to expenditure appropriations or actual gross bond proceeds to conform to the applicable Charter and Administrative Code formulas.

Section 4. $82,979,926 is hereby placed on Controller's Appropriation Reserve, as set forth below. Release of appropriation reserves by the Controller is subject to the Controller's certification of funds availability, including proceeds of indebtedness, and for construction related expenditures (excluding program management, planning and design) for these projects, as applicable, is also subject to the prior occurrence of the SFPUC's and the Board of Supervisors' discretionary adoption of California Environmental Quality Act (CEQA) findings for projects, following review and consideration of completed project related environmental analysis, where required.

Appropriation on Reserve

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26418 Water Regional 2021 Bond Fund / 232421 WTR0501 WST Admin	10015056-0001 Regional Water Treatment Program / 15479 UW Regional Water Treatment Program	567000 Blds; Structures & Improvements	Regional Water Treatment Program	$9,225,155

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26418 Water Regional 2021 Bond Fund / 232421 WTR0501 WST Admin	10015102-0001 Watershed & Land Management / 15499 UW Watershed & Land Management	567000 Blds; Structures & Improvements	Watershed & Land Management	$17,720,000
26418 Water Regional 2021 Bond Fund / 232421 WTR0501 WST Admin	10015117-0001 Communication & Monitoring Program / 15513 UW Communication & Monitoring	567000 Blds; Structures & Improvements	Communication & Monitoring Program	$500,000
26418 Water Regional 2021 Bond Fund / 232421 WTR0501 WST Admin	10015123-0001 Buildings & Grounds Regional / 15516 UW Buildings & Grounds - Regional	567000 Blds; Structures & Improvements	Buildings & Grounds Regional	$3,000,000

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26418 Water Regional 2021 Bond Fund / 232421 WTR0501 WST Admin	10015233-0001 Long Term Monitoring & Permit Program / 15549 UW Long Term Monitoring & Perm	567000 Blds; Structures & Improvements	Long Term Monitoring & Permit Program	$4,043,000
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10015134-0001 Local Water Conveyance / 15531 UW Pipeline Replacement	567000 Blds; Structures & Improvements	Local Water Conveyance/ Distribution	$4,896,000
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10033818-0001 Town of Sunol Pipeline / 20505 Town of Sunol Pipeline	567000 Blds; Structures & Improvements	Town of Sunol Pipeline	$525,000

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10015425-0001 Automated Water Meter Program / 15612 UW Automated Meter Reading System	567000 Blds; Structures & Improvements	Automated Water Meter Program	$4,239,638
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10015222-0001 Local Tanks & Reservoirs / 15538 UW Local Reservoir	567000 Blds; Structures & Improvements	Local Tanks & Reservoirs	$3,325,000
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10033819-0001 Lombard Geotechnical Improvements / 21006 Lombard Geotechnical Improvement	567000 Blds; Structures & Improvements	Lombard Geotechnical Improvements	$150,000

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10015242-0001 SF Westside Recycled Water Project / 15558 UW Recycled Water Project	567000 Blds; Structures & Improvements	SF Westside Recycled Water Project	$5,057,144
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10015427-0001 Buildings & Ground Improvements / 15617 UW Building & Grounds Improvement	567000 Blds; Structures & Improvements	Buildings & Ground Improvements	$15,150,000
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10034505-0001 Water Supply Project / 20711 Water Supply Project	567000 Blds; Structures & Improvements	Water Supply Project	$2,702,000

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26418 Water Regional 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Expense / 17731 UB Non-WSIP Water Bond-CP Exp	573110 Bond Issuance Cost-Unamortized	Financing Cost	$6,025,858
26418 Water Regional 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Expense / 17731 UB Non-WSIP Water Bond-CP Exp	581130 GF-CON-Internal Audits	CSA 0.2% Controller's Audit Fund	$40,000
26418 Water Regional 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Expense / 17731 UB Non-WSIP Water Bond-CP Exp	567000 Blds; Structures & Improvements	Revenue Bond Oversight Committee 0.05%	$20,287

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26419 Water Local 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Expense / 17731 UB Non-WSIP Water Bond-CP Exp	573110 Bond Issuance Cost-Unamortized	Financing Cost	$6,281,333
26419 Water Local 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Expense / 17731 UB Non-WSIP Water Bond-CP Exp	581130 GF-CON-Internal Audits	CSA 0.2% Controller's Audit Fund	$58,308
26419 Water Local 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Expense / 17731 UB Non-WSIP Water Bond-CP Exp	567000 Blds; Structures & Improvements	Revenue Bond Oversight Committee 0.05%	$21,203
Total Appropriation on Reserve				**$82,979,926**

Section 5. Associated bond financing costs up to $12,307,191 are also hereby appropriated, including but not limited to, issuance costs, debt service reserve, capitalized interest, rating agency, and disclosure costs, all on Controller's Reserve pending receipt of bond proceeds. To the extent that net available bond proceeds after financing costs are more than budgeted, the SFPUC may use such surplus bond proceeds as a substitute for other sources budgeted in this ordinance.

Section 6: The Controller is authorized to record transfers between funds and adjust the accounting treatment of sources and uses appropriated in this ordinance as necessary to conform to Generally Accepted Accounting Principles and other laws.

Section 7. The sources of funding outlined below are herein appropriated to reflect the funding available for Fiscal Year 2021-2022.

SOURCES Appropriation

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26418 Water Regional 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Expense / 17731 UB Non-WSIP Water Bond-CP Exp	480111 Proceeds from Sale of Bonds- Face Amount	Proceeds from Sale of Bonds	$51,496,684

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26419 Water Local 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Expense / 17731 UB Non-WSIP Water Bond-CP Exp	480111 Proceeds from Sale of Bonds- Face Amount	Proceeds from Sale of Bonds	$104,037,875
26570 WTR CPF Other Fund / 232396 WTR01 Administration	10015493-0001 WTR Revenue Transfer-Sub Fund / 15680 UW WTR Revenue Transfer	495030 ITI Fr 5W-Water Department Fd	Water Enterprise Revenue	$6,985,538
26600 WTR CPF Wholesale Customer / 232396 WTR01 Administration	10015493-0001 WTR Revenue Transfer-Sub Fund / 15680 UW WTR Revenue Transfer	495030 ITI Fr 5W-Water Department Fd	Water Enterprise Revenue	$12,973,143

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
25960 WTR Revenue Continuing / 232396 WTR01 Administration	10015493-0001 WTR Revenue Transfer-Sub Fund / 15680 UW WTR Revenue Transfer	495030 ITI Fr 5W-Water Department Fd	Water Enterprise Revenue	$35,698,998
26510 WTR CPF Capacity Fee Prog / 232396 WTR01 Administration	10015134-0001 Local Water Conveyance / 15526 UW Local Water Conveyance	479993 Capacity Fees	Water Capacity Fees	$1,520,000
Total SOURCES Appropriation				**$212,712,238**

Section 8. The uses of funding outlined below are herein appropriated in Accounts 567000 (Buildings, Structures, and Improvements), 584030 (Capital Renewal Projects), 581130 (CON-Internal Audits), 573110 (Bond Issuance Cost-Unamortized), and 567000 (Revenue Bond Oversight Committee), reflecting the projected uses of funding to support the Water Capital Improvement Program at the San Francisco Public Utilities Commission for Fiscal Year 2021-2022.

1 **USES Appropriation**

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26418 Water Regional 2021 Bond Fund / 232421 WTR0501 WST Admin	10015056-0001 Regional Water Treatment Program / 15479 UW Regional Water Treatment Program	567000 Blds; Structures & Improvements	Regional Water Treatment Program	$12,546,000
26418 Water Regional 2021 Bond Fund / 232421 WTR0501 WST Admin	10015089-0001 Water Supply & Storage Program / 15492 UW Water Supply & Storage	567000 Blds; Structures & Improvements	Water Supply & Storage Program	$29,842,000
26570 Revenue Local / 232421 WTR0501 WST Admin	10015102-0001 Watershed & Land Management / 15499 UW Watershed & Land Management	584030 Capital Renewal Projects	Watershed & Land Management	$5,201,350

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26600 Revenue Wholesale / 232421 WTR0501 WST Admin	10015102-0001 Watershed & Land Management / 15499 UW Watershed & Land Management	584030 Capital Renewal Projects	Watershed & Land Management	$9,659,650
26570 Revenue Local / 232421 WTR0501 WST Admin	10015117-0001 Communication & Monitoring Program / 15513 UW Communication & Monitoring	584030 Capital Renewal Projects	Communication & Monitoring Program	$168,652
26600 Revenue Wholesale / 232421 WTR0501 WST Admin	10015117-0001 Communication & Monitoring Program / 15513 UW Communication & Monitoring	584030 Capital Renewal Projects	Communication & Monitoring Program	$313,210

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26570 Revenue Local / 232421 WTR0501 WST Admin	10015123-0001 Buildings & Grounds Regional / 15516 UW Buildings & Grounds - Regional	584030 Capital Renewal Projects	Buildings & Grounds Regional	$215,537
26600 Revenue Wholesale / 232421 WTR0501 WST Admin	10015123-0001 Buildings & Grounds Regional / 15516 UW Buildings & Grounds - Regional	584030 Capital Renewal Projects	Buildings & Grounds Regional	$400,282
26418 Water Regional 2021 Bond Fund / 232421 WTR0501 WST Admin	10015123-0001 Buildings & Grounds Regional / 15516 UW Buildings & Grounds - Regional	567000 Blds; Structures & Improvements	Buildings & Grounds Regional	$1,384,181

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26570 Revenue Local / 232421 WTR0501 WST Admin	10015233-0001 Long Term Monitoring & Permit Program / 15549 UW Long Term Monitoring & Perm	584030 Capital Renewal Projects	Long Term Monitoring & Permit Program	$1,400,000
26600 Revenue Wholesale / 232421 WTR0501 WST Admin	10015233-0001 Long Term Monitoring & Permit Program / 15549 UW Long Term Monitoring & Perm	584030 Capital Renewal Projects	Long Term Monitoring & Permit Program	$2,600,000
26510 Capacity Fees / 232406 WTR0304 CDD Engineering	10015134-0001 Local Water Conveyance / 15531 UW Pipeline Replacement	584030 Capital Renewal Projects	Local Water Conveyance/ Distribution	$1,520,000

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
25960 Revenue Continuing / 232406 WTR0304 CDD Engineering	10015134-0001 Local Water Conveyance / 15531 UW Pipeline Replacement	584030 Capital Renewal Projects	Local Water Conveyance/ Distribution	$35,698,998
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10015134-0001 Local Water Conveyance / 15531 UW Pipeline Replacement	567000 Blds; Structures & Improvements	Local Water Conveyance/ Distribution	$32,577,000
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10033817-0001 New Services Connection Program / 20504 New Services Connection Program	567000 Blds; Structures & Improvements	New Services Connection Program	$480,000

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10033818-0001 Town of Sunol Pipeline / 20505 Town of Sunol Pipeline	567000 Blds; Structures & Improvements	Town of Sunol Pipeline	$1,075,000
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10015425-0001 Automated Water Meter Program / 15612 UW Automated Meter Reading System	567000 Blds; Structures & Improvements	Automated Water Meter Program	$2,970,340
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10015222-0001 Local Tanks & Reservoirs / 15538 UW Local Reservoir	567000 Blds; Structures & Improvements	Local Tanks & Reservoirs	$3,000,000

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10033819-0001 Lombard Geotechnical Improvements / 21006 Lombard Geotechnical Improvement	567000 Blds; Structures & Improvements	Lombard Geotechnical Improvements	$2,265,000
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10015227-0001 Pump Station Improvement / 15543 Pump Station Improvement	567000 Blds; Structures & Improvements	Pump Station Improvement	$200,000
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10015242-0001 SF Westside Recycled Water Project / 15558 UW Recycled Water Project	567000 Blds; Structures & Improvements	SF Westside Recycled Water Project	$4,664,854

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10015427-0001 Buildings & Ground Improvements / 15617 UW Building & Grounds Improvement	567000 Blds; Structures & Improvements	Buildings & Ground Improvements	$34,500,000
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10034505-0001 Water Supply Project / 20711 Water Supply Project	567000 Blds; Structures & Improvements	Water Supply Project	$6,700,000
26418 Water Regional 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Expense / 17731 UB Non-WSIP Water Bond-CP Exp	573110 Bond Issuance Cost-Unamortized	Financing Cost	$7,658,838

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26418 Water Regional 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Expense / 17731 UB Non-WSIP Water Bond-CP Exp	581130 GF-CON-Internal Audits	CSA 0.2% Controller's Audit Fund	$39,917
26418 Water Regional 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Expense / 17731 UB Non-WSIP Water Bond-CP Exp	567000 Blds; Structures & Improvements	Revenue Bond Oversight Committee 0.05%	$25,748
26419 Water Local 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Expense / 17731 UB Non-WSIP Water Bond-CP Exp	573110 Bond Issuance Cost-Unamortized	Financing Cost	$15,479,224

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26419 Water Local 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Expense / 17731 UB Non-WSIP Water Bond-CP Exp	581130 GF-CON-Internal Audits	CSA 0.2% Controller's Audit Fund	$74,438
26419 Water Local 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Expense / 17731 UB Non-WSIP Water Bond-CP Exp	567000 Blds; Structures & Improvements	Revenue Bond Oversight Committee 0.05%	$52,019
Total USES Appropriation				**$212,712,238**

Section 9. Of the above appropriated amount, $114,355, representing 0.2% of the expenditure budget net of bond financing and audit costs, shall be allocated to support the Controller's Audit Fund, pursuant to Charter Appendix F1.113; and $77,767, representing 0.05% of gross bond proceeds shall be allocated to support the Public Utilities Commission Revenue Bond Oversight Committee, pursuant to Administrative Code Section 5A.31. These appropriations may be increased or decreased by the Controller based on changes to expenditure appropriations or actual gross bond proceeds to conform to the applicable Charter and Administrative Code formulas.

Section 10. $155,534,559 is hereby placed on Controller's Appropriation Reserve, as set forth below. Release of appropriation reserves by the Controller is subject to the Controller's certification of funds availability, including proceeds of indebtedness, and for construction related expenditures (excluding program management, planning and design) for these projects, as applicable, is also subject to the prior occurrence of the SFPUC's and the Board of Supervisors' discretionary adoption of California Environmental Quality Act (CEQA) findings for projects, following review and consideration of completed project related environmental analysis, where required.

Appropriation on Reserve

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26418 Water Regional 2021 Bond Fund / 232421 WTR0501 WST Admin	10015056-0001 Regional Water Treatment Program / 15479 UW Regional Water Treatment Program	567000 Blds; Structures & Improvements	Regional Water Treatment Program	$12,546,000
26418 Water Regional 2021 Bond Fund / 232421 WTR0501 WST Admin	10015089-0001 Water Supply & Storage Program / 15492 UW Water Supply & Storage	567000 Blds; Structures & Improvements	Water Supply & Storage Program	$29,842,000

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26418 Water Regional 2021 Bond Fund / 232421 WTR0501 WST Admin	10015123-0001 Buildings & Grounds Regional / 15516 UW Buildings & Grounds - Regional	567000 Blds; Structures & Improvements	Buildings & Grounds Regional	$1,384,181
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10015134-0001 Local Water Conveyance / 15531 UW Pipeline Replacement	567000 Blds; Structures & Improvements	Local Water Conveyance/ Distribution	$32,577,000
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10033817-0001 New Services Connection Program / 20504 New Services Connection Program	567000 Blds; Structures & Improvements	New Services Connection Program	$480,000

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10033818-0001 Town of Sunol Pipeline / 20505 Town of Sunol Pipeline	567000 Blds; Structures & Improvements	Town of Sunol Pipeline	$1,075,000
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10015425-0001 Automated Water Meter Program / 15612 UW Automated Meter Reading System	567000 Blds; Structures & Improvements	Automated Water Meter Program	$2,970,340
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10015222-0001 Local Tanks & Reservoirs / 15538 UW Local Reservoir	567000 Blds; Structures & Improvements	Local Tanks & Reservoirs	$3,000,000

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10033819-0001 Lombard Geotechnical Improvements / 21006 Lombard Geotechnical Improvement	567000 Blds; Structures & Improvements	Lombard Geotechnical Improvements	$2,265,000
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10015227-0001 Pump Station Improvement / 15543 Pump Station Improvement	567000 Blds; Structures & Improvements	Pump Station Improvement	$200,000
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10015242-0001 SF Westside Recycled Water Project / 15558 UW Recycled Water Project	567000 Blds; Structures & Improvements	SF Westside Recycled Water Project	$4,664,854

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10015427-0001 Buildings & Ground Improvements / 15617 UW Building & Grounds Improvement	567000 Blds; Structures & Improvements	Buildings & Ground Improvements	$34,500,000
26419 Water Local 2021 Bond Fund / 232406 WTR0304 CDD Engineering	10034505-0001 Water Supply Project / 20711 Water Supply Project	567000 Blds; Structures & Improvements	Water Supply Project	$6,700,000
26418 Water Regional 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Expense / 17731 UB Non-WSIP Water Bond-CP Exp	573110 Bond Issuance Cost-Unamortized	Financing Cost	$7,658,838

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26418 Water Regional 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Expense / 17731 UB Non-WSIP Water Bond-CP Exp	581130 GF-CON-Internal Audits	CSA 0.2% Controller's Audit Fund	$39,917
26418 Water Regional 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Expense / 17731 UB Non-WSIP Water Bond-CP Exp	567000 Blds; Structures & Improvements	Revenue Bond Oversight Committee 0.05%	$25,748
26419 Water Local 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Expense / 17731 UB Non-WSIP Water Bond-CP Exp	573110 Bond Issuance Cost-Unamortized	Financing Cost	$15,479,224

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26419 Water Local 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Expense / 17731 UB Non-WSIP Water Bond-CP Exp	581130 GF-CON-Internal Audits	CSA 0.2% Controller's Audit Fund	$74,438
26419 Water Local 2021 Bond Fund / 232396 WTR01 Administration	10026501-0001 Water Bond/Commercial Paper Expense / 17731 UB Non-WSIP Water Bond-CP Exp	567000 Blds; Structures & Improvements	Revenue Bond Oversight Committee 0.05%	$52,019
Total Appropriation on Reserve				**$155,534,559**

Section 11. Associated bond financing costs up to $23,138,062 are also hereby appropriated, including but not limited to, issuance costs, debt service reserve, capitalized interest, rating agency, and disclosure costs, all on Controller's Reserve pending receipt of bond proceeds. To the extent that net available bond proceeds after financing costs are more than budgeted, the SFPUC may use such surplus bond proceeds as a substitute for other sources budgeted in this ordinance.

Section 12. The Controller is authorized to record transfers between funds and adjust the accounting treatment of sources and uses appropriated in this ordinance as necessary to conform to Generally Accepted Accounting Principles and other laws.

Section 13. In FY2020-2021, $3,528,113 previously appropriated Water Revenue funds for Water Capital Projects is hereby de-appropriated and returned to Water's Fund Balance, as set forth below.

USES – De-Appropriation

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
25960 Revenue Continuing / 232421 WTR0501 WST Admin	10014840-0001 UW Facilities Security Project / 15410 UW Facilities Security Project	584030 Capital Renewal Projects	UW Facilities Security Project	$469,957
25960 Revenue Continuing / 232421 WTR0501 WST Admin	10014985-0001 Regional Water Rnr - Treatment / 15434 UW Regional Water Rnr - Treatment	584030 Capital Renewal Projects	UW Regional Water Rnr - Treatment	$35,655

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26570 Revenue Local / 232423 WTR0503 WST Maintenance	10014985-0001 Regional Water Rnr - Treatment / 15434 UW Regional Water Rnr - Treatment	584030 Capital Renewal Projects	UW Regional Water Rnr - Treatment	$269,562
26600 Revenue Wholesale / 232422 WTR0502 WST Maintenance	10014985-0001 Regional Water Rnr - Treatment / 15434 UW Regional Water Rnr - Treatment	584030 Capital Renewal Projects	UW Regional Water Rnr - Treatment	$387,059
25960 Revenue Continuing / 232421 WTR0501 WST Admin	10014996-0001 Regional Rnr - Conveyance / 15440 UW Regional Rnr - Conveyance	584030 Capital Renewal Projects	UW Regional Rnr - Conveyance	$471,888

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26570 Revenue Local / 232423 WTR0503 WST Maintenance	10014996-0001 Regional Rnr - Conveyance / 15440 UW Regional Rnr - Conveyance	584030 Capital Renewal Projects	UW Regional Rnr - Conveyance	$458,252
26600 Revenue Wholesale / 232422 WTR0502 WST Maintenance	10014996-0001 Regional Rnr - Conveyance / 15440 UW Regional Rnr - Conveyance	584030 Capital Renewal Projects	UW Regional Rnr - Conveyance	$337,018
26570 Revenue Local / 232422 WTR0502 WST Maintenance	10015017-0001 UW Sunol Bridge / 15451- UW Sunol Bridge	584030 Capital Renewal Projects	UW Sunol Bridge	$193,802
26600 Revenue Wholesale / 232422 WTR0502 WST Maintenance	10015017-0001 UW Sunol Bridge / 15451- UW Sunol Bridge 584030	584030 Capital Renewal Projects	UW Sunol Bridge	$199,609

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26570 Revenue Local / 232422 WTR0502 WST Maintenance	10016958-0001 UW Facilities Maintenance - WS / 15813 UW Facilities Maintenance - WS	584030 Capital Renewal Projects	UW Facilities Maintenance - WS	$364,500
26600 Revenue Wholesale / 232422 WTR0502 WST Maintenance	10016958-0001 UW Facilities Maintenance - WS / 15813 UW Facilities Maintenance - WS	584030 Capital Renewal Projects	UW Facilities Maintenance - WS	$340,811
Total USES De-Appropriation				**$3,528,113**

USES – Re-Appropriation

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
25940 Water Operating Annual Control / 232396 WTR01 Administration	10029994-0002 UW Administration WTR / 10000 Operating	499999 Water Fund Balance	Water Fund Balance	$3,528,113
Total USES Re-Appropriation				**$3,528,113**

Section 14. De-appropriating and Re-appropriating of $14,413,167 in the Water Enterprise Capital Improvement Program for FY 2020-2021 and placing $8,432,000 in Controller's reserve by project. The uses of funding outlined below are herein de-appropriated and re-appropriated in account 567000 (Buildings, Structures, and Improvements) and reflect the projected uses to fund the Water Enterprise Capital Budget for Fiscal Year 2020-2021.

USES – De-Appropriation

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26405 WTR CPF 2017A Bond Fund / 232396 WTR01 Administration	10015227-0001 Pump Station Improvements / 15543 UW Pump Station Improvements	567000 Buildings, Structures, and Improvements	UW Pump Station Improvements	$1,680,000
26405 WTR CPF 2017A Bond Fund / 232406 WTR0304 CDD Engineering	10015227-0001 Pump Station Improvements / 15543 UW Pump Station Improvements	567000 Buildings, Structures, and Improvements	UW Pump Station Improvements	$1,388,000

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26601 Water Enterprise Capital Fund / 232406 WTR0304 CDD Engineering	10015227-0001 Pump Station Improvements / 15543 UW Pump Station Improvements	567000 Buildings, Structures, and Improvements	UW Pump Station Improvements	$3,182,000
26220 WTR CPF 2002 Prop A Bond / 232406 WTR0304 CDD Engineering	10015243-0001 Harding Park Recycled Water / 15559 UW Harding Park Recycled Water	567000 Buildings, Structures, and Improvements	UW Harding Park Recycled Water	$1,460,168
26300 WTR CPF 2010E WSIP RevBdTaxBAB / 232406 WTR0304 CDD Engineering	10015243-0001 Harding Park Recycled Water / 15559 UW Harding Park Recycled Water	567000 Buildings, Structures, and Improvements	UW Harding Park Recycled Water	$1,967,375

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26330 WTR CPF 2011A WSIP RevBd TaxEx / 232406 WTR0304 CDD Engineering	10015243-0001 Harding Park Recycled Water / 15559 UW Harding Park Recycled Water	567000 Buildings, Structures, and Improvements	UW Harding Park Recycled Water	$146,624
26405 WTR CPF 2017A Bond Fund / 232396 WTR01 Administration	10015131-0001 Local Water Supply / 15522 UW Local Water Supply	567000 Buildings, Structures, and Improvements	UW Local Water Supply	$3,500,000
26490 WTR CPF Continuing Authority / 232411 WTR0305 CDD Maintenance	10015131-0001 Local Water Supply / 15522 UW Local Water Supply	567000 Buildings, Structures, and Improvements	UW Local Water Supply	$1,089,000
Total USES De-Appropriation				**$14,413,167**

1 **USES – Re-Appropriation**

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26405 WTR CPF 2017A Bond Fund / 232396 WTR01 Administration	10034505-0001 Local Water Supply / 20711 Water Supply Project	567000 Buildings, Structures, and Improvements	Water Supply Project	$6,568,000
26601 Water Enterprise Capital Fund / 232406 WTR0304 CDD Engineering	10034505-0001 Local Water Supply / 20711 Water Supply Project	567000 Buildings, Structures, and Improvements	Water Supply Project	$3,182,000
26220 WTR CPF 2002 Prop A Bond / 232406 WTR0304 CDD Engineering	10034505-0001 Local Water Supply / 20711 Water Supply Project	567000 Buildings, Structures, and Improvements	Water Supply Project	$1,460,168
26300 WTR CPF 2010E WSIP RevBdTaxBAB / 232406 WTR0304 CDD Engineering	10034505-0001 Local Water Supply / 20711 Water Supply Project	567000 Buildings, Structures, and Improvements	Water Supply Project	$1,967,375

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26330 WTR CPF 2011A WSIP RevBd TaxEx / 232406 WTR0304 CDD Engineering	10034505-0001 Local Water Supply / 20711 Water Supply Project	567000 Buildings, Structures, and Improvements	Water Supply Project	$146,624
26490 WTR CPF Continuing Authority / 232406 WTR0304 CDD Engineering	10034505-0001 Local Water Supply / 20711 Water Supply Project	567000 Buildings, Structures, and Improvements	Water Supply Project	$1,089,000
Total USES Re-Appropriation				**$14,413,167**

Appropriation on Reserve

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26405 WTR CPF 2017A Bond Fund / 232396 WTR01 Administration	10034505-0001 Local Water Supply / 20711 Water Supply Project	567000 Buildings, Structures, and Improvements	Water Supply Project	$5,250,000

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26601 Water Enterprise Capital Fund / 232406 WTR0304 CDD Engineering	10034505-0001 Local Water Supply / 20711 Water Supply Project	567000 Buildings, Structures, and Improvements	Water Supply Project	$3,182,000
Total Appropriation on Reserve				**$8,432,000**

Section 15. This Board, by Ordinance No. 03-16, authorized the SFPUC to enter into one or more State of California State Water Resources Control Board Installment Sale Agreements under the Clean Water State Revolving Fund (State Loan Funds), and amended and supplemented Ordinance No. 89-10 to authorize, in addition to the issuance of Water revenue bonds, the execution and delivery of State Loan Funds to finance projects, provided that any such indebtedness shall not exceed in an aggregate principal amount $1,737,724,038. Ordinance No. 03-16 also authorized the SFPUC to accept State Water Resources Control Board Grant funds (State Grant Funds) to be applied to pay for the costs of the San Francisco Westside Recycled Water Project, as approved by SFPUC Commission Resolution No. 15-0196, adopted September 22, 2015. The Board is concurrently considering with this Ordinance a SFPUC Water Revenue Bond issuance, including authorization to obtain State Loan Funds and State Grant Funds, not to exceed $478,440,136. The Sources of Funds herein appropriated in Section 1 and Section 7 of this Ordinance, or previously appropriated by Ordinance 103-14, may include State Loan Funds, State Grant Funds, Federal Grant Funds, or Federal Loan Funds when available, subject to compliance with the terms of the authorizing legislation for such Funds. The Controller is authorized to record substitution of the source of

funds appropriated with State Loan Funds, State Grant Funds, Federal Grant Funds, or Federal Loan Funds as necessary to conform to Generally Accepted Accounting Principles and other laws.

APPROVED AS TO FORM:
DENNIS J. HERRERA, City Attorney

By: /s/_____
JON GIVNER
Deputy City Attorney

FUNDS AVAILABLE
BEN ROSENFIELD, Controller

By: /s/_____
BEN ROSENFIELD
Controller

City and County of San Francisco
Tails
Ordinance

City Hall
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4689

File Number: 200833 **Date Passed:** September 29, 2020

Ordinance appropriating a total of $344,846,164 of proceeds from Revenue Bonds, State of California Water Resources Control Board's revolving loan funds (State Loan Funds) or grant funds (State Grant Funds), water revenues, and water capacity fees for the San Francisco Public Utilities Commission (SFPUC) Water Enterprise's Capital Improvement Program for Fiscal Year (FY) 2020-2021 at $132,133,926 and for FY2021-2022 at $212,712,238; and de-appropriating $3,528,113 Water Capital Project funding to Water's Fund balance in FY2020-2021; and de-appropriating and re-appropriating Water Capital Project appropriations of $14,413,167 in FY2020-2021 and placing $238,514,485 of Revenue Bond and State Loan Funds or State Grant Funds proceeds by project on Controller's Reserve subject to the Controller's certification of funds availability, including proceeds of indebtedness, and for construction related expenditures (excluding program management, planning and design) for these projects, as applicable, is also subject to the prior occurrence of the SFPUC's and the Board of Supervisors' discretionary adoption of California Environmental Quality Act findings for projects, following review and consideration of completed project related environmental analysis, where required.

August 13, 2020 Budget and Appropriations Committee - CONTINUED

August 21, 2020 Budget and Appropriations Committee - RECOMMENDED

September 15, 2020 Board of Supervisors - CONTINUED ON FIRST READING

Ayes: 11 - Fewer, Haney, Mandelman, Mar, Peskin, Preston, Ronen, Safai, Stefani, Walton and Yee

September 22, 2020 Board of Supervisors - PASSED ON FIRST READING

Ayes: 10 - Fewer, Haney, Mandelman, Mar, Peskin, Preston, Ronen, Safai, Walton and Yee
Noes: 1 - Stefani

September 29, 2020 Board of Supervisors - FINALLY PASSED

Ayes: 10 - Fewer, Haney, Mandelman, Mar, Peskin, Preston, Ronen, Safai, Walton and Yee
Noes: 1 - Stefani

File No. 200833

I hereby certify that the foregoing Ordinance was FINALLY PASSED on 9/29/2020 by the Board of Supervisors of the City and County of San Francisco.

Angela Calvillo
Clerk of the Board

London N. Breed
Mayor

10/1/2020
Date Approved

[Appropriation - Proceeds from Revenue Bonds, Hetch Hetchy Revenue, Low Carbon Fuel Standard, Cap and Trade Allowance - $260,351,806; De- and Re-Appropriation - Capital Projects - Hetch Hetchy Water/Power Capital Improvements - $341,001 - FYs 2020-2022]

Ordinance appropriating a total of $260,351,806 of Hetch Hetchy revenue, Low Carbon Fuel Standard, Cap and Trade Revenue and Power and Water Revenue Bonds for the San Francisco Public Utilities Commission (SFPUC) Hetch Hetchy Capital Improvement Program for FY2020-2021 at $94,380,451 and for FY2021-2022 at $165,971,355; and placing $142,970,073 of Power Bonds and $108,626,733 of Water Bonds by project on Controller's Reserve subject to the Controller's certification of funds availability, including proceeds of indebtedness, and for construction related expenditures (excluding program management, planning and design) for these projects, as applicable, is also subject to the prior occurrence of the SFPUC's and the Board of Supervisors' discretionary adoption of California Environmental Quality Act findings for projects, following review and consideration of completed project related environmental analysis, where required.

Note: **Unchanged Code text and uncodified text** are in plain Arial font.
Additions to Codes are in *single-underline italics Times New Roman font*.
Deletions to Codes are in ~~*strikethrough italics Times New Roman font.*~~
Board amendment additions are in double-underlined Arial font.
Board amendment deletions are ~~in strikethrough Arial font.~~
Asterisks (* * * *) indicate the omission of unchanged Code Subsections or parts of tables.

Be it ordained by the People of the City and County of San Francisco:

Section 1. The sources of funding outlined below are herein appropriated to reflect the funding available for Fiscal Year 2020-2021.

SOURCES Appropriation

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
25337 Hetchy Power 2021 Bond Fund / 231621 HHP01 General Administration	10014121-0001 Hetchy Water-Power Bonds / 15366 UH Hetchy Water-Power Bonds	480111 Proceeds from Sale of Bonds- Face Amount	Proceeds from Sale of Bonds	$56,937,158
26602 Hetchy Water 2021 Bond Fund / 231621 HHP01 General Administration	10014121-0001 Hetchy Water-Power Bonds / 15366 UH Hetchy Water-Power Bonds	480111 Proceeds from Sale of Bonds- Face Amount	Proceeds from Sale of Bonds	$33,374,293
25455 HHP LCFS Credit Sale Fund / 298650 HHP0907 Light Heat & Power	10035824-0001 Low Carbon Fuel Standard / 21284 Low Carbon Fuel Standard (LCFS)	479987 LCSF Credit Revenue	Low Carbon Fuel Standard (LCFS)	$2,500,000

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
24990 HHWP Revenue Continuing / 231621 HHP01 General Administration	10014672-0001 Hhp:Revenue Transfer-Sub Fund / 15405 UH HHP Revenue Transfer	495029 ITI Fr 5T-Hetch Hetchy W&P Fds	Hetch Hetchy Revenue	$569,000
24990 Cap and Trade Allowance / 298648 HHP0903 Energy Services	10014665-0001 Hetchy Cap And Trade Allowance / 15404 UH Hetchy Cap and Trade Allowance	479988 Hetchy Cap & Trade Revenue	Cap and Trade Revenue	$1,000,000
Total SOURCES Appropriation				**$94,380,451**

Section 2. The uses of funding outlined below are herein appropriated in Accounts 567000 (Buildings, Structures, and Improvements), 584030 (Capital Renewal Project), 581130 (CON-Internal Audits), 573110 (Bond Issuance Cost-Unamortized), and 567000 (Revenue Bond Oversight Committee), reflecting projected uses of funding to support the Hetch Hetchy Capital Improvement Program at the San Francisco Public Utilities Commission for Fiscal Year 2020-2021.

1 **USES Appropriation**

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
25455 HHP LCFS Credit Sale Fund / 298648 HHP0903 Energy Services	10014230-0001 Retail Customer Programs / 15372 Distribution Services	584030 Capital Renewal Projects	Retail Customer Program	$1,500,000
24990 HHWP Revenue Continuing / 298648 HHP0903 Energy Services	10014230-0001 Retail Customer Programs / 15372 Distribution Services	584030 Capital Renewal Projects	Retail Customer Program	$569,000
25337 Hetchy Power 2021 Bond Fund / 298648 HHP0903 Energy Services	10014226-0001 Distribution Services Retail / 15372 Distribution Services	567000 Blds; Structures & Improvements	Distribution Services Retail	$23,327,415
25337 Hetchy Power 2021 Bond Fund / 298648 HHP0903 Energy Services	10014227-0001 Bay Corridor Project / 15372 Distribution Services	567000 Blds; Structures & Improvements	Bay Corridor Project	$10,353,000

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
25455 HHP LCFS Credit Sale Fund / 298648 HHP0903 Energy Services	10014646-0001 Small Renewable / 15400 UH Renewable-generation	584030 Capital Renewal Projects	Generation – Small Renewables	$1,000,000
24990 HHWP Revenue Continuing / 298648 HHP0903 Energy Services	10014665-0001 Hetchy Cap and Trade Allowance / 15404 UH Hetchy Cap and Trade Allowance	584030 Capital Renewal Projects	General Fund Energy Efficiency	$1,000,000
25337 Hetchy Power 2021 Bond Fund / 298648 HHP0903 Energy Services	10014576-0001 Treasure Island Capital Improvements / 15391 UH Treasure Island Capital Improvements	567000 Blds; Structures & Improvements	Treasure Island Capital Improvements	$4,582,543

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26602 Hetchy Water 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014065-0001 Hetchy Water - Water Only / 15363 UH Hetchy Water - Water Only	567000 Blds; Structures & Improvements	Hetchy Water – Water Infrastructure	$20,077,000
26602 Hetchy Water 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014093-0001 Hetchy Water - Joint Projects / 15365 UH Hetchy Water - Joint Projects	567000 Blds; Structures & Improvements	Hetchy Joint Projects – Water	$694,249
25337 Hetchy Power 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014093-0001 Hetchy Water - Joint Projects / 15365 UH Hetchy Water - Joint Projects	567000 Blds; Structures & Improvements	Hetchy Joint Projects – Power	$848,526
26602 Hetchy Water 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014113-0001 Mountain Tunnel / 15365 UH Hetchy Water - Joint Projects	567000 Blds; Structures & Improvements	Mountain Tunnel – Joint Water	$7,596,900

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
25337 Hetchy Power 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014113-0001 Mountain Tunnel / 15365 UH Hetchy Water - Joint Projects	567000 Blds; Structures & Improvements	Mountain Tunnel – Joint Power	$9,285,100
26602 Hetchy Water 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014121-0001 Hetchy Water-Power Bonds / 15366 UH Hetchy Water-power Bonds	573110 Bond Issuance Cost- Unamortized	Hetchy Water Financing Costs	$4,989,457
26602 Hetchy Water 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014121-0001 Hetchy Water-Power Bonds / 15366 UH Hetchy Water-power Bonds	567000 Blds; Structures & Improvements	Revenue Bond Oversight Committee 0.05%	$16,687
25337 Hetchy Power 2021 Bond Fund / 298647 HHP0901 Power Administration	10014121-0001 Hetchy Water-Power Bonds / 15366 UH Hetchy Water-power Bonds	573110 Bond Issuance Cost- Unamortized	Hetchy Power Financing Costs	$8,503,967

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
25337 Hetchy Power 2021 Bond Fund / 298647 HHP0901 Power Administration	10014121-0001 Hetchy Water-Power Bonds / 15366 UH Hetchy Water-power Bonds	581130 GF-CON-Internal Audits	CSA 0.2% Controller's Audit Fund	$8,138
25337 Hetchy Power 2021 Bond Fund / 298647 HHP0901 Power Administration	10014121-0001 Hetchy Water-Power Bonds / 15366 UH Hetchy Water-power Bonds	567000 Blds; Structures & Improvements	Revenue Bond Oversight Committee 0.05%	$28,469
Total USES Appropriation				**$94,380,451**

Section 3. Of the above appropriated amount, $8,138, representing 0.2% of the expenditure budget net of bond financing and audit costs, shall be allocated to support the Controller's Audit Fund, pursuant to Charter Appendix F1.113; and $45,156, representing 0.05% of gross bond proceeds, shall be allocated to support the Public Utilities Commission Revenue Bond Oversight Committee, pursuant to Administrative Code Section 5A.31. These appropriations may be increased or decreased by the Controller based on changes to expenditure appropriations or actual gross bond proceeds to conform to the applicable Charter and Administrative Code formulas.

Section 4. $90,311,451 of the total appropriation is hereby placed on Controller's Appropriation Reserve, as set forth below. Release of appropriation reserves by the Controller is subject to the Controller's certification of funds availability, including proceeds of indebtedness, and for construction related expenditures (excluding program management, planning and design) for these projects, as applicable, is also subject to the prior occurrence of the SFPUC's and the Board of Supervisors' discretionary adoption of California Environmental Quality Act (CEQA) Findings for projects, following review and consideration of completed project related environmental analysis, where required.

Appropriation on Reserve

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
25337 Hetchy Power 2021 Bond Fund / 298648 HHP0903 Energy Services	10014226-0001 Distribution Services Retail / 15372 Distribution Services	567000 Blds; Structures & Improvements	Distribution Services Retail	$23,327,415
25337 Hetchy Power 2021 Bond Fund / 298648 HHP0903 Energy Services	10014227-0001 Bay Corridor Project / 15372 Distribution Services	567000 Blds; Structures & Improvements	Bay Corridor Project	$10,353,000

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
25337 Hetchy Power 2021 Bond Fund / 298648 HHP0903 Energy Services	10014576-0001 Treasure Island Capital Improvements / 15391 UH Treasure Island Capital Improvements	567000 Blds; Structures & Improvements	Treasure Island Capital Improvements	$4,582,543
26602 Hetchy Water 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014065-0001 Hetchy Water - Water Only / 15363 UH Hetchy Water - Water Only	567000 Blds; Structures & Improvements	Hetchy Water – Water Infrastructure	$20,077,000
26602 Hetchy Water 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014093-0001 Hetchy Water - Joint Projects / 15365 UH Hetchy Water - Joint Projects	567000 Blds; Structures & Improvements	Hetchy Joint Projects – Water	$694,249

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
25337 Hetchy Power 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014093-0001 Hetchy Water - Joint Projects / 15365 UH Hetchy Water - Joint Projects	567000 Blds; Structures & Improvements	Hetchy Joint Projects – Power	$848,526
26602 Hetchy Water 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014113-0001 Mountain Tunnel / 15365 UH Hetchy Water - Joint Projects	567000 Blds; Structures & Improvements	Mountain Tunnel – Joint Water	$7,596,900
25337 Hetchy Power 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014113-0001 Mountain Tunnel / 15365 UH Hetchy Water - Joint Projects	567000 Blds; Structures & Improvements	Mountain Tunnel – Joint Power	$9,285,100
26602 Hetchy Water 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014121-0001 Hetchy Water-Power Bonds / 15366 UH Hetchy Water-power Bonds	573110 Bond Issuance Cost- Unamortized	Hetchy Water Financing Costs	$4,989,457

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26602 Hetchy Water 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014121-0001 Hetchy Water-Power Bonds / 15366 UH Hetchy Water-power Bonds	567000 Blds; Structures & Improvements	Revenue Bond Oversight Committee 0.05%	$16,687
25337 Hetchy Power 2021 Bond Fund / 298647 HHP0901 Power Administration	10014121-0001 Hetchy Water-Power Bonds / 15366 UH Hetchy Water-power Bonds	573110 Bond Issuance Cost- Unamortized	Hetchy Power Financing Costs	$8,503,967
25337 Hetchy Power 2021 Bond Fund / 298647 HHP0901 Power Administration	10014121-0001 Hetchy Water-Power Bonds / 15366 UH Hetchy Water-power Bonds	581130 GF-CON-Internal Audits	CSA 0.2% Controller's Audit Fund	$8,138

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
25337 Hetchy Power 2021 Bond Fund / 298647 HHP0901 Power Administration	10014121-0001 Hetchy Water-Power Bonds / 15366 UH Hetchy Water-power Bonds	567000 Blds; Structures & Improvements	Revenue Bond Oversight Committee 0.05%	$28,469
Total Appropriation on Reserve				**$90,311,451**

Section 5. Associated bond financing costs up to $13,546,718 are also hereby appropriated, including but not limited to, issuance costs, debt service reserve, capitalized interest, rating agency, and disclosure costs, all on Controller's Reserve pending receipt of bond proceeds. To the extent that net available bond proceeds after financing costs are more than budgeted, the SFPUC may use such surplus bond proceeds as a substitute for other sources budgeted in this ordinance.

Section 6. The Controller is authorized to record transfers between funds and adjust the accounting treatment of sources and uses appropriated in this ordinance as necessary to conform to Generally Accepted Accounting Principles and other laws.

Section 7. The sources of funding outlined below are herein appropriated to reflect the funding available for Fiscal Year 2021-2022.

SOURCES Appropriation

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
25337 Hetchy Power 2021 Bond Fund / 231621 HHP01 General Administration	10014121-0001 Hetchy Water-Power Bonds / 15366 UH Hetchy Water-Power Bonds	480111 Proceeds from Sale of Bonds- Face Amount	Proceeds from Sale of Bonds	$86,032,915
26602 Hetchy Water 2021 Bond Fund / 231621 HHP01 General Administration	10014121-0001 Hetchy Water-Power Bonds / 15366 UH Hetchy Water-Power Bonds	480111 Proceeds from Sale of Bonds- Face Amount	Proceeds from Sale of Bonds	$75,252,440
25455 HHP LCFS Credit Sale Fund / 298650 HHP0907 Light Heat & Power	10035824-0001 Low Carbon Fuel Standard / 21284 Low Carbon Fuel Standard (LCFS)	479987 LCSF Credit Revenue	Low Carbon Fuel Standard (LCFS)	$2,000,000

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
24990 HHWP Revenue Continuing / 231621 HHP01 General Administration	10014672-0001 Hhp:Revenue Transfer-Sub Fund / 15405 UH HHP Revenue Transfer	495029 ITI Fr 5T-Hetch Hetchy W&P Fds	Hetch Hetchy Revenue	$1,686,000
24990 Cap and Trade Allowance / 298648 HHP0903 Energy Services	10014665-0001 Cap and Trade Allowance / 15404 UH Hetchy Cap and Trade Allowance	479988 Hetchy Cap & Trade Revenue	Cap and Trade Revenue	$1,000,000
Total SOURCES Appropriation				**$165,971,355**

Section 8. The uses of funding outlined below are herein appropriated in Accounts 567000 (Buildings Structures and Improvements), 584030 (Capital Renewal Project), 581130 (Internal Audits), 567000 (Revenue Bond Oversight Committee), and 573110 (Financing Costs) reflects the projected uses of funding to support the Hetch Hetchy Capital Improvement Program at the San Francisco Public Utilities Commission for Fiscal Year 2021-2022.

USES Appropriation

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
25455 HHP LCFS Credit Sale Fund / 298648 HHP0903 Energy Services	10014230-0001 Retail Customer Program / 15372 Distribution Services	584030 Capital Renewal Projects	Retail Customer Program	$1,000,000
24990 HHWP Revenue Continuing / 298648 HHP0903 Energy Services	10014230-0001 Retail Customer Program / 15372 Distribution Services	584030 Capital Renewal Projects	Retail Customer Program	$1,686,000
25337 Hetchy Power 2021 Bond Fund / 298648 HHP0903 Energy Services	10014226-0001 Distribution Services Retail / 15372 Distribution Services	567000 Blds; Structures & Improvements	Distribution Services Retail	$21,285,526

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
25455 HHP LCFS Credit Sale Fund / 298648 HHP0903 Energy Services	10014646-0001 Small Renewables / 15400 UH Renewable-generation	584030 Capital Renewal Projects	Generation – Small Renewables	$1,000,000
24990 HHWP Revenue Continuing / 298648 HHP0903 Energy Services	10014665-0001 Hetchy Cap and Trade Allowance / 15404 UH Hetchy Cap and Trade Allowance	584030 Capital Renewal Projects	General Fund Energy Efficiency	$1,000,000
25337 Hetchy Power 2021 Bond Fund / 298648 HHP0903 Energy Services	10014576-0001 Treasure Island Capital Improvements/ 15391 UH Treasure Island Capital Improvements	567000 Blds; Structures & Improvements	Treasure Island Capital Improvements	$4,332,543

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26602 Hetchy Water 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014065-0001 Hetchy Water - Water Only / 15363 UH Hetchy Water - Water Only	567000 Blds; Structures & Improvements	Hetchy Water – Water Infrastructure	$33,733,000
25337 Hetchy Power 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014073-0001 Hetchy Water - Power / 15364 UH Hetchy Water - Power Infrastructure	567000 Blds; Structures & Improvements	Hetchy Water – Power Infrastructure	$10,560,207
26602 Hetchy Water 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014093-0001 Hetchy Water - Joint Projects / 15365 UH Hetchy Water - Joint Projects	567000 Blds; Structures & Improvements	Hetchy Joint Projects – Water	$21,756,724

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
25337 Hetchy Power 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014093-0001 Hetchy Water - Joint Projects / 15365 UH Hetchy Water - Joint Projects	567000 Blds; Structures & Improvements	Hetchy Joint Projects – Power	$26,591,552
26602 Hetchy Water 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014113-0001 Mountain Tunnel / 15365 UH Hetchy Water - Joint Projects	567000 Blds; Structures & Improvements	Mountain Tunnel – Joint Water	$8,474,850
25337 Hetchy Power 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014113-0001 Mountain Tunnel / 15365 UH Hetchy Water - Joint Projects	567000 Blds; Structures & Improvements	Mountain Tunnel – Joint Power	$10,358,150
26602 Hetchy Water 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014121-0001 Hetchy Water-Power Bonds / 15366 UH Hetchy Water-power Bonds	573110 Bond Issuance Cost- Unamortized	Hetchy Water Financing Costs	$11,250,240

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26602 Hetchy Water 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014121-0001 Hetchy Water-Power Bonds / 15366 UH Hetchy Water-power Bonds	567000 Blds; Structures & Improvements	Revenue Bond Oversight Committee 0.05%	$37,626
25337 Hetchy Power 2021 Bond Fund / 298647 HHP0901 Power Administration	10014121-0001 Hetchy Water-Power Bonds / 15366 UH Hetchy Water-power Bonds	573110 Bond Issuance Cost- Unamortized	Hetchy Power Financing Costs	$12,852,549
25337 Hetchy Power 2021 Bond Fund / 298647 HHP0901 Power Administration	10014121-0001 Hetchy Water-Power Bonds / 15366 UH Hetchy Water-power Bonds	581130 GF-CON-Internal Audits	CSA 0.2% Controller's Audit Fund	$9,372

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
25337 Hetchy Power 2021 Bond Fund / 298647 HHP0901 Power Administration	10014121-0001 Hetchy Water-Power Bonds / 15366 UH Hetchy Water-power Bonds	567000 Blds; Structures & Improvements	Revenue Bond Oversight Committee 0.05%	$43,016
Total USES Appropriation				**$165,971,355**

Section 9. Of the above appropriated amount, $9,372, representing 0.2% of the expenditure budget net of bond financing and audit costs, shall be allocated to support the Controller's Audit Fund, pursuant to Charter Appendix F1.113; and $80,642, representing 0.05% of gross bond proceeds, shall be allocated to support the Public Utilities Commission Revenue Bond Oversight Committee, pursuant to Administrative Code Section 5A.31. These appropriations may be increased or decreased by the Controller based on changes to expenditure appropriations or actual gross bond proceeds to conform to the applicable Charter and Administrative Code formulas.

Section 10. $161,285,355 of the total appropriation is hereby placed on Controller's Appropriation Reserve, as set forth below. Release of appropriation reserves by the Controller is subject to the Controller's certification of funds availability, including proceeds of indebtedness, and for construction related expenditures (excluding program management, planning and design) for these projects, as applicable, is also subject to the prior occurrence of the SFPUC's and the Board of Supervisors' discretionary adoption of California Environmental

Quality Act (CEQA) Findings for projects, following review and consideration of completed project related environmental analysis, where required.

Appropriation on Reserve

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
25337 Hetchy Power 2021 Bond Fund / 298648 HHP0903 Energy Services	10014226-0001 Distribution Services Retail / 15372 Distribution Services	567000 Blds; Structures & Improvements	Distribution Services Retail	$21,285,526
25337 Hetchy Power 2021 Bond Fund / 298648 HHP0903 Energy Services	10014576-0001 Treasure Island Capital Improvements / 15391 UH Treasure Island Capital Improvements	567000 Blds; Structures & Improvements	Treasure Island Capital Improvements	$4,332,543
26602 Hetchy Water 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014065-0001 Hetchy Water - Water Only / 15363 UH Hetchy Water - Water Only	567000 Blds; Structures & Improvements	Hetchy Water – Water Infrastructure	$33,733,000

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
25337 Hetchy Power 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014073-0001 Hetchy Water - Power / 15364 UH Hetchy Water - Power Infrastructure	567000 Blds; Structures & Improvements	Hetchy Water – Power Infrastructure	$10,560,207
26602 Hetchy Water 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014093-0001 Hetchy Water - Joint Projects / 15365 UH Hetchy Water - Joint Projects	567000 Blds; Structures & Improvements	Hetchy Joint Projects – Water	$21,756,724
25337 Hetchy Power 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014093-0001 Hetchy Water - Joint Projects / 15365 UH Hetchy Water - Joint Projects	567000 Blds; Structures & Improvements	Hetchy Joint Projects – Power	$26,591,552

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
26602 Hetchy Water 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014113-0001 Mountain Tunnel / 15365 UH Hetchy Water - Joint Projects	567000 Blds; Structures & Improvements	Mountain Tunnel – Joint Water	$8,474,850
25337 Hetchy Power 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014113-0001 Mountain Tunnel / 15365 UH Hetchy Water - Joint Projects	567000 Blds; Structures & Improvements	Mountain Tunnel – Joint Power	$10,358,150
26602 Hetchy Water 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014121-0001 Hetchy Water-Power Bonds / 15366 UH Hetchy Water-power Bonds	573110 Bond Issuance Cost- Unamortized	Hetchy Water Financing Costs	$11,250,240
26602 Hetchy Water 2021 Bond Fund / 298646 HHP10 Hetchy Water	10014121-0001 Hetchy Water-Power Bonds / 15366 UH Hetchy Water-power Bonds	567000 Blds; Structures & Improvements	Revenue Bond Oversight Committee 0.05%	$37,626

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
25337 Hetchy Power 2021 Bond Fund / 298647 HHP0901 Power Administration	10014121-0001 Hetchy Water-Power Bonds / 15366 UH Hetchy Water-power Bonds	573110 Bond Issuance Cost- Unamortized	Hetchy Power Financing Costs	$12,852,549
25337 Hetchy Power 2021 Bond Fund / 298647 HHP0901 Power Administration	10014121-0001 Hetchy Water-Power Bonds / 15366 UH Hetchy Water-power Bonds	581130 GF-CON-Internal Audits	CSA 0.2% Controller's Audit Fund	$9,372
25337 Hetchy Power 2021 Bond Fund / 298647 HHP0901 Power Administration	10014121-0001 Hetchy Water-Power Bonds / 15366 UH Hetchy Water-power Bonds	567000 Blds; Structures & Improvements	Revenue Bond Oversight Committee 0.05%	$43,016
Total Appropriation on Reserve				**$161,285,355**

Section 11. Associated bond financing costs up to $24,192,803 are also hereby appropriated, including but not limited to, issuance costs, debt service reserve, capitalized interest, rating agency, and disclosure costs, all on Controller's reserve pending receipt of bond proceeds. To the extent that net available bond proceeds after financing costs are more than

budgeted, the SFPUC may use such surplus bond proceeds as a substitute for other sources budgeted in this ordinance.

Section 12. De-appropriating and Re-appropriating $341,001 Hetchy Revenue funds in the Hetchy Enterprise Capital Improvement Program in FY2020-2021.

USES De-Appropriation

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
24990 HHWP Revenue Continuing / 298648 HHP0903 Energy Services	10014241-0001 Transmission Distribution System / 15373 Transmission Distribution System	584030 Capital Renewal Projects	Transmission Distribution System	$9,999
24990 HHWP Revenue Continuing / 298648 HHP0903 Energy Services	10014357-0001 Underground Assessment Fund / 15379 Underground Assessment Fund	584030 Capital Renewal Projects	Underground Assessment Fund	331,002
Total USES De-Appropriation				**$341,001**

1 **USES Re-Appropriation**

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
24990 HHWP Revenue Continuing / 298648 HHP0903 Energy Services	10014379-0001 Electric Distribution System / 15380 Electric Distribution System	584030 Capital Renewal Projects	Electric Distribution System	$21,246
24990 HHWP Revenue Continuing / 298648 HHP0903 Energy Services	10014501-0001 Distribution System Assessment / 15385 Distribution System Assessment	584030 Capital Renewal Projects	Distribution System Assessment	$319,755
Total USES Re-Appropriation				**$341,001**

Section 13. The Controller is authorized to record transfers between funds and adjust the accounting treatment of sources and uses appropriated in this ordinance as necessary to conform to Generally Accepted Accounting Principles and other laws.

APPROVED AS TO FORM:
DENNIS J. HERRERA, City Attorney

By: /s/_____
JON GIVNER
Deputy City Attorney

FUNDS AVAILABLE
BEN ROSENFIELD, Controller

By: /s/_____
BEN ROSENFIELD
Controller

City and County of San Francisco
Tails
Ordinance

City Hall
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4689

File Number: 200834 **Date Passed:** September 29, 2020

Ordinance appropriating a total of $260,351,806 of Hetch Hetchy revenue, Low Carbon Fuel Standard, Cap and Trade Revenue and Power and Water Revenue Bonds for the San Francisco Public Utilities Commission (SFPUC) Hetch Hetchy Capital Improvement Program for Fiscal Year (FY) 2020-2021 at $94,380,451 and for FY2021-2022 at $165,971,355; and placing $142,970,073 of Power Bonds and $108,626,733 of Water Bonds by project on Controller's Reserve subject to the Controller's certification of funds availability, including proceeds of indebtedness, and for construction related expenditures (excluding program management, planning and design) for these projects, as applicable, is also subject to the prior occurrence of the SFPUC's and the Board of Supervisors' discretionary adoption of California Environmental Quality Act findings for projects, following review and consideration of completed project related environmental analysis, where required.

August 13, 2020 Budget and Appropriations Committee - CONTINUED

August 21, 2020 Budget and Appropriations Committee - RECOMMENDED

September 15, 2020 Board of Supervisors - CONTINUED ON FIRST READING

Ayes: 11 - Fewer, Haney, Mandelman, Mar, Peskin, Preston, Ronen, Safai, Stefani, Walton and Yee

September 22, 2020 Board of Supervisors - PASSED ON FIRST READING

Ayes: 10 - Fewer, Haney, Mandelman, Mar, Peskin, Preston, Ronen, Safai, Walton and Yee
Noes: 1 - Stefani

September 29, 2020 Board of Supervisors - FINALLY PASSED

Ayes: 10 - Fewer, Haney, Mandelman, Mar, Peskin, Preston, Ronen, Safai, Walton and Yee
Noes: 1 - Stefani

File No. 200834

I hereby certify that the foregoing Ordinance was FINALLY PASSED on 9/29/2020 by the Board of Supervisors of the City and County of San Francisco.

Angela Calvillo
Clerk of the Board

London N. Breed
Mayor

10/1/2020.

Date Approved

[Appropriation - Proceeds from CleanPowerSF Revenue - CleanPowerSF Capital Improvements - $4,331,326 - FY2020-2021 and FY2021-2022]

Ordinance appropriating $4,331,326 CleanPowerSF revenue for the CleanPowerSF Capital Improvement Program for FY2020-2021 at $1,898,497 and for FY2021-2022 at $2,432,829.

Note: **Unchanged Code text and uncodified text** are in plain Arial font.
Additions to Codes are in *single-underline italics Times New Roman font*.
Deletions to Codes are in ~~*strikethrough italics Times New Roman font.*~~
Board amendment additions are in double-underlined Arial font.
Board amendment deletions are ~~in strikethrough Arial font.~~
Asterisks (* * * *) indicate the omission of unchanged Code Subsections or parts of tables.

Be it ordained by the People of the City and County of San Francisco:

Section 1. The sources of funding outlined below are herein appropriated to reflect the funding available for Fiscal Year 2020-2021.

SOURCES Appropriation

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
24761 CleanPowerSF Cap Revenue Fund / 198644 HHP CleanPowerSF	10036187-0001 CleanPowerSF Capital Budget / 21297 CleanPowerSF Capital	495045 ITI Fr 5Q-Cleanpowersf Funds	ITI from CleanPowerSF Funds	$1,898,497
Total SOURCES Appropriation				**$1,898,497**

Section 2. The uses of funding outlined below are herein appropriated in Accounts 584030 (Capital Renewal Project), 581130 (CON-Internal Audits), and reflects the projected uses of funding to support the CleanPowerSF Capital Improvement Program at the San Francisco Public Utilities Commission for Fiscal Year 2020-2021.

USES Appropriation

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
24761 CleanPowerSF Cap Revenue Fund / 198644 HHP CleanPowerSF	10036106-0001 Local Renewable Energy Program / 21297 Local Renewable Energy Program	584030 Capital Renewal Projects	Local Renewable Energy Program	$437,500

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
24761 CleanPowerSF Cap Revenue Fund / 198644 HHP CleanPowerSF	10036107-0001 CleanPowerSF Customer Program / 21297 CleanPowerSF Customer Program	584030 Capital Renewal Projects	CleanPowerSF Customer Program	$1,457,200
24761 CleanPowerSF Cap Revenue Fund / 198644 HHP CleanPowerSF	10036187-0001 CleanPowerSF Capital Budget / 21297 CleanPowerSF Capital	581130 GF-CON-Internal Audits	CSA 0.2% Controller's Audit Fund	$3,797
Total USES Appropriation				**$1,898,497**

Section 3. Of the above appropriated amount, $3,797, representing 0.2% of the expenditure budget net of audit costs, shall be allocated to support the Controller's Audit Fund, pursuant to Charter Appendix F1.113. These appropriations may be increased or decreased by the Controller based on changes to expenditure appropriations to conform to the applicable Charter formula.

Section 4. The Controller is authorized to record transfers between funds and adjust the accounting treatment of sources and uses appropriated in this ordinance as necessary to conform to Generally Accepted Accounting Principles and other laws.

Section 5. The sources of funding outlined below are herein appropriated to reflect the funding available for Fiscal Year 2021-2022.

SOURCES Appropriation

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
24761 CleanPowerSF Cap Revenue Fund / 198644 HHP CleanPowerSF	10036187-0001 CleanPowerSF Capital Budget / 21297 CleanPowerSF Capital	495045 ITI Fr 5Q-Cleanpowersf Funds	ITI from CleanPowerSF Funds	$2,432,829
Total SOURCES Appropriation				**$2,432,829**

Section 6. The uses of funding outlined below are herein appropriated in Accounts 584030 (Capital Renewal Project), 581130 (CON-Internal Audits), and reflect the projected uses of funding to support the CleanPowerSF Capital Improvement Program at the San Francisco Public Utilities Commission for Fiscal Year 2021-2022.

1 **USES Appropriation**

Fund / Department ID	Project & Activity / Authority	Account	Description	Amount
24761 CleanPowerSF Cap Revenue Fund / 198644 HHP CleanPowerSF	10036106-0001 Local Renewable Energy Program / 21297 Local Renewable Energy Program	584030 Capital Renewal Projects	Local Renewable Energy Program	$508,500
24761 CleanPowerSF Cap Revenue Fund / 198644 HHP CleanPowerSF	10036107-0001 CleanPowerSF Customer Program / 21297 CleanPowerSF Customer Program	584030 Capital Renewal Projects	CleanPowerSF Customer Program	$1,919,463
24761 CleanPowerSF Cap Revenue Fund / 198644 HHP CleanPowerSF	10036187-0001 CleanPowerSF Capital Budget / 21297 CleanPowerSF Capital	581130 GF-CON-Internal Audits	CSA 0.2% Controller's Audit Fund	$4,866
Total USES Appropriation				**$2,432,829**

Section 7. Of the above appropriated amount, $4,866, representing 0.2% of the expenditure budget net of audit costs, is to be allocated to support the Controller's Audit Fund, pursuant to Charter Appendix F1.113. These appropriations may be increased or decreased by the Controller based on changes to expenditure appropriations to conform to the applicable Charter formula.

Section 8. The Controller is authorized to record transfers between funds and adjust the accounting treatment of sources and uses appropriated in this ordinance as necessary to conform to Generally Accepted Accounting Principles and other laws.

APPROVED AS TO FORM:
DENNIS J. HERRERA, City Attorney

By: /s/
JON GIVNER
Deputy City Attorney

FUNDS AVAILABLE
BEN ROSENFIELD, Controller

By: /s/
BEN ROSENFIELD
Controller

City and County of San Francisco
Tails
Ordinance

City Hall
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4689

File Number: 200835 **Date Passed:** September 29, 2020

Ordinance appropriating $4,331,326 CleanPowerSF revenue for the CleanPowerSF Capital Improvement Program for FY2020-2021 at $1,898,497 and for FY2021-2022 at $2,432,829.

August 13, 2020 Budget and Appropriations Committee - CONTINUED

August 21, 2020 Budget and Appropriations Committee - RECOMMENDED

September 15, 2020 Board of Supervisors - CONTINUED ON FIRST READING

Ayes: 11 - Fewer, Haney, Mandelman, Mar, Peskin, Preston, Ronen, Safai, Stefani, Walton and Yee

September 22, 2020 Board of Supervisors - PASSED ON FIRST READING

Ayes: 10 - Fewer, Haney, Mandelman, Mar, Peskin, Preston, Ronen, Safai, Walton and Yee
Noes: 1 - Stefani

September 29, 2020 Board of Supervisors - FINALLY PASSED

Ayes: 10 - Fewer, Haney, Mandelman, Mar, Peskin, Preston, Ronen, Safai, Walton and Yee
Noes: 1 - Stefani

File No. 200835

I hereby certify that the foregoing Ordinance was FINALLY PASSED on 9/29/2020 by the Board of Supervisors of the City and County of San Francisco.

Angela Calvillo
Clerk of the Board

London N. Breed
Mayor

10/1/2020
Date Approved

CITY AND COUNTY OF SAN FRANCISCO

BOARD OF SUPERVISORS

BUDGET AND LEGISLATIVE ANALYST

1390 Market Street, Suite 1150, San Francisco, CA 94102 (415) 552-9292
FAX (415) 252-0461

August 19, 2020

TO: Budget and Appropriations Committee

FROM: Budget and Legislative Analyst

SUBJECT: August 21, 2020 Budget and Appropriations Committee Meeting

TABLE OF CONTENTS

Item	File		Page
3 & 7	20-0834	Appropriation - Proceeds from Revenue Bonds, Hetch Hetchy Revenue, Low Carbon Fuel Standard, Cap and Trade Allowance - $260,351,806; De- and Re-Appropriation - Capital Projects - Hetch Hetchy Water/Power Capital Improvements - $341,001 - FYs 2020-2022	
	20-0836	San Francisco Public Utilities Commission Power Revenue Bond Issuance - Various Capital Projects Benefitting the Power Enterprise - Not to Exceed $142,970,073	1
4	20-0835	Appropriation - Proceeds from CleanPowerSF Revenue - CleanPowerSF Capital Improvements - $4,331,326 - FY2020-2021 and FY2021-2022	9
5 & 8	20-0832	Appropriation - Proceeds from Revenue Bonds, State Loans/Grants, Wastewater Revenues/Capacity Fees - $579,185,142; De-Appropriation and Re-Appropriation - Wastewater Capital Improvements - SFPUC - $391,415,748 - FY2020-2021 and FY2021-2022	
	20-0837	San Francisco Public Utilities Commission Wastewater Revenue Bond Issuance - Various Capital Wastewater Projects Benefitting the Wastewater Enterprise - Not to Exceed $349,919,252	12

6 & 9 20-0833 Appropriation - Proceeds from Revenue Bonds, State Loan/Grant Funds, Water Revenues/Capacity Fees - $344,846,164; De- and Re-Appropriation - Capital Improvement Projects - $14,413,167; De-appropriation - Capital Projects - $3,528,113 - FYs 2020-2022

20-0838 San Francisco Public Utilities Commission Water Revenue Bond and Other Forms of Indebtedness Issuance - Various Capital Water Projects Benefitting the Water Enterprise - Not to Exceed $347,141,218.....25

Items 3 & 7 Files 20-0834 & 20-0836	Department: Public Utilities Commission

EXECUTIVE SUMMARY

Legislative Objectives

- File 20-0834 would appropriate $260,351,806 Hetch Hetchy revenue, Low Carbon Fuel Standard, Cap and Trade Revenue and Power and Water Revenue Bonds for the SFPUC's Hetch Hetchy Capital Improvement Program for FY 2020-21 and FY 2021-22. Bond proceeds would be placed on Controller's Reserve pending receipt of revenues and the Board of Supervisors' discretionary adoption of California Environmental Quality Act (CEQA) Findings for projects
- File 20-0836 would authorize the issuance of $142,970,073 in taxable or tax-exempt Power Revenue Bonds and other forms of indebtedness authorized by the SFPUC.

Key Points

- The Hetch Hetchy enterprise includes Hetchy Water, which is responsible for the water system in and around the Hetch Hetchy reservoir, Hetchy Power, which is responsible for power generation, and CleanPowerSF. A description of the projects proposed to be funded by File 20-0834 is included in Attachment I of this report.

Fiscal Impact

- The SFPUC anticipates issuing the proposed $143 million in Power Bonds in 1 or 2 series beginning in FY 2020-21 and FY 2021-22. The expected annual debt service on the proposed new debt would be $9.6 million.

Policy Consideration

- As of July 2020, the Board of Supervisors previously authorized the issuance and sale of $280.4 million in Power Revenue Bonds and other debt, of which $103.1 million of Power Revenue Bonds and commercial paper have been sold with $177.2 million in authorized and unsold bonds. The proposed ordinance (File 20-0836) authorizes an additional $143 million in Power Revenue Bonds and other forms of debt. The SFPUC's policy is to request authorization for bonds and other forms of debt to fund new capital appropriations, even if it has unused bond authority.

Recommendation

- Approve the proposed ordinances

MANDATE STATEMENT

Charter Section 9.107(6, 8) states that the Board of Supervisors is authorized to provide for the issuance of revenue bonds for the purpose of the reconstruction or replacement of existing water facilities or electric power facilities or combinations of water and electric power facilities under the jurisdiction of the Public Utilities Commission, when authorized by resolution adopted by a three-fourths affirmative vote of all members of the Board of Supervisors; and issued to finance or refinance the acquisition, construction, installation, equipping, improvement or rehabilitation of equipment or facilities for renewable energy and energy conservation.

Charter Section 8B.124 states that the Public Utilities Commission is authorized to issue revenue bonds and other forms of indebtedness, when authorized by two-thirds vote of the Board of Supervisors, for Water Enterprise and Wastewater Enterprise capital projects.

Charter Section F1.113 states that 0.2 percent of the City's budget, excluding bond debt, must be set-aside for the Controller's audit fund.

Charter Section 5A.31(d) states that one-twentieth of one percent (0.05%) from the proceeds of each issuance or sale of public utility revenue bonds must be set aside for use by the Public Utilities Commission Revenue Bond Oversight Committee to cover the costs of Committee activities.

Charter Section 9.105 states that the Board of Supervisors shall approve by ordinance all amendments to the Annual Appropriation Ordinance after the Controller certifies the availability of funds.

BACKGROUND

The SFPUC maintains three utility enterprises: Water, Wastewater, and Hetch Hetchy. The Hetch Hetchy enterprise includes Hetchy Water, which is responsible for the water system in and around the Hetch Hetchy reservoir, Hetchy Power, which is responsible for power generation, and CleanPowerSF. Because power in generated hydroelectrically, certain capital projects benefit both the Hetchy Water and Hetchy Power operations. Hetchy Power primarily provides electricity to City agencies and other government entities.

Hetch Hetchy Capital Improvement Program

According to the San Francisco Public Utilities Commission's (SFPUC) 10-Year Financial Plan, the Hetch Hetchy Enterprise Capital Improvement Program for FY 2020-21 through FY 2029-30 is $1.56 billion, of which $1.02 billion is for the Hetchy Water Capital Program and $542.45 million is for the Power Enterprise. Major funding sources include power revenues, power revenue bonds, and water revenue bonds.

DETAILS OF PROPOSED LEGISLATION

File 20-0834 is a proposed ordinance that would appropriate $260,351,806 Hetch Hetchy revenue, Low Carbon Fuel Standard, Cap and Trade Revenue and Power and Water Revenue Bonds for the SFPUC's Hetch Hetchy Capital Improvement Program for FY 2020-21 and FY 2021-22. The detailed sources and uses of these funds are shown below in Table 1.

Table 1: Sources of Uses for Hetch Hetchy Capital Improvement Program

	FY 2020-21	FY 2021-22	Total
Sources			
Hetch Hetchy Power Bond Proceeds (see File 20-0836)	56,937,158	86,032,915	142,970,073
Water Bond Proceeds (see File 20-0838)	33,374,293	75,252,440	108,626,733
Low Carbon Fuel Standard Funds	2,500,000	2,000,000	4,500,000
Hetch Hetchy Revenue	569,000	1,686,000	2,255,000
Cap & Trade Auction Revenue	1,000,000	1,000,000	2,000,000
Total Sources	**94,380,451**	**165,971,355**	**260,351,806**
Uses			
Retail Customer Program - Power	2,069,000	2,686,000	4,755,000
Retail Distribution Services	23,327,415	21,285,526	44,612,941
Bay Corridor Project	10,353,000		10,353,000
Small Renewable Generation	1,000,000	1,000,000	2,000,000
Energy Efficiency	1,000,000	1,000,000	2,000,000
Treasure Island Capital Improvements	4,582,543	4,332,543	8,915,086
Hetch Hetchy Water Infrastructure	20,077,000	33,733,000	53,810,000
Hetch Hetchy Power Infrastructure	0	10,560,207	10,560,207
Joint Water Projects	694,249	21,756,724	22,450,973
Joint Power Projects	848,526	26,591,552	27,440,078
Mountain Tunnel Project - Water	7,596,900	8,474,850	16,071,750
Mountain Tunnel Project - Power	9,285,100	10,358,150	19,643,250
Subtotal, Project Uses	80,833,733	141,778,552	222,612,285
Water Financing Costs	4,989,457	11,250,240	16,239,697
Power Financing Costs	8,503,967	12,852,549	21,356,516
Revenue Bond Oversight Committee (0.05%)	45,156	80,642	125,798
Controller's Audit Fund (0.2%)	8,138	9,372	17,510
Subtotal, Other Uses	13,546,718	24,192,803	37,739,521
Total Uses	**94,380,451**	**165,971,355**	**260,351,806**

Source: File 20-0834

A description of these projects is included in Attachment I.

The proposed ordinance would also transfer $341,001 of surplus funds among existing capital projects in FY 2020-21, as shown in Table 2 below.

Table 2: Transfer of Previously Appropriated Funds

	FY 2020-21
Sources	
Transmission Distribution Systems	9,999
Underground Assessment Fund	331,002
Total Sources	**341,001**
Uses	
Electric Distribution System	21,246
Distribution System Assessment	319,755
Total Uses	**341,001**

Source: File 20-0834

The following funds would be place on Controller's Reserve pending receipt of bond revenues:

- $90,311,451 of the $94,380,451 in new sources in FY 2020-21
- $161,285,355 of the $165,971,355 in new sources in FY 2021-22

Use of the appropriated funds is also subject to the Board of Supervisors' discretionary adoption of California Environmental Quality Act (CEQA) Findings for projects, following review and consideration of completed project related environmental analysis.

File 20-0836 is a proposed ordinance authorizing the issuance of $142,970,073 in taxable or tax-exempt Power Revenue Bonds and other forms of indebtedness authorized by the SFPUC, including New Clean Renewable Energy Bonds and Qualified Energy Conservation Bonds, commercial paper, revolving credit notes, and bond anticipation notes to finance the Hetch Hetchy Capital Improvement Program.

The ordinance would authorize the Controller, Treasurer, and City Attorney to take necessary actions to facilitate the issuance of the debt. Finally, the SFPUC would be required to provide a report to the Board of Supervisors that includes the amount of Power Revenue Bonds issued under the proposed and prior authorizations, total amount sold, the remaining authorized but unissued amount, and the bond authorization no longer necessary due to changes in projects and project financing.

FISCAL IMPACT

Bond Authorization

File 20-0836 would authorize the issuance of $142,970,073 of Power Revenue Bonds and other forms of indebtedness authorized by the SFPUC. That ordinance would also authorize issuance of Refunding Bonds to refinance outstanding debt held by the Hetch Hetchy Enterprise.

Commercial Paper

The SFPUC currently has $63,585,000 in outstanding commercial paper which could be retired by the issuance of new Power Revenue Bonds under the proposed ordinance.

Refunding Bonds

The proposed ordinance does not specify the amount of Refunding Bonds that could be issued to refinance outstanding Hetch Hetchy Enterprise Bond debt. According to the SFPUC, the Power Enterprise anticipates issuing refunding bonds if market conditions result in savings exceeding the minimum 3 percent debt service savings threshold and not extend the maturity date of the bonds that would be refinanced. This provision would end on June 30, 2025 unless extended by resolution of the Board of Supervisors. If the SFPUC issues refunding bonds, a Refunding Savings Report and copy of the final Official Statement would be submitted to the Board of Supervisors.

The proposed ordinance also provides for the SFPUC to issue refunding bonds for non-economic reasons, but issuance of refunding bonds for non-economic reasons would need to be approved by the Board of Supervisors by resolution. According to the SFPUC, the Commission has never issued refunding bonds for non-economic reasons.

SFPUC Debt Management Policy

SFPUC's Debt Policy provides for issuance of short-term debt, such as commercial paper, and refunding bonds.

The SFPUC's financial policies requires that each Enterprise generate net revenues of at least 1.35 times of annual debt service to remain compliant with the Department's Bond Indenture Agreement and that annual revenues are at least 1.10 times of annual debt service.

The SFPUC is expected to remain complaint with these debt service coverage ratios. According to the SFPUC's 10 Year Financial Plan, estimated Hetch Hetchy Enterprise annual debt service coverage ratio in FY 2020-21 would be 4.15 times annual revenues and 5.14 times annual revenues in FY 2021-22. Net revenues are expected to be 23.85 times debt service in FY 2020-21- and 29.94-times debt service in FY 2021-22.

Bond Issuance and Debt Service

The SFPUC anticipates issuing the proposed $143 million in Power Bonds in 1 or 2 series in FY 2020-21 and FY 2021-22.

The debt service for the proposed $143 Power bonds is expected to be $9.6 million annually. According to the SFPUC's 10 Year Financial Plan from FY 2020-21 to FY 2029-30, total estimated Hetch Hetchy Enterprise annual debt service in FY 2020-21 would be $4.1 million, increasing to $49.4 million in FY 2029-30.

Power Rate Increases

In order to meet operating, capital, and debt expenses, the SFPUC adopted annual rate increases of 1 cent per year for Municipal customers[1] and 3 percent annually for other customers in FY 2020-21 and in FY 2021-2.

[1] The proposed electricity rates for Municipal customers are $8.88 c/kWh in FY 2020-21 and $9.88 c/kWh in FY 2021-22.

POLICY CONSIDERATION

Status of Authorized and Issued Power Enterprise Debt

The Board of Supervisors previously authorized the issuance and sale of $280.4 million in Power Revenue Bonds and other debt, of which $103.1 million of Power Revenue Bonds and commercial paper have been sold with $177.2 million in authorized and unsold bonds. The proposed ordinance (File 20-0836) authorizes an additional $143 million in Power Revenue Bonds and other forms of debt. The SFPUC's policy is to request authorization for bonds and other forms of debt to fund new capital appropriations, even if it has unused bond authority.

RECOMMENDATION

Approve the proposed ordinances.

Retail Customer Program – Hetchy Power (increase of $4.7 million)

The proposed ordinance appropriates $4.7 million over two years to fund Hetch Hetchy Power customer programs. These programs include retrofit electrification programs, electric vehicle charging and storage infrastructure, and support for residential energy efficiency and renewable projects in the retrofit of existing and construction of new affordable residential housing developments, as well as market rate existing buildings.

The total expected cost though FY 2029-30 is $32.8 million.

Retail Distribution Services (increase of $44.6 million)

This project funds enhancements to the electric distribution system for various major development projects in San Francisco, including Port projects and Redevelopment projects. The SFPUC, as the electric utility provider, will install the conductors in the conduits, transformers, switches, and metering equipment required for the electric distribution system.

The total expected cost though FY 2029-30 is $224.9 million.

Bay Corridor Project (increase of $10.4 million)

This project funds distribution infrastructure from the Potrero substation and a new substation facility at proposed to be located at Quinn Street. The scope of work includes underground ductbank work, cable pulls, transformer substation and transmission connections to PG&E Potrero and related customer interface equipment and cables. Work will extend initially from Southeast Plant to the Mission Rock.

The total expected cost though FY 2029-30 is $10.4 million.

Small Renewable Generation (increase of $2 million)

This project funds planning and procurement costs for municipal renewable energy projects. Costs include site identification, site development, RFQ qualification process, RFP preparation, bidding process, contract negotiation, award of contracts, and management of construction and commissioning.

The total expected cost though FY 2029-30 is $10 million.

Energy Efficiency (increase of $2 million)

Funded by California Cap and Trade auction revenue, this project funds planning, design and construction for energy efficiency projects for City Departments, including Police, Fire, SFUSD, Real Estate, Recreation & Parks, Public Health, Fine Arts Departments, and others.

The total expected cost though FY 2029-30 is $10 million.

Treasure Island Capital Improvements (increase of $8.9 million)

This project funds the installation of the wires in conduits, transformers, switches, and metering equipment and connecting the existing electrical distribution system with the new system being developed on Treasure Island.

The total expected cost though FY 2029-30 is $13.7 million.

Hetch Hetchy Water Infrastructure (increase of 53.8 million)

This program funds improvements to Hetchy Water infrastructure and assets that are 100% funded by the Water Enterprise. Projects includes continued rehabilitation to the San Joaquin Pipeline, including evaluation and assessment of structural integrity, structural upgrade of the pipeline and other projects

including pipeline cathodic protection, coating, valve replacement projects and the portion of improvements to Mountain Tunnel that are funded 100% by the Water Enterprise.

The total expected cost though FY 2029-30 is $277.9M.

Hetch Hetchy Power Infrastructure (increase of $10.6 million)

This program funds improvements to Hetchy Power infrastructure and assets that are 100% funded by the Power Enterprise. Many Power Infrastructure facilities and equipment have reached their life expectancy and power generation will become less reliable if upgrades are not performed. Projects include improvements to the Moccasin Powerhouse and transmission line upgrades, clearance and mitigation. All the $10.6M funding is in FY 2021-22.

The total expected cost over though FY 2029-30 is $152.3M.

Joint Power Hetchy Water and Hetchy Power Projects (increase of $49.9 million)

This program funds improvements to Hetchy Joint Water/Power infrastructure and assets that are funded 55% by the Water Enterprise and 45% by the Power Enterprise. Project include improvements to Hetchy up-country facilities, condition assessments and rehabilitation of various dam in the Hetchy watershed, improvements to roads and bridges and security and communication projects.

The total expected cost though FY 2029-30 is $523.2M.

Mountain Tunnel Project – Hetchy Water & Hetchy Power (increase of $35.7 million)

This project funds repairs to the Mountain Tunnel, which conveys SFPUC water from Kirkwood Powerhouse to Priest Reservoir.

The total expected cost though FY 2029-30 is $71 million.

Item 4 File 20-0835	Department: Public Utilities Commission

EXECUTIVE SUMMARY

Legislative Objectives

- The proposed ordinance would appropriate $4,331,326 of CleanPowerSF's revenues for two capital programs: the Local Renewable Energy Program and the Customer Program.

Key Points

- The Local Renewable Energy Program funds the development of new solar energy generation and storage facilities, which will help CleanPowerSF's meet its renewable energy mix targets.
- CleanPowerSF's Customer Program funds incentive programs for residents and businesses to investment in clean energy, such as solar power installations, electric vehicles, and solar water heating.
- According to the San Francisco Public Utilities Commission's (SFPUC) 10-Year Financial Plan, CleanPowerSF does not expect to rely on debt to fund its Capital Improvement Program between FY 2020-21 and FY 2029-30. To pay for operations and capital investments, CleanPowerSF expects to increase rates 3 percent annually.

Fiscal Impact

- The Local Renewable Energy Program would receive $946,000 and the Customer Program would receive $3.4 million in FY 2020-21 & FY 2021-22. As required by the Charter, the Controller's Office would receive $8,663 for its audit program. These programs will be paid for by CleanPowerSF's power sales to customers.

Recommendation

- Approve the proposed ordinance

MANDATE STATEMENT

Charter Section 9.105 states that the Board of Supervisors shall approve by ordinance all amendments to the Annual Appropriation Ordinance after the Controller certifies the availability of funds.

Charter Section F1.113 states that 0.2 percent of the City's budget, excluding bond debt, must be set-aside for the Controller's audit fund.

BACKGROUND

State law allows local governments to form Community Choice Aggregators (CCA) which are government owned retail electricity providers that purchase electricity for their customers and rely on investor owned utility distribution infrastructure. The SFPUC's CleanPowerSF enterprise is a CCA that provides electricity to residents and businesses in San Francisco and relies on PG&E distribution infrastructure to connect to its customers.

DETAILS OF PROPOSED LEGISLATION

The proposed ordinance would appropriate $4,331,326 of CleanPowerSF's revenues for the Local Renewable Energy Program and the Customer Program, described below.

CleanPowerSF Capital Plan

According to the San Francisco Public Utilities Commission's (SFPUC) 10-Year Financial Plan, the CleanPowerSF Capital Improvement Program for FY 2020-21 through FY 2029-30 is $75.8 million, all of which is funded by power revenues. CleanPowerSF does not expect to rely on debt to fund its Capital Improvement Program between FY 2020-21 and FY 2029-30. To pay for operations and capital investments, CleanPowerSF expects to increase rates 3 percent annually.

Local Renewable Energy Program

This program funds the development of new solar energy generation and storage facilities, which will help CleanPowerSF's meet its renewable energy mix targets. Funding in FY 2020-21 and FY 2021-22 would go towards planning and design. The facilities will be initially operated by third-parties but may be purchased by the CleanPowerSF in later years.

Customer Program

This program funds the development and implementation of programs that incentivize customers to invest in clean energy technology and decarbonization tools. Incentives are available for residences investing in solar power installations, electrical vehicles and solar water heating. Both residents and business can receive incentives from installing new, clean and efficient equipment for generating and storing energy.

FISCAL IMPACT

Table 1 below shows the sources and uses of the proposed appropriation in FY 2020-21 and FY 2021-22.

Table 1: Sources and Uses of Proposed Appropriation

	FY 2020-21	FY 2021-22	Total
Sources			
Capital Revenue	1,898,497	2,432,829	4,331,326
Total Sources	**1,898,497**	**2,432,829**	**4,331,326**
Uses			
Local Renewable Energy Program	437,500	508,500	946,000
Customer Program	1,457,200	1,919,463	3,376,663
Controller's Audit Fund	3,797	4,866	8,663
Total Uses	**1,898,497**	**2,432,829**	**4,331,326**

Source: File 20-0835

As shown above, the Local Renewable Energy Program would receive $946,000 and the Customer Program would receive $3.4 million in FY 2020-21 & FY 2021-22. As required by the Charter, the Controller's Office would receive $8,663 for its audit program. These programs will be paid for by CleanPowerSF's power sales to customers.

RECOMMENDATION

Approve the proposed ordinance.

Items 5 and 8 Files 20-0832 and 20-0837	Department: San Francisco Public Utilities Commission (SFPUC)

EXECUTIVE SUMMARY

Legislative Objectives

- File 20-0832 is an ordinance appropriating $579,185,142 of proceeds from Wastewater Revenue Bonds, State of California Water Resources Control Board's revolving loan funds (State Loan Funds) or grant funds (State Grant Funds), and Wastewater revenue and capacity fees.
- File 20-0837 is an ordinance authorizing the issuance of $349,919,252 in taxable or tax-exempt Wastewater Revenue Bonds to finance the proposed capital project**s**

Key Points

- The San Francisco Public Utilities Commission (SFPUC) Wastewater Enterprise has three main capital and repair and replacement programs: the Sewer System Improvement Program (SSIP), the Facilities and Infrastructure Program, and the Renewal and Replacement Program. The appropriation of $579.2 million would fund SSIP projects, Facilities and Infrastructure projects, Renewal and Replacement projects, and bond related expenditures over the two-year period from FY 2020-21 to FY 2021-22.
- Projects would be funded by Wastewater Revenue Bonds, Capacity Fees, and Wastewater Revenues.

Fiscal Impact

- The Board of Supervisors has previously authorized $3.5 billion in Wastewater Revenue Bonds. The issuance of an additional $349.9 million increases the total bond authorization to $3.8 billion. Issuance of the bonds conforms to the SFPUC's debt management policies. SFPUC anticipates issuing $349.9 million in one or two series beginning in FY2021-22. According to the SFPUC's 10 Year Financial Plan from FY 2020-21 to FY 2029-30, estimated Wastewater Enterprise annual debt service in FY 2020-21 would be $84.3 million, increasing to $339.2 million in FY 2029-30.
- In order to meet operating, capital, and debt expenses, the SFPUC estimates annual sewer rate increases of 7.5 percent. The adopted annual rate increase in FY 2020-21 and in FY 2021-22 is 8 percent. Therefore, the SFPUC estimates that the average monthly residential sewer bill will increase by $5 in FY 2020-21, from $67in FY 2019-20 to $72; and by $6 in FY 2021-22 to $78.

Recommendation

- Approve the proposed ordinances.

MANDATE STATEMENT

Charter Section 8B.124 states that the Public Utilities Commission is authorized to issue revenue bonds and other forms of indebtedness, when authorized by two-thirds vote of the Board of Supervisors, for Water Enterprise and Wastewater Enterprise capital projects.

Charter Section 5A.31(d) states that one-twentieth of one percent from the proceeds of each issuance or sale of public utility revenue bonds must be set aside for use by the Public Utilities Commission Revenue Bond Oversight Committee to cover the costs of Committee activities.

Charter Section 9.105 states that the Board of Supervisors shall approve by ordinance all amendments to the Annual Appropriation Ordinance after the Controller certifies the availability of funds.

BACKGROUND

Capital Programs

The San Francisco Public Utilities Commission (SFPUC) Wastewater Enterprise has three main capital and repair and replacement programs:

- The Sewer System Improvement Program (SSIP) includes multiple projects to improve the existing sewer collection and wastewater treatment facilities. SSIP provides for improvements to the (a) Southeast Treatment Plant Biosolids Digester and Headworks facilities; (b) the three treatment plants – Southeast, Oceanside, and Northpoint; (c) pump stations, force main, transport/storage/collection, odor control, and other components of the sewer transport, collection, storage, and treatment system; (d) stormwater mater management and flood resilience; and (e) land reuse. Phase I of the SSIP is $3.4 billion and is anticipated to be completed in 2025. The overall SSIP is $7.0 billion, funded by Wastewater Enterprise Revenue Bonds.
- The Wastewater Facilities and Infrastructure Program encompasses those capital improvements that fall outside of the Sewer System Improvement and Renewal and Replacement Programs. The Wastewater Facilities and Infrastructure Program addresses the following issues: maintaining SFPUC Wastewater Enterprise Levels of Service (LOS); maintaining the structural integrity of critical City infrastructure; streamlining core operational functions and processes; and employing energy efficiency components, stormwater management enhancements, seismic upgrades, spatial improvements, safety and security improvements, and other essential improvements to modernize existing facilities to current standards. The Wastewater Facilities and Infrastructure Program has seven projects totaling $660 million, funded by Wastewater Enterprise Revenue Bonds.

- The Renewal and Replacement Program is an ongoing program, funded by revenues, capacity fees and revenue bonds. The program provides for periodic repair and replacement of the collection and treatment systems.

DETAILS OF PROPOSED LEGISLATION

File 20-0832 is an ordinance appropriating $579,185,142 of proceeds from Wastewater Revenue Bonds, State of California Water Resources Control Board's revolving loan funds (State Loan Funds) or grant funds (State Grant Funds), and Wastewater revenue and capacity fees, as shown in Exhibit 1 below and detailed in Attachments I and II.

Exhibit 1: Appropriation Uses

	FY 2020-21	FY 2021-22	Two Year Total
Biosolid Digester		$81,744,663	$81,744,663
Southeast Treatment Plant	4,356,803	14,033,381	18,390,184
North Point Treatment Plant	885,007	10,209,884	11,094,891
Oceanside Treatment Plant	1,650,000	13,363,824	15,013,824
Collection System	423,216	12,710,141	13,133,357
Pump Stations	1,366,676	2,337,536	3,704,212
Flood Resilience		45,000,000	45,000,000
Green Infrastructure Projects	772,000	1,544,368	2,316,368
Sewer System Improvement Program Subtotal	$9,453,702	$180,943,797	$190,397,499
Collection System	107,135,000	115,703,000	222,838,000
Treatment Facilities	25,357,500	26,625,375	51,982,875
Repair and Replacement Subtotal	$132,492,500	$142,328,375	$274,820,875
Treasure Island		35,000,000	35,000,000
Ocean Beach		2,416,702	2,416,702
Southeast Community Center	4,500,000	0	4,500,000
Islais Creek Outlet	15,846,679	3,715,499	19,562,178
Other Projects	$20,346,679	$3,715,499	$24,062,178
Financing, Oversight, Audits	$8,576,185	$43,911,703	$52,487,888
Total Uses	**$170,869,066**	**$408,316,076**	**$579,185,142**

Source: File 20-0832

The proposed ordinance also de-appropriates and re-appropriates $391,415,748 in previously appropriated funds, as shown in Exhibit 2 below.

Exhibit 2: De-appropriation and Re-appropriation of Funds

	Total
De-Appropriation	
Central Bayside System Improvement	$72,895,788
Biosolid Digester Project	219,802,453
Drainage Basin/ Early Implement	34,011,490
North Point Treatment Plant	64,706,017
Total De-Appropriation	**$391,415,748**
Re-Appropriation	
Collection System	$55,580,148
Flood Resilience/ Hydraulic Improvements	78,525,385
Sewer System Improvement Program - Program Management	7,893,744
Southeast Treatment Plan	249,416,471
Total Re-Appropriation	**$391,415,748**

Source: File 20-0832

The following funds would be place on Controller's Reserve pending receipt of revenues:

- $57,174,566 of the $170,869,066 in new sources in FY 2020-21
- $292,744,686 of the $408,316,076 in new sources in FY 2021-22
- $349,919,522 of $391,415,748 of re-appropriated sources

Use of the appropriated funds is also subject to the Board of Supervisors' discretionary adoption of California Environmental Quality Act (CEQA) Findings for projects, following review and consideration of completed project related environmental analysis.

File 20-0837 is an ordinance authorizing the issuance of $349,919,252 in taxable or tax-exempt Wastewater Revenue Bonds to finance the proposed capital projects.

Exhibit 3: Bond Financing

	FY 2020-21	FY 2021-22	Two Year Total
Sewer System Improvement Program	$9,453,702	$180,943,797	$190,397,499
Repair and Replacement	18,798,000	26,756,985	45,554,985
Other Projects	20,346,679	41,132,201	61,478,880
Subtotal Projects	$48,598,381	$248,832,983	$297,431,364
Financing Costs	8,320,209	43,534,187	51,854,396
Revenue Bond Oversight Committee, City Services Auditor	255,976	377,516	633,492
Subtotal Financing, Oversight, Audit	$8,576,185	$43,911,703	$52,487,888
Total	**$57,174,566**	**$292,744,686**	**$349,919,252**

Source: File 20-0832

FISCAL IMPACT

Total Wastewater Revenue Bond Authorization

The total SSIP is approximately $7.0 billion in three phases, funded by Wastewater Revenue Bonds, and the current approved budget for Phase I and other projects is $3.4 billion.[1] The Board of Supervisors has previously authorized $3.5 billion in Wastewater Revenue Bonds, of which SFPUC has issued $3.2 billion and $272 million is authorized but not yet issued. The SFPUC's policy is to request authorization for bonds and other forms of debt to fund new capital appropriations, even if it has unused bond authority.

File 20-0837 would authorize issuance of $349.9 million in new Wastewater Revenue Bonds, for total authorized Wastewater Revenue Bond debt of $3.8 billion. The proposed ordinance also authorizes the issuance of refunding bonds to refinance outstanding Wastewater Revenue Bond commercial paper debt.

SFPUC Debt Management Policy

SFPUC's Debt Policy provides for issuance of short term debt, such as commercial paper, and refunding bonds.

Commercial Paper

The Board of Supervisors previously authorized the SFPUC Wastewater Enterprise to issue up to $750 million in short term commercial paper (File 17-1740). The SFPUC currently has $208 million in outstanding commercial paper which could be retired by the issuance of new Wastewater Revenue Bonds under the proposed ordinance.

Refunding Bonds

The proposed ordinance does not specify the amount of Wastewater Refunding Bonds that could be issued to refinance outstanding Wastewater Revenue Bond debt. SFPUC anticipates issuing refunding bonds if market conditions result in savings exceeding the minimum 3 percent debt service savings threshold and would not extend the maturity date of the bonds. This provision would end on June 30, 2025 unless extended by resolution of the Board of Supervisors. If the SFPUC issues refunding bonds, a Refunding Savings Report and copy of the final Official Statement would be submitted to the Board of Supervisors.

The proposed ordinance also provides for the SFPUC to issue refunding bonds for non-economic reasons, but issuance of refunding bonds for non-economic reasons would need to be approved by the Board of Supervisors by resolution. According to the SFPUC, the Commission has never issued refunding bonds for non-economic reasons

Bond Issuance and Debt Service

SFPUC anticipates issuing $349.9 million in one or two series beginning in FY2021-22. According to the SFPUC's 10 Year Financial Plan from FY 2020-21 to FY 2029-30, estimated Wastewater

[1] 3rd Quarter Report, page 3.

Enterprise annual debt service in FY 2020-21 would be $84.3 million, increasing to $339.2 million in FY 2029-30. According to Charter Section 8B.124, SFPUC must obtain certification by a qualified third party that the debt service coverage ratio will be 1.35x (i.e., earnings before interest, taxes, and amortization – EBITA – are 1.35 times the annual principal and interest payments on the debt). According to the SFPUC's 10 Year Financial Plan, estimated Wastewater Enterprise annual debt service coverage ratio in FY 2020-21 would be 2.31x, decreasing to 1.38x in FY 2029-30.

Sewer Rate Increases

In order to meet operating, capital, and debt expenses, the SFPUC estimates annual sewer rate increases of 7.5 percent. The adopted annual rate increase in FY 2020-21 and in FY 2021-22 is 8 percent. Therefore, the SFPUC estimates that the average monthly residential sewer bill will increase by $5 in FY 2020-21, from $67in FY 2019-20 to $72; and by $6 in FY 2021-22 to $78.

POLICY CONSIDERATION

Reporting on Bond Issuance to Board of Supervisors

According to Ordinance 111-16, which previously authorized issuance of $1.1 billion in Wastewater Revenue Bonds, the SFPUC would file with the Clerk of the Board within 30 days of the issuance of the bonds, a report summarizing principal and interest costs, bond maturity, facilities to be funded, and remaining unissued balance. The SFPUC submitted such reports on July 14, 2020. File 20-0837 provides for the continued submission of such reports to the Clerk of the Board.

Wastewater Enterprise Capital Plan and Reserves

SFPUC's fund balance reserve policy requires a fund balance of 90 days or 25 percent of operating expenses. According to the 10 Year Financial Plan, the Wastewater Enterprise fund balance exceeds this level because the Wastewater Enterprise had lower capital expenditures than projected in recent years due to delays in SSIP projects. The 10 Year Financial Plan shows negative net operating revenues in seven of the next ten years (i.e., operating revenues are less than expenses) which will draw down on the fund balance. However, despite the draw down on fund balance each year, the Wastewater Enterprise fund balance will continue to increase through FY 2026-27, in large part due to the estimated 8 percent per year increase in sewer rates.

RECOMMENDATION

- Approve the proposed ordinances

	FY 2020-21				FY 2021-22			
	Wastewater Revenue Bonds	Wastewater Enterprise Revenue	Wastewater Enterprise Capacity Fee	Total	Wastewater Revenue Bonds	Wastewater Enterprise Revenue	Wastewater Enterprise Capacity Fee	Total
Biosolid Digester					81,744,633			81,744,663
Southeast Treatment Plant	4,356,803			4,356,803	14,033,381			14,033,381
North Point Treatment Plant	885,007			885,007	10,209,884			10,209,884
Oceanside Treatment Plant	1,650,000			1,650,000	13,363,824			13,363,824
Collection System	423,216			423,216	12,710,141			12,710,141
Pump Stations	1,366,676			1,366,676	2,337,536			2,337,536
Flood Resilience					45,000,000			45,000,000
Green Infrastructure Projects	772,000			772,000	1,544,368			1,544,368
SSIP *	$9,453,702	0	0	$9,453,702	$180,943,767	0	0	$180,943,797
Collection System	18,798,000	82,537,000	5,800,000	107,135,000	26,756,985	83,627,015	5,319,000	115,703,000
Treatment Facilities		25,357,500		25,357,500		26,625,375		26,625,375
Repair and Replacement	$18,798,000	$107,894,500	$5,800,000	$132,492,500	$26,756,985	$110,252,390	$5,319,000	$142,328,375
Treasure Island					35,000,000			35,000,000
Ocean Beach					2,416,702			2,416,702
Southeast Community Center	4,500,000			4,500,000				0
Islais Creek Outlet	15,846,679			15,846,679	3,715,499			3,715,499
Other Projects	$20,346,679	0	0	$20,346,679	$41,132,201	0	0	$41,132,201
Financing Costs	8,320,209			8,320,209	43,534,187			43,534,187
RBOC, CSA **	255,976	0	0	255,976	377,516	0	0	377,516
Financing, Oversight, Audits	$8,576,185	0	0	$8,576,185	$43,911,703	0	0	$43,911,703
Total Uses	**$57,174,566**	**$107,894,500**	**$5,800,000**	**$170,869,066**	**$292,744,656**	**$110,252,390**	**$5,319,000**	**$408,316,076**

* Sewer System Improvement Program

** Revenue Bond Oversight Committee, City Services Auditor

	Wastewater Revenue Bonds	Wastewater Enterprise Revenue	Total
De-Appropriation			
Central Bayside System Improvement	$72,895,788		$72,895,788
Biosolid Digester Project	219,802,453		219,802,453
Drainage Basin/ Early Implement	34,011,490		34,011,490
North Point Treatment Plant	64,706,017		64,706,017
Subtotal De-Appropriation	**$391,415,748**	**0**	**$391,415,748**
Re-Appropriation			
Collection System	$55,580,148		$55,580,148
Flood Resilience/ Hydraulic Improvements	78,525,385		78,525,385
SSIP Program Management	7,893,744		7,893,744
Southeast Treatment Plan	249,416,471		249,416,471
Subtotal Re-Appropriation	**$391,415,748**	**0**	**$391,415,748**

Project Funding

	Proposed New Funding	Proposed De-Appropriation	Proposed Re-Appropriation	Total
Biosolid Digester	81,744,663	(219,802,453)		(138,057,790)
Treatment Facilities	96,481,774	(64,706,017)	249,416,471	281,192,228
Pump Stations - Force Main	3,704,212			3,704,212
Collection System	235,971,357		55,580,148	291,551,505
Flood Resilience	45,000,000		78,525,385	123,525,385
Central Bayside and Early Implementation	0	(72,895,788)		(72,895,788)
Green Infrastructure Projects	2,316,368	(34,011,490)		(31,695,122)
Program Management	0		7,893,744	7,893,744
Treasure Island	35,000,000			35,000,000
Ocean Beach	2,416,702			2,416,702
Southeast Community Center	4,500,000			4,500,000
Islais Creek Outlet	19,562,178			19,562,178
Total Uses	**526,697,254**	**(391,415,748)**	**391,415,748**	**526,697,254**

Biosolid Digester (net reduction of $138.0 million)

The proposed ordinance de-appropriates 2016 and 2017 Wastewater Revenue Bond appropriations to the Biosolid Digester Facilities Project and appropriates new Wastewater Revenue Bond proceeds in FY 2021-22, for a net reduction in project revenues of $138.0 million.

The Biosolid Digester Facilities Project demolishes the existing facility at the Southeast Treatment Plant, and reconstructs these facilities at an adjacent site. The initial demolition and relocation is underway. According to the Wastewater Enterprise 3rd Quarter Report for FY 2019-20 (published on June 2, 2020), construction cost estimates and timelines for reconstruction of the Biosolid Digester Facilities Project were much higher than anticipated. The SFPUC made project changes to reduce some costs. The current approved project budget is $1.3 billion and the forecasted budget is $1.7 billion, an increase of $400 million.

Treatment Plant Project (net increase of $281.2 million)

The proposed ordinance appropriates new Wastewater Revenue Bonds to Southeast, Oceanside, and Northpoint Treatment Plants, and re-appropriates prior Wastewater Revenue Bond appropriations to the Southeast Treatment Plant, offset by the de-appropriation of prior Wastewater Enterprise revenue bond appropriation to the North Point Treatment Plant. The net increase of $281.2 million is for Sewer System Improvement Program (SSIP) and Capital Improvement Program (CIP) Treatment Plant projects.

The Southeast Treatment Plant projects include disinfection, odor control, distributed control system, seismic reliability, and power improvements. These budgets do not include the Biosolid Digester, noted above, or the Headworks Facility. **T**he Northpoint Treatment Plant projects include improvements to the North Shore Pump Station wet weather facility. The Oceanside Treatment Plant improvements include pump station reliability, digester gas utilization, and general assessment repairs.

According to the 3rd Quarter Report, the Oceanside Treatment Plant project is over budget due to increases in project timelines and costs largely due to rescoping and redesign of the Westside Pump Station Reliability project and construction cost increases for the digester gas utilization project. The current approved SSIP budget for the Southeast, Oceanside, and North Point Treatment Plants $556.4 million and the forecasted budget is $570.9 million, an increase of $14.5 million.

Pump Station and Collection System

Force Main (new funds of $3.7 million)

The Sewer System Improvement Program has three force main projects[1] - Embarcadero and Jackson Streets, Mariposa Pump Station, and Griffith Pump Station. According to the 3rd Quarter Report, extended contract bidding timelines and higher than expected construction bids for the Mariposa Pump Station project contributed to increases in the project budget. The current budget for pump station and force main projects is $77.6 million and the forecasted budget is $81.0 million, an increase of $3.4 million.

Collection System (new and re-appropriated funds of $291.6 million)

The Collection System is the City's network of sewers that collect and transport sanitary flow and stormwater runoff. The proposed ordinance appropriates new Wastewater Revenue Bond and Wastewater Enterprise revenues, and re-appropriates prior Wastewater Revenue Bond appropriations to SSIP and Repair & Replacement projects. SSIP projects include the interdepartmental collection system projects which provide for improvements to the sewer systems along Geary Avenue, Van Ness Avenue, Better Market Street, Mission Bay, and Taraval. According to the 3rd Quarter Report, the Van Ness Avenue project is expected to be over budget due to delays and differing site conditions; and the Better Market Street project is expected to be over budget due to cost sharing variances among participating departments and project delays. The current SSIP budget for interdepartmental collection system projects is $87.7 million and the forecasted budget is $96.6 million, an increase of $8.9 million.

Repair and Replacement projects include annual repair and replacement of 15 miles of sewer lines. According to the 3rd Quarter Report, the current approved and forecasted budget for Collection System repair and replacement is $686.54 million.

Flood Resilience (new and re-appropriated funds of $123.5 million)

The proposed ordinance appropriates new Wastewater Revenue Bonds to flood resilience projects to decrease flooding and property damage during rainstorms. Projects include 17th and Folsom Streets, Cayuga Avenue, Lower Alemany other neighborhoods' hydraulic and drainage improvements. According to the 3rd Quarter Report, the approved and forecasted budget is $286.5 million.

[1] Force mains are pipelines that convey wastewater under pressure from the discharge side of a pump or pneumatic ejector to a discharge point. Pumps or compressors located in a lift station provide the energy for wastewater conveyance in force mains.

Central Bayside and Early Implementation (de-appropriation of $72.8 million)

The proposed ordinance de-appropriates prior Wastewater Revenue Bond appropriations from the Central Bayside System Improvement Project, which provides collection system improvements to the Channel and Islais Creek watersheds. According to the 3rd Quarter Report, the first phase of the Central Bayside System Improvement Project is expected to be completed in December 2020 and to come in under budget.

The proposed ordinance de-appropriates prior Wastewater Enterprise Revenue Bond appropriations from Early Implementation projects, which consist of green infrastructure to manage stormwater runoff. Early Implementation projects include Islais Creek, North Shore, Lake Merced, Channel, and Sunnydale, Sunset, Richmond, and Yosemite. SFPUC is recommending re-appropriating previously appropriated Wastewater Enterprise Bond funds from Early Implementation projects because the project are being funded through a re-allocation of existing current year project appropriations that funds the projects through completion.

Program Management (re-appropriation of $7.9 million)

The proposed ordinance re-appropriates $7.9 million to the existing agreement between SFPUC and AECOM for management of the Sewer System Improvement Program. The Board of Supervisors approved the original AECOM program management agreement in 2011, for a term of 15 years through September 2025 and an amount not-to-exceed $150 million. According to the 3rd Quarter Report, program management expenditures to date are $113.2 million, and total forecasted expenditures are $175 million, or $25 million more than then approved agreement amount.

Treasure Island (new fund of $35 million)

The proposed ordinance includes new Wastewater Revenue Bonds for the construction of a new wastewater treatment plant on Treasure Island to replace the facility built by the Navy that is past its useful life. The conceptual engineering report was completed in January 2020; SFPUC is currently preparing the Request for Qualifications to select a design-build contractor. The schedule is one year longer than previously estimated (completion in January 2025 rather than September 2023) and costs based on the conceptual engineering design are higher than previously estimated. According to the 3rd Quarter Report, the approved budget is $67.4 million and the forecasted budget is $202.2 million, an increase of $134.8 million.

Ocean Beach (new funds of $2.4 million)

The proposed ordinance includes new Wastewater Revenue Bonds for the Ocean Beach project for shoreline management to protect from bluff erosion and sea level rise due to climate change. The project is scheduled for completion in 2026. According to the 3rd Quarter Report, the current approved budget is $126.8 million and the forecasted budget is $169.9 million, an increase of $43.1 million.

Southeast Community Center (new funds of $4.5 million)

The proposed ordinance includes new Wastewater Revenue Bonds for the Southeast Community Center at 1550 Evans Street, which will include a community center, childcare cent, café, multi-purpose space, and other facilities to serve the surrounding neighborhood and mitigate the impact of the Southeast Treatment Plant. The project is scheduled for completion in 2023. According to the 3rd Quarter Report, the approved budget is $108.5 million and the forecasted budget is $109.5 million, an increase of $1 million.

Islais Creek Outlet (new funds of $19.6 million)

The proposed ordinance includes new Wastewater Revenue Bonds for replacing pipelines crossing under Islais Creek, and other pipeline improvements to ensure reliable outflow from the Southeast Treatment Plant. The project is behind schedule and over budget due to design changes, additional scope and incorporation of emergency bypass project components, seismic design additions, and Muni overhead control system relocation work on 3rd Street. According to the 3rd Quarter Report, the approved budget is $35 million and the forecasted budget is $67.6 million, an increase of $32.6 million.

Items 6 and 9 Files 20-0833 and 20-0838	Department: San Francisco Public Utilities Commission (SFPUC)

EXECUTIVE SUMMARY

Legislative Objectives

- File 20-0832 is an ordinance appropriating $344,846,164 of proceeds from Water Revenue Bonds, State of California Water Resources Control Board's revolving loan funds (State Loan Funds) or grant funds (State Grant Funds), and Water revenues and capacity fees.
- File 20-0838 is an ordinance authorizing the issuance of $347,141,218 in taxable or tax-exempt Water Revenue Bonds to finance the proposed capital projects**.** The requested authorization includes $238,514,485 in regional and local Water Revenue Bonds for Water Enterprise projects and $108,626,733 for Hetch Hetchy water projects.

Key Points

- The San Francisco Public Utilities Commission (SFPUC) water system is divided into two geographic groups including (1) the regional water conveyance system and the (2) in-city (local) distribution system. The Water Enterprise 10-Year Capital Plan for FY 2021-20 through FY 2029-30 is $2.2 billion, of which $1.0 billion are regional projects and $1.2 billion are local projects. Funding sources include $1.54 billion in bond and $0.66 billion in revenues.

Fiscal Impact

- As of June 30, 2020, the Board of Supervisors authorized $4.3 billion in Water Revenue Bonds. To date, $3.6 billion of the Proposition E bonds have been sold with $629 million in authorized and unsold bonds. SFPUC anticipates issuing $347.1 million in one or two series beginning FY2021-22. According to the SFPUC's 10 Year Financial Plan from FY 2020-21 to FY 2029-30, estimated Water Enterprise annual debt service in FY 2020-21 would be $304.1 million, increasing to $503.9 million in FY 2029-30.
- As of June 30, 2020, the Board of Supervisors authorized $4.3 billion in Water Revenue Bonds. To date, $3.6 billion of the Proposition E bonds have been sold with $629 million in authorized and unsold bonds.

Recommendation

- Approve the proposed ordinances.

MANDATE STATEMENT

Charter Section 8B.124 states that the Public Utilities Commission is authorized to issue revenue bonds and other forms of indebtedness, when authorized by two-thirds vote of the Board of Supervisors, for Water Enterprise and Wastewater Enterprise capital projects.

Charter Section 5A.31(d) states that one-twentieth of one percent from the proceeds of each issuance or sale of public utility revenue bonds must be set aside for use by the Public Utilities Commission Revenue Bond Oversight Committee to cover the costs of Committee activities.

Charter Section 9.105 states that the Board of Supervisors shall approve by ordinance all amendments to the Annual Appropriation Ordinance after the Controller certifies the availability of funds.

BACKGROUND

The San Francisco Public Utilities Commission (SFPUC) water system is divided into two geographic groups including (1) the regional water conveyance system and the (2) in-city (local) distribution system. The regional water conveyance system includes: (a) the Hetch Hetchy System, comprised of the Hetch Hetchy Reservoir and associated pipelines; (b) the Alameda System, comprised of the San Antonio and Calaveras Reservoirs and associated pipelines including the Irvington Tunnel; and (c) the Peninsula System, comprised of the San Andreas and Crystal Springs Reservoirs and associated pipelines that connect the regional water conveyance system to the in-city distribution system. The in-city distribution system is a series of pipelines that distributes water from the regional water conveyance system to residences and retail businesses in the City.

Water Enterprise Capital Plan

The Water Enterprise 10-Year Capital Plan for FY 2021-20 through FY 2029-30 is $2.2 billion, of which $1.0 billion are regional projects and $1.2 billion are local projects. Funding sources include $1.54 billion in bond and $0.66 billion in revenues.

DETAILS OF PROPOSED LEGISLATION

File 20-0832 is an ordinance appropriating $344,846,164 of proceeds from Water Revenue Bonds, State of California Water Resources Control Board's revolving loan funds (State Loan Funds) or grant funds (State Grant Funds), and Water revenues and capacity fees, as shown in Exhibit 1 below and in Attachment I.

Exhibit 1: Appropriation Sources and Uses

	FY 2020-21	FY 2021-22	Two Year Total
Sources			
Regional Programs/ Wholesale Customers	$53,574,300	$64,469,827	$118,044,127
Local Programs	78,559,626	148,242,411	226,802,037
Total Sources	**$132,133,926**	**$212,712,238**	**$344,846,164**
Uses			
Regional			
Water Supply & Treatment	9,225,155	42,388,000	$51,613,155
Watershed & Land Management	30,720,000	9,659,650	40,379,650
Communication, Monitoring, Permit	4,543,000	2,913,210	7,456,210
Buildings & Grounds	3,000,000	1,784,463	4,784,463
Financing, Oversight, Audits	6,086,145	7,724,503	13,810,648
Regional Uses Subtotal	$53,574,300	$64,469,826	$118,044,126
Local			
Watershed & Land Management	$7,000,000	$5,201,350	$12,201,350
Water Conveyance & Distribution	34,050,000	70,275,998	104,325,998
Communication, Monitoring, Permit		1,568,652	1,568,652
Town of Sunol Pipeline	525,000	1,075,000	1,600,000
Automated Water Meter Program	4,239,638	2,970,340	7,209,978
Tanks & Reservoirs	3,325,000	3,000,000	6,325,000
Lombard Geotechnical	150,000	2,265,000	2,415,000
Westside Recycled Water	5,057,144	4,664,854	9,721,998
Buildings & Grounds	15,150,000	34,715,537	49,865,537
Water Supply/ Pump Station	2,702,000	6,900,000	9,602,000
Financing, Oversight, Audits	6,360,844	15,605,681	21,966,525
Local Uses Subtotal	$78,559,626	$148,242,412	$226,802,038
Total Uses	**$132,133,926**	**$212,712,238**	**$344,846,164**

The proposed ordinance also:

(a) de-appropriates $3,528,113 in surplus project funds, and returns these funds to the Water Enterprise fund balance; and

(b) re-appropriates $14,431,167 for surplus project funds to various local water supply projects, as shown in Exhibit 2 below.

Exhibit 2: De-appropriation and Re-appropriation of Funds

	Water Revenue Bonds	Water Enterprise Revenues	Total
De-appropriation			
Pump Stations	$6,250,000		$6,250,000
Harding Park Recycled Water	3,574,167		3,574,167
Local Water Supply	3,500,000	1,089,000	4,589,000
Total	$13,324,167	$1,089,000	$14,413,167
Re-appropriation			
Local Water Supply	$13,324,167	$1,089,000	$14,413,167

The following funds would be place on Controller's Reserve pending receipt of revenues:

- $82,979,926 of the $132,133,926 in new sources in FY 2020-21
- $155,534,559 of the $212,712,238 76 in new sources in FY 2021-22
- $8,432,000 of $14,413,167 of re-appropriated sources

Use of the appropriated funds is also subject to the Board of Supervisors' discretionary adoption of California Environmental Quality Act (CEQA) Findings for projects, following review and consideration of completed project related environmental analysis.

File 20-0838 is an ordinance authorizing the issuance of $347,141,218 in taxable or tax-exempt Water Revenue Bonds to finance the proposed capital projects**.** The requested authorization includes $238,514,485 in regional and local Water Revenue Bonds for Water Enterprise projects and $108,626,733 for Hetch Hetchy water projects, as shown in Exhibit 3 below. Attachment I further summarizes bond project financing.

Exhibit 3: Bond Appropriation

	Water Revenue Bonds FY 2020-21	FY 2021-22	Total	Hetchy Water FY 2020-21	Hetchy Water FY 2021-22	Total Hetch Hetchy Water
Regional						
Projects Subtotal	34,488,155	43,772,181	78,260,336	28,368,149	63,964,574	92,332,723
Financing	6,025,858	7,658,838	13,684,696	4,989,457	11,250,240	16,239,697
RBOC	20,287	25,748	46,035	16,687	37,626	54,313
City Services Auditor	40,000	39,917	79,917			0
Regional Total	**40,574,300**	**51,496,684**	**92,070,984**	**33,374,293**	**75,252,440**	**108,626,733**
Local						
Projects	36,044,782	88,432,194	124,476,976			
Financing	6,281,333	15,479,224	21,760,557			
RBOC	21,203	52,019	73,222			
City Services Auditor	58,308	74,438	132,746			
Local Total	**42,405,626**	**104,037,875**	**146,443,501**	**0**	**0**	**0**
Total Bonds	**82,979,926**	**155,534,559**	**238,514,485**	**33,374,293**	**75,252,440**	**108,626,733**

Source: Files 20-0833 and 20-0834

FISCAL IMPACT

Water Revenue Bond Authorization

File 20-0837 would authorize issuance of $347.1 million in new Water Revenue Bonds. The proposed ordinance also authorizes the issuance of refunding bonds to refinance outstanding Wastewater Revenue Bond commercial paper debt.

SFPUC Debt Management Policy

SFPUC's Debt Policy provides for issuance of short term debt, such as commercial paper, and refunding bonds.

Commercial Paper

The Board of Supervisors previously authorized the SFPUC Water Enterprise to issue up to $500 million in short term commercial paper (File 08-1453). The SFPUC currently has $362 million in outstanding commercial paper which could be retired by the issuance of new Water Revenue Bonds under the proposed ordinance.

Refunding Bonds

The proposed ordinance does not specify the amount of Water Refunding Bonds that could be issued to refinance outstanding Wastewater Revenue Bond debt. SFPUC anticipates issuing $693 million in taxable refunding bonds in FY2020-21 for an estimated savings of 17.5% of the amount of refunded bonds based on current market conditions. This provision would end on June 30, 2025 unless extended by resolution of the Board of Supervisors. If the SFPUC issues refunding bonds, a Refunding Savings Report and copy of the final Official Statement would be submitted to the Board of Supervisors.

The proposed ordinance also provides for the SFPUC to issue refunding bonds for non-economic reasons, but issuance of refunding bonds for non-economic reasons would need to be approved by the Board of Supervisors by resolution. According to the SFPUC, the Commission has never issued refunding bonds for non-economic reasons

Bond Issuance and Debt Service

SFPUC anticipates issuing $347.1 million in one or two series beginning FY2021-22. According to the SFPUC's 10 Year Financial Plan from FY 2020-21 to FY 2029-30, estimated Water Enterprise annual debt service in FY 2020-21 would be $304.1 million, increasing to $503.9 million in FY 2029-30. According to the SFPUC debt management policy, debt service coverage ratio should be 1.1x (i.e., earnings before interest, taxes, and amortization – EBITA – are 1.1 times the annual principal and interest payments on the debt.) According to the SFPUC's 10 Year Financial Plan, estimated Water Enterprise annual debt service coverage ratio in FY 2020-21 would be 1.11x and in FY 2021-22 would be 1.12x.

Water Rate Increases

In order to meet operating, capital, and debt expenses, the SFPUC adopted annual rate increases of 7.8 percent in FY 2020-21 and 7.9 percent in FY 2021-2. Therefore, the SFPUC estimates that the average monthly residential water bill will increase by $4 in FY 2020-21, from $56 in FY 2019-20 to $60; and by $5 in FY 2021-22 to $65.

POLICY CONSIDERATION

San Francisco voters approved Proposition A in 2002, authorizing $1.6 billion in Water Revenue Bonds. To date, 1.5 billion of the Proposition A bonds have been sold with $93 million in authorized and unsold bonds.

San Francisco voters also approved Proposition E in 2002, authorizing the SFPUC to sell future Water Revenue Bonds subject to approve by ordinance of two-thirds of the Board of Supervisors. Proposition E did not set a maximum amount of the Water Revenue Bonds that could be authorized. As of June 30, 2020, the Board of Supervisors authorized $4.3 billion in Water Revenue Bonds. To date, $3.6 billion of the Proposition E bonds have been sold with $629 million in authorized and unsold bonds. According to the SFPUC, the $629 million in authorized and unsold bonds will be used to finance Water System Improvement Program (WSIP) projects as well as other non-WSIP Water capital improvement projects.

When the Board of Supervisors approved the prior ordinance in May 2018, authorizing the issuance of Water Revenue Bonds, the Board amended the ordinance (File 18-0451) to request the SFPUC General Manager to provide a written report to the Board as part of the two year budget review detailing the total amount of Water Revenue Bonds authorized under Proposition E, the total amount sold, the total amount authorized and unsold, and the amount of authorized bonds that are no longer needed due to changes in projects and project financing, beginning in May 2020. The SFPUC submitted such reports on July 14, 2020.

RECOMMENDATION

- Approve the proposed ordinances.

Water Enterprise Appropriation (File 20-0833)

	FY 2020-21				FY 2021-22			
	Water Revenue Bonds	Water Enterprise Revenues	Water Capacity Fees	Total	Water Revenue Bonds	Water Enterprise Revenues	Water Capacity Fees	Total
Sources								
Regional Programs/ Wholesale Customers	40,574,300	13,000,000		53,574,300	51,496,684	12,973,143		64,469,827
Local Programs	42,405,626	34,600,000	1,554,000	78,559,626	104,037,875	42,684,536	1,520,000	148,242,411
Total Sources	**82,979,926**	**47,600,000**	**1,554,000**	**132,133,926**	**155,534,559**	**55,657,679**	**1,520,000**	**212,712,238**
Uses								
Regional								
Water Supply & Treatment	9,225,155			9,225,155	42,388,000			42,388,000
Watershed & Land Mgmt	17,720,000	13,000,000		30,720,000		9,659,650		9,659,650
Communication, Monitoring	4,543,000			4,543,000		2,913,210		2,913,210
Buildings & Grounds	3,000,000			3,000,000	1,384,181	400,282		1,784,463
Financing, Oversight, Audits	6,086,145			6,086,145	7,724,503			7,724,503
Regional Uses Subtotal	40,574,300	13,000,000	0	53,574,300	51,496,684	12,973,142	0	64,469,826
Local								
Watershed & Land Mgmt		7,000,000		7,000,000		5,201,350		5,201,350
Water Convey & Distribution	4,896,000	27,600,000	1,554,000	34,050,000	33,057,000	35,698,998	1,520,000	70,275,998
Communication, Monitoring						1,568,652		1,568,652
Town of Sunol Pipeline	525,000			525,000	1,075,000			1,075,000
Automated Water Meter	4,239,638			4,239,638	2,970,340			2,970,340
Tanks & Reservoirs	3,325,000			3,325,000	3,000,000			3,000,000
Lombard Geotechnical	150,000			150,000	2,265,000			2,265,000
Westside Recycled Water	5,057,144			5,057,144	4,664,854			4,664,854
Buildings & Grounds	15,150,000			15,150,000	34,500,000	215,537		34,715,537
Water Supply/ Pump Station	2,702,000			2,702,000	6,900,000			6,900,000
Financing, Oversight, Audits	6,360,844			6,360,844	15,605,681			15,605,681
Local Uses Subtotal	42,405,626	34,600,000	1,554,000	78,559,626	104,037,875	42,684,537	1,520,000	148,242,412
Total Uses	**82,979,926**	**47,600,000**	**1,554,000**	**132,133,926**	**155,534,559**	**55,657,679**	**1,520,000**	**212,712,238**

Bond Authorization (File 20-0837)

	FY 2020-21		FY 2021-22		
	Water Revenue Bonds	Hetchy Water	Water Revenue Bonds	Hetchy Water	Two Year Total
Regional					
Water Supply & Treatment	9,225,155		42,388,000		51,613,155
Watershed & Land Management	17,720,000				17,720,000
Communication, Monitoring, Permit	4,543,000				4,543,000
Buildings & Grounds	3,000,000		1,384,181		4,384,181
Hetch Hetchy Water Infrastructure		20,077,000		33,733,000	53,810,000
Hetch Hetchy Mountain Tunnel		7,596,900		8,474,850	16,071,750
Hetch Hetchy Joint Water - Power		694,249		21,756,724	22,450,973
Projects Subtotal	34,488,155	28,368,149	43,772,181	63,964,574	170,593,059
Financing	6,025,858	4,989,457	7,658,838	11,250,240	29,924,393
Revenue Bond Oversight Committee	20,287	16,687	25,748	37,626	100,348
City Services Auditor	40,000		39,917		79,917
Regional Total	**40,574,300**	**33,374,293**	**51,496,684**	**75,252,440**	**200,697,717**
Local					
Water Conveyance & Distribution	4,896,000		33,057,000		37,953,000
Town of Sunol Pipeline	525,000		1,075,000		1,600,000
Automated Water Meter Program	4,239,638		2,970,340		7,209,978
Tanks & Reservoirs	3,325,000		3,000,000		6,325,000
Lombard Geotechnical	150,000		2,265,000		2,415,000
Westside Recycled Water	5,057,144		4,664,854		9,721,998
Buildings & Grounds	15,150,000		34,500,000		49,650,000
Water Supply/ Pump Station	2,702,000		6,900,000		9,602,000
Local Projects	36,044,782		88,432,194		124,476,976
Financing	6,281,333		15,479,224		21,760,557
Revenue Bond Oversight Committee	21,203		52,019		73,222
City Services Auditor	58,308		74,438		132,746
Local Total	**42,405,626**	**0**	**104,037,875**	**0**	**146,443,501**
Total Bonds	**82,979,926**	**33,374,293**	**155,534,559**	**75,252,440**	**347,141,218**

SFPUC BUSINESS SERVICES
525 Golden Gate Avenue, 4th Floor
San Francisco, CA 94102
For more information visit: **sfwater.org**

Date of Publication: April 2021

SAN FRANCISCO PUBLIC UTILITIES COMMISSION
AN ENTERPRISE DEPARTMENT OF THE CITY AND
COUNTY OF SAN FRANCISCO, CALIFORNIA