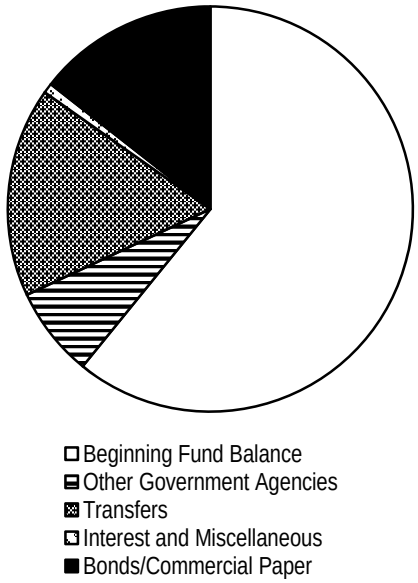
# 2015-2016 Capital Budget

# 2016-2020 Capital Improvement Program

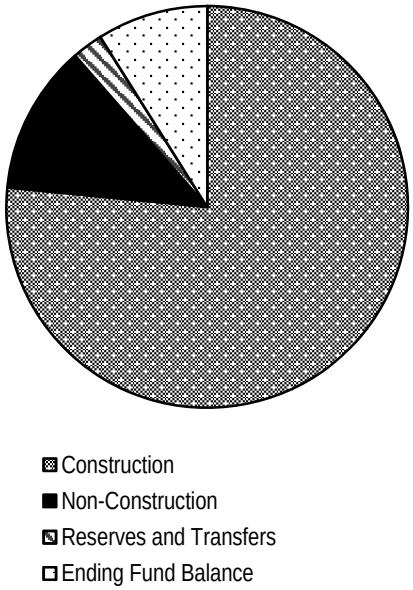
# Water Pollution Control

# WATER POLLUTION CONTROL
# 2016-2020 Capital Improvement Program

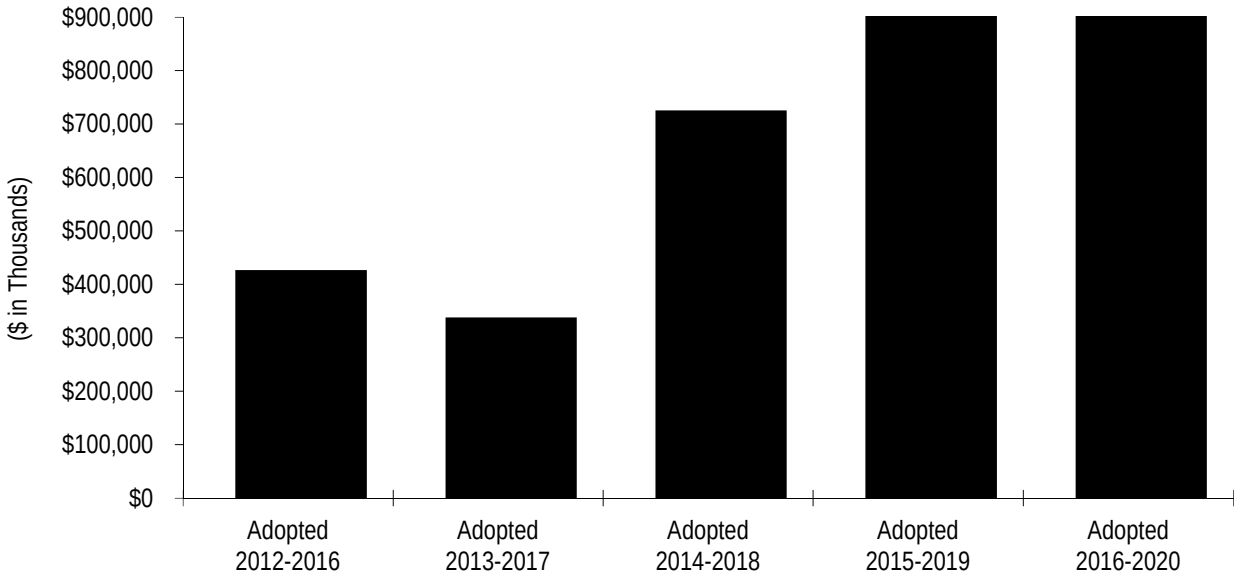
**2015-2016 Adopted Source of Funds**




**2015-2016 Adopted Use of Funds**




**CIP History**



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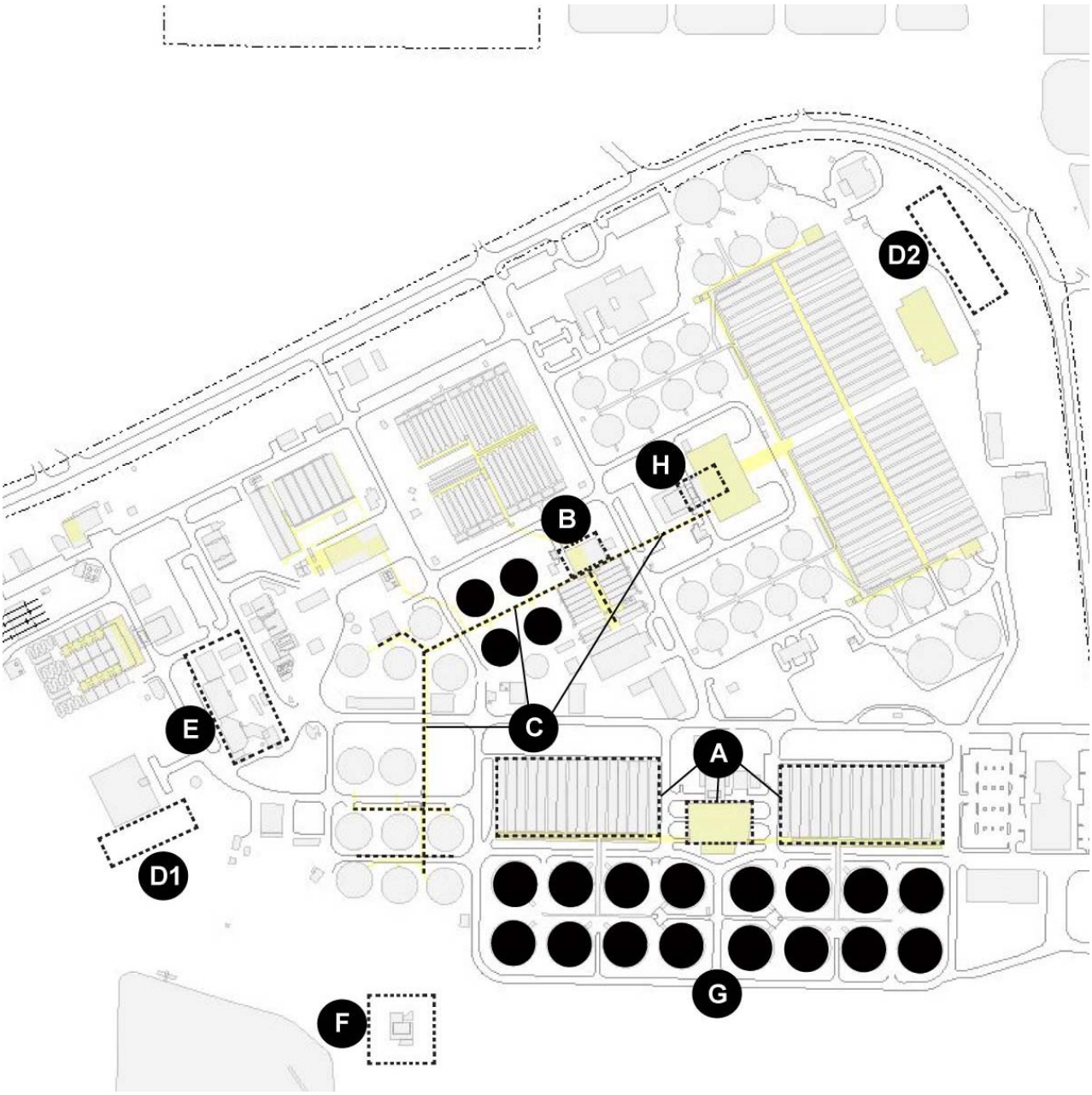
# Water Pollution Control

## 2016-2020 Adopted Capital Improvement Program*

**Major Projects**

**A)** Aeration Tanks and Blower Rehabilitation
**B)** Combined Heat and Power Equipment Repair and Rehabilitation (Digester Gas Compressor Upgrades)
**C)** Digester and Thickener Facilities Upgrade
**D)** Energy Generation Improvements
1. Emergency Diesel Generators
2. Cogeneration Facility

**E)** Headworks Improvements and New Headworks
**F)** Iron Salt Feed Station
**G)** Nitrification Clarifier Rehabilitation
**H)** Plant Instrument Air System Upgrade




* Includes only the first set of projects to be in construction at the Plant. Please see the Source & Use for a full listing.

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## INTRODUCTION

| PLANT INFRASTRUCTURE | |
|---|---|
| ACRES OF LAND | 2,684 |
| AVERAGE DRY WEATHER INFLUENT CAPACITY (MILLIONS OF GALLONS PER DAY) | 167 |
| AVERAGE DRY WEATHER INFLUENT FLOW (MILLIONS OF GALLONS PER DAY) | 108 |
| DRY METRIC TONS OF BIOSOLIDS HAULED EACH YEAR | 45,100 |
| AVERAGE MEGAWATTS PRODUCED | 9.8 |

The San José/Santa Clara Water Pollution Control Plant (Plant) is a regional wastewater treatment facility serving eight South Bay cities and four special districts including: San José, Santa Clara, Milpitas, Cupertino Sanitary District (Cupertino), West Valley Sanitation District (Campbell, Los Gatos, Monte Sereno, and Saratoga), County Sanitation Districts 2-3 (unincorporated), and Burbank Sanitary District (unincorporated). The Plant is jointly owned by the cities of San José and Santa Clara and is administered and operated by the City of San José's Environmental Services Department (ESD). ESD is also responsible for planning, designing, and constructing capital improvements at the Plant, including water reuse facilities. On March 4, 2013, the City Council approved to change the name of the Plant to the San José-Santa Clara Regional Wastewater Facility for use in future communications and public outreach.

The 2016-2020 Adopted Capital Improvement Program (CIP) provides funding of $1.07 billion, of which $208.0 million is allocated in 2015-2016. The five-year CIP is developed by City staff, reviewed by the Treatment Plant Advisory Committee (TPAC), and forwarded to the San José City Council for budget approval. The budgeted costs are allocated to each agency based on its contracted-for capacity in the Plant. Each agency is responsible for its allocated share of Plant costs, as well as the operation, maintenance, and capital costs of its own sewage collection system; debt service on bonds issued by the agency for sewer purposes; and any other sewer service related costs. Each agency is also responsible for establishing and collecting its respective sewer service and use charges, connection fees, or other charges for sewer service.

This program is part of the Environmental and Utility Services City Service Area (CSA) and supports the following outcomes: *Reliable Utility Infrastructure; Healthy Streams, Rivers, Marsh, and Bay;* and *Safe, Reliable, and Sufficient Water Supply.*

## PROGRAM PRIORITIES AND OBJECTIVES

The 2016-2020 Adopted CIP is consistent with the goals and policies outlined in the City's Envision San José 2040 General Plan. These include maintaining adequate operational capacity for wastewater treatment to accommodate the City's economic and population growth; adopting and implementing new technologies for wastewater to achieve greater safety, energy efficiency, and environmental benefit; and maintaining and operating the Plant in compliance with all applicable local, state, and federal regulatory requirements.

## PROGRAM PRIORITIES AND OBJECTIVES

The development of this Adopted CIP is guided by the Plant Master Plan (PMP), a 30-year planning-level document focused on long-term rehabilitation and modernization of the Plant. On April 19, 2011, the City Council approved a preferred alternative for the Draft PMP and directed staff to proceed with a program-level environmental review of the preferred alternative. In November 2013, the City Council approved the PMP and certified the final Environmental Impact Report. In December 2013, Santa Clara's City Council took similar actions.

***San José-Santa Clara Regional Wastewater Facility***

The PMP recommends more than 114 capital improvement projects to be implemented over a 30-year planning period at an estimated investment level of approximately $2 billion.

A capital program of this size will require significant resources in order to manage and deliver effective projects on time and on budget. On September 24, 2013, the City Council approved a consultant agreement with MWH Americas, Inc. to assist and support ESD in developing and implementing this CIP. On October 15, 2013, MWH program team members mobilized and are now co-located with City staff to form an integrated Program Management Office and program team. In February 2014, the MWH program team completed a detailed project validation process to critically evaluate project needs and priorities. The projects included with this Adopted CIP are based on the outcome of the validation process. Priorities for the near term include securing program funding, evaluating project delivery approaches, developing program staff, and continuing development of project delivery processes.

***Program Funding:*** Over the last year, City staff has worked with program management and financial consultants to develop a long-term funding strategy to provide sustained funding for implementing the CIP program, while minimizing potential impacts on rate payers and ensuring intergenerational equity. As part of this effort, staff met with representatives from the City of Santa Clara and the tributary agencies to discuss guiding principles, funding options, and reserve policies, and to request feedback. Some of the key guiding principles include establishing a predictable base level of cash-funded capital investments, allowing time for all tributary agencies to plan for future revenue needs, and minimizing borrowing costs to the maximum extent practical. A recommended funding strategy was approved by TPAC on May 14, 2015 and by the City Council on June 2, 2015. For the next five years, San José's portion of the funding for the Adopted CIP is programmed into the 2016-2020 sewer rate models with moderate rate increases planned beginning in 2015-2016.

## PROGRAM PRIORITIES AND OBJECTIVES

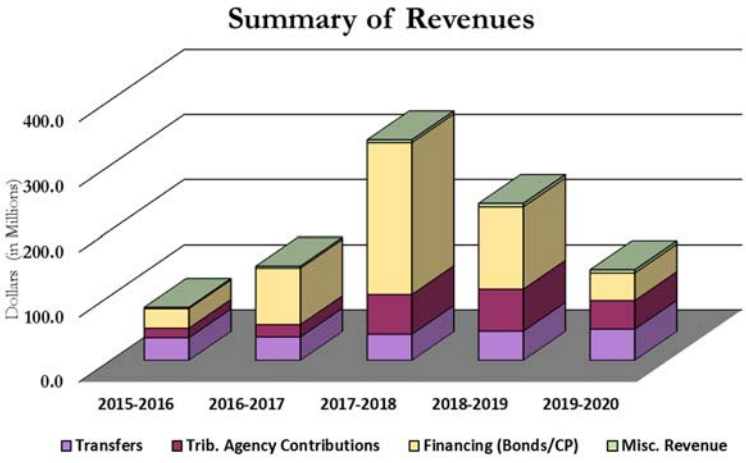
***Project Delivery Approach:*** The Adopted CIP assumes that the majority of projects will be delivered using traditional project delivery (design-bid-build). With the passage of SB 785 in September 2014, the Plant now has the option, under State authority, to use progressive design-build to deliver projects, pending approval by the City Council on a case-by-case or programmatic basis. Staff will be evaluating the application of these delivery methods as projects come forward.

***Program Staff Development:*** Successful delivery of this large, multi-disciplinary CIP requires an integrated team of City staff, outside consultants, and contractors. Over the last fiscal year, the program team has increased its attention on project delivery. Staff continues to identify resource needs and secure a combination of City staff and consultants to deliver the program. The program team is currently supported by City staff from Environmental Services, Public Works, Planning, Finance, and the City Attorney's Office, and staff from MWH Americas, Inc. The program will also continue to draw from the professional consultant and contractor community for subject-matter technical expertise, engineering services, and construction management.

***Program Delivery Process Development:*** Building on the program start-up activities, which concluded in June 2014, the program team will continue to develop schedule and budget control, reporting, and central document management systems to provide a consistent approach for effective and efficient program and project delivery. The program team continues to work on developing standardized project delivery tools; design standards and specifications; control system and integration strategies; startup; commissioning; and training.

## SOURCES OF FUNDING

Revenues for the 2016-2020 Adopted CIP are derived from several sources: transfers from the City of San José Sewer Service and Use Charge (SSUC) Fund and Sewage Treatment Plant Connection Fee Fund; contributions from the City of Santa Clara and other tributary agencies; interest earnings; Calpine Metcalf Energy Center Facilities repayments; a federal grant from the US Bureau of Reclamation; and bond and commercial paper proceeds.




The SSUC Fund derives its revenues from fees imposed on San José users of the residential, commercial, and industrial sanitary sewer system. Transfers from this fund to the Plant CIP over the five years total $193.4 million, which reflects a $23.0 million (10.6%) decrease compared to the 2015-2019 Adopted CIP, due to the change in projects recommended from the validation process as described under Program Priorities and Objectives.

## SOURCES OF FUNDING

Contributions from the City of Santa Clara and other agencies are determined according to agreements with the participating agencies, based on financing plans, anticipated Plant expenditures, and the amount and characteristics of flows from each agency's connections to the Treatment Plant. These contributions reimburse the City for actual project expenditures. In this Adopted CIP, contributions from the City of Santa Clara and other agencies total $203.4 million, which represents a $70.2 million (52.7%) increase compared to the 2015-2019 Adopted CIP, due primarily to the assumption included in the CIP that all tributary agencies will use commercial paper proceeds as part of their financing strategies.

To accommodate PMP project costs, a bond issuance combined with Commercial Paper proceeds (CP), totaling $517.3 million, has been programmed in this CIP. Debt service on the bonds/CP is estimated to be approximately $1.6 million in 2015-2016 and 2016-2017, rising to approximately $109.5 million in 2017-2018, $55.7 million in 2018-2019, and $48.1 million in 2019-2020, reflecting the amortization of the interest and principal loan amount, in addition to the retirement of commercial paper loans. Based on the priorities identified through the validation process, the estimated size of the issuance and the related debt service are scheduled to cover project costs programmed in the 2016-2020 Adopted CIP while avoiding large rate increases that would be required to fund the PMP in a "pay-as-you-go" scenario. The bond issuance does not reflect a more comprehensive financing plan that will be required to accomplish the full 30-year PMP. Staff is currently pursuing funding for some projects through the Clean Water State Revolving Fund. If successful, the debt service in 2017-2018 would be eliminated.

## PROGRAM HIGHLIGHTS

The wastewater that enters the Plant is treated using various physical and biological processes before being discharged into the San Francisco Bay. This section provides an overview of each treatment process and identifies some of the major projects to be implemented with this CIP.

Preliminary Wastewater Treatment

The headworks facility, located at the front end of the Plant, is designed to provide preliminary treatment of the incoming wastewater. Large solids such as rags, sticks, floatables, grit, and grease are removed through a screening and grit removal process to protect downstream pumping and other equipment. Projects included with this CIP are focused on constructing a new headworks facility and improving the existing wet weather reliability headworks structures.

***Headworks Bar Screens***

## PROGRAM HIGHLIGHTS

Preliminary Wastewater Treatment (Cont'd.)

| Project Name | Description | 2016-2020 CIP Cost | Estimated Completion |
|---|---|---|---|
| Headworks Improvements | Modify Headworks No. 2 to accommodate all dry weather flow to allow Headworks No. 1 (HW1) to be taken out of service. Based on condition assessment, rehabilitate HW1 to keep it operational until the New Headworks is completed. | $30.1 million | 3rd Quarter 2020 |
| New Headworks | Construct new headworks, expand and line the equalization basin as needed, and incorporate odor control measures. | $92.1 million | 2nd Quarter 2022 |

Primary Wastewater Treatment

The primary treatment process consists of a series of uncovered concrete holding tanks fitted with mechanisms that work to slow the flow of wastewater and allow heavy solids to settle out while allowing oil, grease, and lighter solids to float to the surface.

Mechanical skimmers remove grease and floatable materials from the water surface and settled solids (i.e., sludge) are collected at the bottom of the tanks while the remaining liquid waste stream is moved onto the next process for further treatment. Rehabilitation of the primary tanks will be conducted in four phases, one quadrant at a time over an estimated ten-year period. Funding included with this CIP focuses on the first phase of work, which will include replacement of all mechanical, electrical, and controls equipment; refurbishment and coating of concrete; structural modifications to accommodate odor control covers; and odor treatment.

| Project Name | Description | 2016-2020 CIP Cost | Estimated Completion |
|---|---|---|---|
| East Primary Rehabilitation, Seismic Retrofit, and Odor Control | Seismic retrofit primary tanks for odor control covers, coat concrete, convert clarifier mechanisms to stainless steel, and install odor control treatment system. | $36.0 million | 4th Quarter 2025 |

## PROGRAM HIGHLIGHTS

Primary Wastewater Treatment (Cont'd.)

| Project Name | Description | 2016-2020 CIP Cost | Estimated Completion |
|---|---|---|---|
| Iron Salt Feed Station | Construct permanent iron salt and polymer dosing station including a concrete containment structure, pumps, piping, and instrumentation to dose and deliver iron salt solution. Adding iron salts to incoming wastewater will improve Plant operations by enhancing the settling of sludge in the primary clarifiers and reducing corrosion and odor. | $5.7 million | 2nd Quarter 2017 |

Secondary Wastewater Treatment

The secondary treatment process at the Plant consists of a series of aeration basins and clarifiers where biological treatment of the wastewater takes place. Microorganisms and wastewater are mixed and aerated in these tanks for varying lengths of time and intensity, resulting in the settling out of large particulate matter or sludge. A portion of the settled sludge is returned to the secondary treatment process for re-use with the remainder removed as excess waste.

The secondary treatment process removes contaminants as required by the Plant's National Pollutant Discharge Elimination System (NPDES) discharge permit. Rehabilitation of the secondary and nitrification clarifiers will be conducted in phases and involves performance modifications, along with mechanical, structural, and electrical rehabilitation. Funding included with this CIP focuses on rehabilitating a number of nitrification and secondary aeration tanks and clarifiers.

***Secondary Aeration Tanks***

| Project Name | Description | 2016-2020 CIP Cost | Estimated Completion |
|---|---|---|---|
| Aeration Tanks and Blower Rehabilitation | Rehabilitate secondary and nitrification aeration tanks. Replace coarse bubble diffusers with fine bubble diffusers. Install Variable Frequency Drives (VFDs) in Secondary Blower Building or Building 40. May replace S11 switchgear and install VFDs in Nitrification Blower Building. | $36.4 million | 1st Quarter 2029 |

## PROGRAM HIGHLIGHTS

Secondary Wastewater Treatment (Cont'd.)

| Project Name | Description | 2016-2020 CIP Cost | Estimated Completion |
|---|---|---|---|
| Nitrification Clarifier Rehabilitation | Rehabilitate structural, mechanical, and electrical elements of existing nitrification clarifiers. | $49.5 million | 2nd Quarter 2022 |
| Secondary Clarifier Rehabilitation | Rehabilitate structural, mechanical, and electrical elements of existing secondary clarifiers. | $25.9 million | 4th Quarter 2021 |

Tertiary Wastewater Treatment

The tertiary treatment process is the final treatment stage at the Plant and consists of a gravity filtration process and a disinfection process. The Plant currently filters a portion of the secondary effluent stream to re-use standards, and the remainder to the standards required for discharge to the San Francisco Bay.

Due to the age and condition of the existing tertiary filters, a significant investment would be required to refurbish and retain them for long-term future use. Work included with this CIP focuses on replacing filter media and underdrain systems to ensure continued regulatory compliance and operational reliability. Other work includes improvements to the Plant's outfall bridge and levee and tracking regulatory developments, which may trigger the need for a new disinfection facility in the next two to three NPDES permit cycles (a permit cycle takes five years).

***Existing Filter Complex***

| Project Name | Description | 2016-2020 CIP Cost | Estimated Completion |
|---|---|---|---|
| Filter Rehabilitation | Replace filter media and, potentially, underdrain systems, replace valves and electrical controls, install air scouring equipment and piping, and repair concrete. | $33.0 million | 2nd Quarter 2022 |
| Outfall Bridge and Levee Improvements | Conduct condition assessment, repair or replace bridge and instrumentation supports, repair levee and gate, and refurbish electrical transformer. | $9.4 million | 4th Quarter 2020 |

## PROGRAM HIGHLIGHTS

Biosolids

The Plant currently processes biosolids material through a combination of anaerobic digestion, lagoon storage, and air drying. The final product is recycled as Alternative Daily Cover (ADC) at the Newby Island landfill. Based on the potential closure of the Newby Island landfill in 2025, potential changes to biosolids regulations, and odor impacts to the surrounding community, the Plant Master Plan recommended transitioning out of the current open-air lagoons and solar drying beds to new enclosed mechanical dewatering and thermal drying facilities. In November 2014, staff presented a biosolids transition strategy to TPAC and the City Council that recommended converting the anaerobic digesters from a mesophilic to thermophilic process (TPAD), proceeding with mechanical dewatering, and deferring thermal drying. In December 2014, the City Council approved proceeding with TPAD and deferring thermal drying. The City Council also directed staff to return with more information on the dewatering facility and concurrent odor study in spring 2015. In June 2015, the City Council approved proceeding with the dewatering facility and lagoons and drying bed retirement projects.

Funding included with this CIP focuses on the first phase of the digester rehabilitation, construction of a new digested sludge dewatering facility, and retirement of the existing lagoons and drying beds.

| Project Name | Description | 2016-2020 CIP Cost | Estimated Completion |
|---|---|---|---|
| Digested Sludge Dewatering Facility | Construct new mechanical dewatering facility and support systems to replace existing sludge storage lagoons and open air solar drying beds. | $68.4 million | 3rd Quarter 2020 |
| Digester and Thickener Facilities Upgrade | Rehabilitate up to ten anaerobic digesters, including new covers and mixing systems, and heating system upgrades. Modify six dissolved air flotation units for co-thickening and odor control upgrades. Construct new above-ground gas manifold, new sludge pipeline, and new waste biogas flare system. Convert four digesters from mesophilic to thermophilic operation. | $92.6 million | 4th Quarter 2025 |
| Lagoons and Drying Beds Retirement | Decommission use of existing sludge storage lagoons and open air solar drying beds for post-digestion processing through a phased approach. | $4.4 million | 2nd Quarter 2028 |

## PROGRAM HIGHLIGHTS

Electrical Systems and Power Generation

The day-to-day operation of the Plant depends heavily on having reliable energy sources and reliable, operable systems with built-in redundancy. The Plant's engine generators, mechanical and electrical process air compressor, and gas compressors are between 17 and 58 years old, and have been breaking down with increasing frequency, well beyond forecasted levels. Funding included with this CIP focuses on construction of a new digester gas compressor facility, a new gas holder, new advanced internal combustion engines, and backup diesel generators. Additional switchgear replacements/upgrades and other electrical improvements will also be made to further enhance electrical reliability at the Plant.

| Project Name | Description | 2016-2020 CIP Cost | Estimated Completion |
|---|---|---|---|
| Combined Heat and Power Equipment Repair and Rehabilitation | Install new digester gas compressors and digester gas holder. | $915,000 | 3rd Quarter 2016 |
| Energy Generation Improvements | Construct a new cogeneration facility to replace existing engine-generators with new internal combustion engines and construct new emergency diesel generators. | $88.3 million | 1st Quarter 2019 |

Advanced Process Control Systems

The Plant is a highly complex, automated facility monitored and controlled by a system of instrumentation (meters, gauges, controllers, etc.) and a Distributed Control System (DCS). The DCS allows operators in a control center to remotely monitor and control operations of the treatment processes, such as opening a valve and adjusting flow through a certain process area using information gathered through the meters and gauges. Funding included with this CIP focuses on development of a Plant-wide automation master plan, flow meter replacement, sensor and control upgrades, and DCS system upgrades.

## PROGRAM HIGHLIGHTS

Advanced Process Control Systems (Cont'd.)

| Project Name | Description | 2016-2020 CIP Cost | Estimated Completion |
|---|---|---|---|
| Advanced Facility Control and Meter Replacement | Develop an automation master plan, replace existing flowmeters and actuators, and upgrade sensors, controls, and monitoring equipment throughout the Plant. | $30.9 million | 4th Quarter 2019 |
| Treatment Plant Distributed Control System | Upgrade and convert system hardware and software components. | $2.0 million | 2nd Quarter 2019 |

Site Facility Improvements

Many of the Plant's buildings and grounds are up to 50 years old. As the Plant expanded, support buildings and infrastructure have become decentralized, resulting in inefficient operations. This CIP includes funding for various site improvement projects, such as building improvements, road and storm drainage improvements, equipment replacement, handrail replacements, yard piping rehabilitation, and water systems improvements.

***Fire Main Replacement - Phase 2***

**PROGRAM HIGHLIGHTS**

Site Facility Improvements (Cont'd.)

| Project Name | Description | 2016-2020 CIP Cost | Estimated Completion |
|---|---|---|---|
| Construction-Enabling Improvements | Construct new construction management trailers, utility connections, fencing, and security facilities. | $3.6 million | 4th Quarter 2016 |
| Equipment Replacement | In-kind replacement of air compressors, tanks, pumps, motors, control systems, valves, heat exchangers, engine auxiliaries, lab instruments, and other capital equipment as required. | $8.3 million | Ongoing |
| Facility Wide Water Systems Improvements | Rehabilitate, replace, and/or extend the Plant's four water systems, including piping, valves, pumps, controls, and other ancillary equipment. | $15.4 million | 3rd Quarter 2020 |
| Plant Infrastructure Improvements | Replacement and rehabilitation work includes handrail replacement, concrete repairs, and Plant support systems/building improvements. | $5.0 million | Ongoing |
| Support Building Improvements | Construct various tenant improvements to administration, operations, engineering, and other support buildings. Construct new warehousing facilities and electronic warehouse management system. | $16.8 million | 4th Quarter 2026 |
| Tunnel Rehabilitation | Structural, mechanical, coating, and piping improvements to the Plant's tunnel system. | $9.2 million | 3rd Quarter 2026 |
| Urgent and Unscheduled Treatment Plant Rehabilitation | Timely response to unanticipated maintenance and repair needs at the Plant. | $7.5 million | Ongoing |
| Yard Piping and Road Improvements | Phased rehabilitation or replacement of pipes throughout the Plant. Roadway and drainage improvements to Plant's main operations and residual solids management areas. | $16.2 million | Ongoing |

## PROGRAM HIGHLIGHTS

South Bay Water Recycling Program

The South Bay Water Recycling (SBWR) System was authorized by the City Council in 1993 as a project to divert up to 15 million gallons per day of treated effluent from the bay during the summer by providing non-potable recycled water to customers in Milpitas, Santa Clara, and San José. Major developments during the previous CIP period include the March 24, 2014 commissioning of the Advanced Water Purification Center (Center), which is a joint project with the Santa Clara Valley Water District (District). The Center has been providing purified water from secondary effluent. Product water is blended with tertiary Title 22 water at the transmission pumping station and provided to customers. The addition of the purified water from the Center reduces total dissolved solids of the water to under 550 mg/L, as well as augmenting recycled water supplies during peak hours in the summer.

In another joint effort with the City of San José and the District, the multi-year SBWR Master Plan was completed in December 2014. The strategic guidance document provides recommendations and options for SBWR's current service reliability, potential future expansion, operation, and maintenance of the system, cost effectiveness, and funding through engagement of key stakeholders from the Plant Tributary Agencies and the Santa Clara Valley Water District. The Master Plan includes an assessment of the ability of existing infrastructure to meet current and future recycled water demands and identifies future capital improvements to enhance system reliability and water quality.

| Project Name | Description | 2016-2020 CIP Cost | Estimated Completion |
|---|---|---|---|
| SBWR System Reliability and Infrastructure Replacement | System reliability improvements including, but not limited to, rehabilitation and/or replacement of pump station components, control and communication systems, pipelines, and other system related infrastructure. | $4.7 million | 2nd Quarter 2016 |

Reserves

As in prior years, the 2016-2020 Adopted CIP includes a $5.0 million Equipment Replacement Reserve. The reserve level was established in accordance with the State Water Resources Control Board Fund Loan Agreement policy, the Clean Water Financing Authority bond covenants, and requirements in the Master Agreements for Wastewater Treatment between the City of San José, City of Santa Clara, and the Plant Tributary Agencies.

## MAJOR CHANGES FROM THE 2015-2019 ADOPTED CIP

Major changes from the 2015-2019 Adopted CIP include:

| Process Area | Project Name | Funding Change ($) |
|---|---|---|
| Preliminary Treatment | New Headworks | + 3.7 million |
| Primary Treatment | E. Primary Rehab, Seismic Retrofit, & Odor Ctrl. | - 6.2 million |
| Primary Treatment | Iron Salt Feed Station | + 1.3 million |
| Secondary Treatment | Nitrification Clarifier Rehabilitation | + 19.9 million |
| Secondary Treatment | Secondary Clarifier Rehabilitation | + 23.9 million |
| Secondary Treatment | Aeration Tanks and Blower Rehabilitation | - 7.6 million |
| Tertiary Treatment | Filter Rehabilitation | + 6.1 million |
| Tertiary Treatment | Outfall Bridge and Levee Improvements | + 1.3 million |
| Biosolids | Digester and Thickener Facilities Upgrade | + 28.9 million |
| Biosolids | Lagoons and Drying Beds Retirement | - 7.8 million |
| Biosolids | Thermal Drying Facility | - 2.6 million |
| Elect. Sys. & Power Gen. | Energy Generation Improvements | - 13.6 million |
| Elect. Sys. & Power Gen. | Plant Electrical Reliability | - 6.6 million |
| Adv. Proc. Ctrl. & Automation | Advanced Facility Control and Meter Replacement | - 1.2 million |
| Site Facility Improvements | Construction-Enabling Improvements | + 3.6 million NEW |
| Site Facility Improvements | Facility Wide Water Systems Improvements | + 1.6 million |
| Site Facility Improvements | Equipment Replacement | - 1.3 million |
| Site Facility Improvements | Plant Infrastructure Improvements | - 5.4 million |
| Site Facility Improvements | Plant Instrument Air System Upgrade | - 4.6 million |
| Site Facility Improvements | Support Building Improvements | - 5.4 million |
| Site Facility Improvements | Urgent and Unscheduled Treatment Plant Rehab. | - 1.5 million |
| Site Facility Improvements | Yard Piping and Road Improvements | - 33.2 million |
| Non-Construction | Program Management | - 17.6 million |

## MAJOR CHANGES FROM THE 2015-2019 ADOPTED CIP

While the overall 2016-2020 Adopted CIP program amount increased compared to the 2015-2019 Adopted CIP, and capital funding increases in 2017-2018 and 2018-2019, capital funding dropped in 2015-2016 and 2016-2017 compared to the 2015-2019 Adopted CIP. The three main reasons for this shift in costs are:

1. The program team reexamined the activity durations for the feasibility/development phases developed during the validation process. Activities included environmental clearance, procurement, project alternative analysis, condition assessment, and conceptual design.

2. The program team has chosen to procure major consultant contracts as master agreements, instead of standard agreements as assumed in the 2015-2019 Adopted CIP, effectively postponing the encumbrance of design funds by up to one year.

3. In December 2014, the City Council directed staff to place the Digested Sludge Dewatering Facility on hold and return with more information on the project and the concurrent odor study in spring 2015, which moved the construction award to 2017-2018.

## OPERATING BUDGET IMPACT

Most projects in this Adopted CIP are expected to reduce operations and maintenance liabilities in the Operating Budget. The Energy Generation Improvements will replace existing engine generators with lower emissions internal combustion engines and will start operation in 2018-2019. As part of the Energy Generation Improvements, emergency diesel generators will start operation in 2016-2017 and will have some marginal maintenance and operations costs. A few other projects are expected to introduce new operating costs (primarily chemical costs), particularly those with odor control elements (e.g., Iron Salt Feed Station and Digester and Thickener Facilities Upgrade). These costs are expected to be partially offset by energy savings achieved through better solids settling, less aeration demand, and improved bio-gas production, as well as other operational efficiencies and lower maintenance costs.

## OPERATING BUDGET IMPACT

The table below and Attachment A summarize the operating and maintenance impact to the Sewer Service and Use Charge Fund for several projects.

**Net Operating Budget Impact Summary**

| | 2016-2017 | 2017-2018 | 2018-2019 | 2019-2020 |
|---|---|---|---|---|
| Iron Salt Feed Station | $245,000 | $1,117,000 | $1,176,000 | $1,239,000 |
| Digested Sludge Dewater Facility | | | | $2,456,000 |
| Digester and Thickener Facilities Upgrade | | | $609,000 | $634,000 |
| Combined Heat and Power Equipment Repair and Rehabilitation | $4,000 | $4,000 | $4,000 | $4,000 |
| Energy Generation Improvements | $77,000 | $79,000 | ($5,268,000) | ($5,169,000) |
| | $326,000 | $1,200,000 | ($3,479,000) | ($836,000) |

Note: The estimated operating costs have been provided by the Environmental Services Department and have not yet been fully analyzed by the City Manager's Budget Office. That analysis may result in different costs when the actual budget for the year in question is developed.

Of significance, the new biosolids process is expected to have a significant impact on the operating budget in 2019-2020. The new biosolids dewatering facility is energy-intensive, requires an enclosed odor-controlled building, and potentially 24-hour operations. The final biosolids disposition alternatives will also impact future operating costs.

## COUNCIL-APPROVED REVISIONS TO THE PROPOSED CAPITAL IMPROVEMENT PROGRAM

The City Council approved the rebudgeting of $30.2 million for 21 projects: Plant Instrument Air System Upgrade ($4.0 million), Iron Salt Feed Station ($3.6 million), SBWR Extension ($3.4 million), SBWR System Reliability and Infrastructure Replacement ($3.2 million), Headworks Improvements ($2.3 million), New Headworks ($2.1 million), Plant Electrical Reliability ($2.0 million), Advanced Facility Control and Meter Replacement ($1.6 million), Energy Generation Improvements ($1.6 million), Aeration Tanks and Blower Rehabilitation ($1.4 million), Nitrification Clarifier Rehabilitation ($1.3 million), Digested Sludge Dewatering Facility ($1.0 million), Public Art ($735,000), Support Building Improvements ($490,000), Treatment Plant Engine Rebuild ($490,000), Digester and Thickener Facilities Upgrade ($315,000), Filter Rehabilitation ($300,000), Record Drawings ($250,000), Facility Wide Water Systems Improvements ($150,000), Tunnel Rehabilitation ($60,000), and Treatment Plant Fire Main Replacement ($10,000).

| | 2016-2017 | 2017-2018 | 2018-2019 | 2019-2020 |
|---|---|---|---|---|
| **Water Pollution Control** | | | | |
| Combined Heat and Power Equipment Repair and Rehabilitation | $4,000 | $4,000 | $4,000 | $4,000 |
| Digested Sludge Dewatering Facility | | | | $2,456,000 |
| Digester and Thickener Facilities Upgrade | | | $609,000 | $634,000 |
| Energy Generation Improvements | $77,000 | $79,000 | ($5,268,000) | ($5,169,000) |
| Iron Salt Feed Station | $245,000 | $1,117,000 | $1,176,000 | $1,239,000 |
| **Total Water Pollution Control** | **$326,000** | **$1,200,000** | **($3,479,000)** | **($836,000)** |

# 2015-2016 Capital Budget

# 2016-2020 Capital Improvement Program

# Water Pollution Control

## Source of Funds

## Use of Funds

*The Source of Funds displays the capital revenues by funding source for each year of the Five-Year Capital Improvement Program. The Use of Funds displays the capital expenditures by line-item for each year of the five-year period.*

# Water Pollution Control

## 2016-2020 Adopted Capital Improvement Program

Source of Funds (Combined)

| SOURCE OF FUNDS | Estimated 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | 2019-2020 | 5-Year Total | |
|---|---|---|---|---|---|---|---|---|
| **San José-Santa Clara Treatment Plant Capital Fund (512)** | | | | | | | | |
| **Beginning Fund Balance** | 122,434,440 | 126,559,357 | 18,573,357 | 25,233,357 | 28,929,357 | 39,512,357 | 126,559,357 | * |
| **Sale of Bonds** | | | | 178,000,000 | 90,000,000 | 28,000,000 | 296,000,000 | |
| **Revenue from Other Agencies:** | | | | | | | | |
| Federal Government | | | | | | | | |
| – SBWR Master Plan Grant | 439,000 | | | | | | | |
| – U.S. Bureau of Reclamation Grant | 250,000 | 250,000 | 250,000 | 250,000 | 250,000 | 250,000 | 1,250,000 | |
| Water Pollution Control Plant User Agencies | | | | | | | | |
| – 2005 Bond Debt Repayment | 1,216,000 | 1,221,000 | 1,070,000 | 165,000 | 155,000 | 155,000 | 2,766,000 | |
| – 2015-2016 Bond Debt Service Repayment | | 576,000 | 603,000 | 43,196,000 | 43,465,000 | 31,477,000 | 119,317,000 | |
| – Equipment Replacement | | | 580,000 | 580,000 | 580,000 | 580,000 | 2,320,000 | |
| – State Revolving Fund Loan Repayment | 1,374,000 | 1,374,000 | 1,374,000 | 1,374,000 | 555,000 | | 4,677,000 | |
| – WPCP Projects | 21,341,000 | 11,553,000 | 15,382,000 | 15,774,000 | 19,858,000 | 11,731,000 | 74,298,000 | |
| **Contributions, Loans and Transfers from:** | | | | | | | | |
| Special Funds | | | | | | | | |
| – Transfer for 2015-2016 Debt Service from the Sewer Service and Use Charge Fund (541) | | 980,000 | 1,041,000 | 5,268,000 | 12,228,000 | 16,631,000 | 36,148,000 | |
| – Transfer from the Sewage Treatment Plant Connection Fee Fund (539) | 3,090,000 | 3,090,000 | 3,090,000 | 3,090,000 | 1,249,000 | | 10,519,000 | |
| – Transfer from the Sewer Service and Use Charge Fund (541) | 48,000,000 | 30,722,000 | 31,800,000 | 31,799,000 | 31,452,000 | 31,455,000 | 157,228,000 | |
| **Interest Income** | 569,000 | 1,272,000 | 2,224,000 | 3,848,000 | 4,734,000 | 4,443,000 | 16,521,000 | |

| SOURCE OF FUNDS (CONT'D.) | Estimated 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | 2019-2020 | 5-Year Total | |
|---|---|---|---|---|---|---|---|---|
| **San José-Santa Clara Treatment Plant Capital Fund (512)** | | | | | | | | |
| **Miscellaneous Revenue** | | | | | | | | |
| – Calpine Metcalf Energy Center Facilities Repayment | 389,000 | 389,000 | 389,000 | 389,000 | 389,000 | 389,000 | 1,945,000 | |
| – Miscellaneous Revenue | 598,000 | | | | | | | |
| **Reserve for Encumbrances** | 58,434,917 | | | | | | | |
| **Commercial Paper Proceeds** | | 30,025,000 | 86,755,000 | 54,670,000 | 35,625,000 | 14,190,000 | 221,265,000 | |
| **Total San José-Santa Clara Treatment Plant Capital Fund** | **258,135,357** | **208,011,357** | **163,131,357** | **363,636,357** | **269,469,357** | **178,813,357** | **1,070,813,357** | * |
| **TOTAL SOURCE OF FUNDS** | **258,135,357** | **208,011,357** | **163,131,357** | **363,636,357** | **269,469,357** | **178,813,357** | **1,070,813,357** | * |

* The 2016-2017 through 2019-2020 Beginning Balances are excluded from the FIVE-YEAR TOTAL SOURCE OF FUNDS to avoid multiple counting of the same funds.

# Water Pollution Control

## 2016-2020 Adopted Capital Improvement Program

### Use of Funds (Combined)

| USE OF FUNDS | Estimated 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | 2019-2020 | 5-Year Total |
|---|---|---|---|---|---|---|---|
| **Construction Projects** | | | | | | | |
| **Public Art** | | | | | | | |
| Public Art | 114,000 | 776,000 | 657,000 | 774,000 | 799,000 | 51,000 | 3,057,000 |
| **Total Public Art** | **114,000** | **776,000** | **657,000** | **774,000** | **799,000** | **51,000** | **3,057,000** |
| **Preliminary Wastewater Treatment** | | | | | | | |
| Headworks No. 2 Enhancement | 100,000 | | | | | | |
| 1. Headworks Improvements | 266,000 | 4,106,000 | 2,763,000 | 22,011,000 | 944,000 | 291,000 | 30,115,000 |
| 2. New Headworks | 857,000 | 3,771,000 | 10,515,000 | 801,000 | 75,218,000 | 1,799,000 | 92,104,000 |
| **Total Preliminary Wastewater Treatment** | **1,223,000** | **7,877,000** | **13,278,000** | **22,812,000** | **76,162,000** | **2,090,000** | **122,219,000** |
| **Primary Wastewater Treatment** | | | | | | | |
| 3. East Primary Rehabilitation, Seismic Retrofit, and Odor Control | | 1,636,000 | 691,000 | 10,841,000 | 22,176,000 | 686,000 | 36,030,000 |
| 4. Iron Salt Feed Station | 1,310,000 | 5,250,000 | 492,000 | | | | 5,742,000 |
| **Total Primary Wastewater Treatment** | **1,310,000** | **6,886,000** | **1,183,000** | **10,841,000** | **22,176,000** | **686,000** | **41,772,000** |
| **Secondary Wastewater Treatment** | | | | | | | |
| Aeration Basin Future Modifications | | | | | | 846,000 | 846,000 |
| Secondary Clarifier Rehabilitation | | | 448,000 | 221,000 | 4,003,000 | 21,209,000 | 25,881,000 |
| 5. Aeration Tanks and Blower Rehabilitation | 200,000 | 1,815,000 | 492,000 | 10,705,000 | 1,211,000 | 22,156,000 | 36,379,000 |
| 6. Nitrification Clarifier Rehabilitation | 2,000,000 | 1,300,000 | 7,161,000 | 40,592,000 | 213,000 | 213,000 | 49,479,000 |
| **Total Secondary Wastewater Treatment** | **2,200,000** | **3,115,000** | **8,101,000** | **51,518,000** | **5,427,000** | **44,424,000** | **112,585,000** |

Use of Funds (Combined)

| USE OF FUNDS (CONT'D.) | Estimated 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | 2019-2020 | 5-Year Total |
|---|---|---|---|---|---|---|---|
| **Construction Projects** | | | | | | | |
| **Tertiary Wastewater Treatment** | | | | | | | |
| Alternative Filter Technology Field Verification | | | | | | 81,000 | 81,000 |
| Final Effluent Pump Station & Stormwater Channel Improvements | | | | | | 902,000 | 902,000 |
| New Disinfection Facilities | | | | | 653,000 | 299,000 | 952,000 |
| New Filter Complex | 27,000 | | | | | | |
| 7. Filter Rehabilitation | 853,000 | 1,361,000 | 5,741,000 | 481,000 | 25,201,000 | 240,000 | 33,024,000 |
| 8. Outfall Bridge and Levee Improvements | 300,000 | 1,083,000 | 1,331,000 | 209,000 | 6,469,000 | 320,000 | 9,412,000 |
| **Total Tertiary Wastewater Treatment** | **1,180,000** | **2,444,000** | **7,072,000** | **690,000** | **32,323,000** | **1,842,000** | **44,371,000** |
| **Biosolids** | | | | | | | |
| Dissolved Air Flotation Rehabilitation and Odor Control | 205,000 | | | | | | |
| FOG Receiving | | | | | | 313,000 | 313,000 |
| 9. Digested Sludge Dewatering Facility | 1,754,000 | 1,430,000 | 12,175,000 | 48,240,000 | 3,235,000 | 3,315,000 | 68,395,000 |
| 10. Digester and Thickener Facilities Upgrade | 13,765,000 | 90,286,000 | 712,000 | 360,000 | 32,000 | 1,191,000 | 92,581,000 |
| 11. Lagoons and Drying Beds Retirement | | 443,000 | 1,158,000 | 112,000 | 2,022,000 | 659,000 | 4,394,000 |
| **Total Biosolids** | **15,724,000** | **92,159,000** | **14,045,000** | **48,712,000** | **5,289,000** | **5,478,000** | **165,683,000** |
| **Electrical Systems and Power Generation** | | | | | | | |
| 12. Combined Heat and Power Equipment Repair and Rehabilitation | 15,919,000 | 795,000 | 120,000 | | | | 915,000 |
| 13. Energy Generation Improvements | 25,312,000 | 16,600,000 | 42,018,000 | 28,282,000 | 1,400,000 | | 88,300,000 |

# Water Pollution Control

## 2016-2020 Adopted Capital Improvement Program

### Use of Funds (Combined)

| USE OF FUNDS (CONT'D.) | Estimated 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | 2019-2020 | 5-Year Total |
|---|---|---|---|---|---|---|---|
| **Construction Projects** | | | | | | | |
| **Electrical Systems and Power Generation** | | | | | | | |
| 14. Plant Electrical Reliability | 6,216,000 | 2,000,000 | | | | | 2,000,000 |
| **Total Electrical Systems and Power Generation** | **47,447,000** | **19,395,000** | **42,138,000** | **28,282,000** | **1,400,000** | | **91,215,000** |
| **Advanced Process Control & Automation** | | | | | | | |
| 15. Advanced Facility Control and Meter Replacement | 1,926,000 | 1,600,000 | 4,350,000 | 23,730,000 | 1,051,000 | 193,000 | 30,924,000 |
| 16. Treatment Plant Distributed Control System | 1,662,000 | 500,000 | 500,000 | 500,000 | 500,000 | | 2,000,000 |
| **Total Advanced Process Control & Automation** | **3,588,000** | **2,100,000** | **4,850,000** | **24,230,000** | **1,551,000** | **193,000** | **32,924,000** |
| **Site Facility Maintenance and Improvements** | | | | | | | |
| Plant Backup Water Supply | 1,064,000 | | | | | | |
| Treatment Plant Fire Main Replacement | 2,031,000 | 10,000 | | | | | 10,000 |
| 17. Construction-Enabling Improvements | | 3,476,000 | 76,000 | | | | 3,552,000 |
| 18. Equipment Replacement | 3,956,000 | 1,663,000 | 1,663,000 | 1,663,000 | 1,663,000 | 1,663,000 | 8,315,000 |
| 19. Facility Wide Water Systems Improvements | 310,000 | 1,192,000 | 2,176,000 | 11,221,000 | 247,000 | 610,000 | 15,446,000 |
| 20. Plant Infrastructure Improvements | 4,834,000 | 1,000,000 | 1,000,000 | 1,000,000 | 1,000,000 | 1,000,000 | 5,000,000 |
| 21. Plant Instrument Air System Upgrade | 4,540,000 | 4,000,000 | 493,000 | 30,000 | | | 4,523,000 |
| 22. Support Building Improvements | | 890,000 | 219,000 | 4,738,000 | 806,000 | 10,192,000 | 16,845,000 |
| 23. Treatment Plant Engine Rebuild | 170,000 | 490,000 | | | | | 490,000 |
| 24. Tunnel Rehabilitation | | 1,000,000 | 141,000 | 2,421,000 | 396,000 | 5,262,000 | 9,220,000 |

# Water Pollution Control

## 2016-2020 Adopted Capital Improvement Program

### Use of Funds (Combined)

| USE OF FUNDS (CONT'D.) | Estimated 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | 2019-2020 | 5-Year Total |
|---|---|---|---|---|---|---|---|
| **Construction Projects** | | | | | | | |
| **Site Facility Maintenance and Improvements** | | | | | | | |
| 25. Urgent and Unscheduled Treatment Plant Rehabilitation | 3,027,000 | 1,500,000 | 1,500,000 | 1,500,000 | 1,500,000 | 1,500,000 | 7,500,000 |
| 26. Yard Piping and Road Improvements | 888,000 | 1,127,000 | 494,000 | 492,000 | 12,443,000 | 1,674,000 | 16,230,000 |
| **Total Site Facility Maintenance and Improvements** | **20,820,000** | **16,348,000** | **7,762,000** | **23,065,000** | **18,055,000** | **21,901,000** | **87,131,000** |
| **South Bay Water Recycling** | | | | | | | |
| SBWR Reservoir Facility | 90,000 | | | | | | |
| 27. SBWR Extension | 4,515,000 | 3,408,000 | | | | | 3,408,000 |
| 28. SBWR System Reliability and Infrastructure Replacement | 58,000 | 4,692,000 | | | | | 4,692,000 |
| **Total South Bay Water Recycling** | **4,663,000** | **8,100,000** | | | | | **8,100,000** |
| **Total Construction Projects** | **98,269,000** | **159,200,000** | **99,086,000** | **210,924,000** | **163,182,000** | **76,665,000** | **709,057,000** |
| **Non-Construction** | | | | | | | |
| **General Non-Construction** | | | | | | | |
| Capital Program and Public Works Department Support Service Costs | 692,000 | 789,000 | 797,000 | 805,000 | 814,000 | 823,000 | 4,028,000 |
| Master Plan Updates | | | 3,000,000 | | | | 3,000,000 |
| Plant Master Plan | 125,000 | | | | | | |
| SBWR Master Plan | 918,000 | | | | | | |
| SBWR Recycling Master Plan Reimbursement | 243,000 | | | | | | |

# Water Pollution Control

## 2016-2020 Adopted Capital Improvement Program

### Use of Funds (Combined)

| USE OF FUNDS (CONT'D.) | Estimated 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | 2019-2020 | 5-Year Total |
|---|---|---|---|---|---|---|---|
| **Non-Construction** | | | | | | | |
| **General Non-Construction** | | | | | | | |
| Transfer to Clean Water Financing Authority Debt Service 2015-2016 | | 1,556,000 | 1,643,000 | 109,464,000 | 55,692,000 | 48,108,000 | 216,463,000 |
| Transfer to the Clean Water Financing Authority Debt Service Payment Fund | 6,915,000 | 6,943,000 | 6,788,000 | 5,881,000 | 5,524,000 | 5,527,000 | 30,663,000 |
| 29. Payment for Clean Water Financing Authority Trustee | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 | 25,000 |
| 30. Preliminary Engineering | 5,513,000 | 1,000,000 | 1,000,000 | 1,000,000 | 1,000,000 | 1,000,000 | 5,000,000 |
| 31. Program Management | 14,332,000 | 10,065,000 | 8,125,000 | 1,845,000 | 1,605,000 | 1,670,000 | 23,310,000 |
| 32. Record Drawings | | 250,000 | 12,839,000 | 162,000 | 162,000 | 164,000 | 13,577,000 |
| 33. State Revolving Fund Loan Repayment | 4,464,000 | 4,464,000 | 4,464,000 | 4,464,000 | 1,804,000 | | 15,196,000 |
| **Total General Non-Construction** | **33,207,000** | **25,072,000** | **38,661,000** | **123,626,000** | **66,606,000** | **57,297,000** | **311,262,000** |
| **Contributions, Loans and Transfers to General Fund** | | | | | | | |
| Transfer to the General Fund - Human Resources/Payroll/ Budget Systems Upgrade | 4,000 | 21,000 | | | | | 21,000 |
| **Total Contributions, Loans and Transfers to General Fund** | **4,000** | **21,000** | | | | | **21,000** |
| **Contributions, Loans and Transfers to Special Funds** | | | | | | | |
| Transfer to the City Hall Debt Service Fund | 96,000 | 145,000 | 151,000 | 157,000 | 169,000 | 169,000 | 791,000 |
| **Total Contributions, Loans and Transfers to Special Funds** | **96,000** | **145,000** | **151,000** | **157,000** | **169,000** | **169,000** | **791,000** |

# Water Pollution Control

## 2016-2020 Adopted Capital Improvement Program

### Use of Funds (Combined)

| USE OF FUNDS (CONT'D.) | Estimated 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | 2019-2020 | 5-Year Total |
|---|---|---|---|---|---|---|---|
| **Non-Construction** | | | | | | | |
| **Reserves** | | | | | | | |
| Equipment Replacement Reserve | | 5,000,000 | | | | | 5,000,000 |
| **Total Reserves** | | **5,000,000** | | | | | **5,000,000** |
| **Total Non-Construction** | **33,307,000** | **30,238,000** | **38,812,000** | **123,783,000** | **66,775,000** | **57,466,000** | **317,074,000** |
| **Ending Fund Balance** | 126,559,357 | 18,573,357 | 25,233,357 | 28,929,357 | 39,512,357 | 44,682,357 | 44,682,357* |
| **TOTAL USE OF FUNDS** | **258,135,357** | **208,011,357** | **163,131,357** | **363,636,357** | **269,469,357** | **178,813,357** | **1,070,813,357*** |

* The 2015-2016 through 2018-2019 Ending Balances are excluded from the FIVE-YEAR TOTAL USE OF FUNDS to avoid multiple counting of the same funds.

# 2015-2016 Capital Budget

# 2016-2020 Capital Improvement Program

# Water Pollution Control

## Detail of Construction Projects

## Detail of Non-Construction Projects

*The Detail of Construction Projects section provides information on the individual construction projects with funding in 2015-2016. The Detail of Non-Construction Projects section is abbreviated and provides information on the individual non-construction project, with funding in 2015-2016. On the Use of Funds statement, these projects are numbered.*

## 1. Headworks Improvements

**CSA:** Environmental and Utility Services
**CSA Outcome:** Reliable Utility Infrastructure
**Department:** Environmental Services
**Council District:** 4
**Location:** Water Pollution Control Plant

**Initial Start Date:** 3rd Qtr. 2012
**Revised Start Date:**
**Initial Completion Date:** 2nd Qtr. 2015
**Revised Completion Date:** 3rd Qtr. 2020

**Description:** This project will modify Headworks No. 2 (HW2) to accommodate all dry weather flow. Improvements include re-routing some inlet and recycle flow piping, new storm water pump stations, and other mechanical enhancements to improve reliability and operation performance. In addition, this project will complete a condition assessment of Headworks No. 1 (HW1) to identify equipment that may require rehabilitation. Improvements may include refurbishment of bar screens, grit classifiers, discharge valves, channel gate valves, and/or concrete.

**Justification:** HW1 was built in the mid-1950s and early 1960s and is the Plant's duty headworks. HW2 was built in 2008 and designed to operate in parallel with HW1 to handle peak hour wet weather flow. This project will improve the functional reliability of HW2 so HW1 can be taken out of service for repair, which will allow it to remain in operation until a new headworks is constructed to serve as the Plant's new duty headworks.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Development | 161 | 2,098 | 266 | 1,834 | 369 | | | | 2,203 | | 2,630 |
| Design | | 322 | | 321 | 1,798 | 311 | | | 2,430 | | 2,430 |
| Bid & Award | | 78 | | 78 | 30 | 148 | | | 256 | | 256 |
| Construction | | 24 | | 1,859 | 504 | 21,552 | 944 | 170 | 25,029 | | 25,029 |
| Post Construction | | 14 | | 14 | 62 | | | 121 | 197 | | 197 |
| **TOTAL** | **161** | **2,536** | **266** | **4,106** | **2,763** | **22,011** | **944** | **291** | **30,115** | | **30,542** |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | 161 | 2,536 | 266 | 4,106 | 2,763 | 22,011 | 944 | 291 | 30,115 | | 30,542 |
| **TOTAL** | **161** | **2,536** | **266** | **4,106** | **2,763** | **22,011** | **944** | **291** | **30,115** | | **30,542** |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

**None**

**Major Changes in Project Cost:**

2015-2019 CIP - increase of $23.7 million due to incorporation of a portion of Headworks No. 2 Enhancement project.
2016-2020 CIP - increase of $863,000 due to revised cost estimate.

**Notes:**

This project corresponds to Plant Master Plan Project Nos. 1, 2, and 7 and Validation Project PLH-01. Prior to 2015-2019, this project was titled "Headworks No. 1 Repair and Rehabilitation". The schedule was revised during the 2015-2019 project validation process. This project will have close-out costs only in 2020-2021.

**FY Initiated:** 2012-2013
**Initial Project Budget:** $5,975,000
**Appn. #:** 7448
**USGBC LEED:** N/A

## 2. New Headworks

| | | | |
|---|---|---|---|
| **CSA:** | Environmental and Utility Services | **Initial Start Date:** | 3rd Qtr. 2012 |
| **CSA Outcome:** | Reliable Utility Infrastructure | **Revised Start Date:** | |
| **Department:** | Environmental Services | **Initial Completion Date:** | 2nd Qtr. 2013 |
| **Council District:** | 4 | **Revised Completion Date:** | 2nd Qtr. 2022 |
| **Location:** | Water Pollution Control Plant | | |

**Description:** This project will construct a new headworks to serve as the Plant's duty headworks. It also involves increasing the equalization basin volume and installing lining and spraydown systems to facilitate cleaning. The project will also install new covers over select areas, such as junction boxes and grit collection, for odor control. New conduits will be installed for the collected foul air, and a new odor treatment facility that could combine biological and/or chemical treatment technology will be provided.

**Justification:** The original headworks, Headworks No. 1, was built in the mid 1950s and further expanded in the 1960s. Due to its age and condition, extensive structural rehabilitation and mechanical rehabilitation would be needed to operate it as the Plant's long-term duty headworks. Based on previous studies, building a new duty headworks facility would be more cost effective and provide greater operational reliability and enhanced treatment, addressing some of the operational issues currently experienced at the Plant, such as the deposition of grit in downstream processes.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Development | 331 | 2,917 | 857 | 3,771 | 469 | | | | 4,240 | | 5,428 |
| Design | | | | | 7,384 | 801 | 160 | | 8,345 | | 8,345 |
| Bid & Award | | | | | 300 | | | | 300 | | 300 |
| Construction | | | | | 2,212 | | 75,058 | 1,799 | 79,069 | 2,599 | 81,668 |
| Post Construction | | | | | 150 | | | | 150 | 135 | 285 |
| **TOTAL** | **331** | **2,917** | **857** | **3,771** | **10,515** | **801** | **75,218** | **1,799** | **92,104** | **2,734** | **96,026** |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | 331 | 2,917 | 857 | 3,771 | 10,515 | 801 | 75,218 | 1,799 | 92,104 | 2,734 | 96,026 |
| **TOTAL** | **331** | **2,917** | **857** | **3,771** | **10,515** | **801** | **75,218** | **1,799** | **92,104** | **2,734** | **96,026** |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

**None**

**Major Changes in Project Cost:**

2015-2019 CIP - increase of $11.8 million due to incorporation of a portion of Headworks No. 2 Enhancement project.
2016-2020 CIP - increase of $4.8 million due to revised cost estimate.

**Notes:**

This project corresponds to Plant Master Plan Project Nos. 1, 3, 4, 5, and 8 and Validation Project PLH-02. Prior to 2015-2019, this project was titled "Headworks No. 2 Expansion". The schedule was revised during the 2015-2019 project validation process.

| | | | |
|---|---|---|---|
| **FY Initiated:** | 2012-2013 | **Appn. #:** | 7449 |
| **Initial Project Budget:** | $79,400,000 | **USGBC LEED:** | N/A |

## 3. East Primary Rehabilitation, Seismic Retrofit, and Odor Control

**CSA:** Environmental and Utility Services
**CSA Outcome:** Reliable Utility Infrastructure
**Department:** Environmental Services
**Council District:** 4
**Location:** Water Pollution Control Plant

**Initial Start Date:** 3rd Qtr. 2009
**Revised Start Date:** 3rd Qtr. 2010
**Initial Completion Date:** 4th Qtr. 2012
**Revised Completion Date:** 4th Qtr. 2025

**Description:** This project rehabilitates the existing primary clarifiers, including the coating of concrete and replacement of clarifier mechanisms with corrosion resistant materials. It also includes structural retrofits to allow new covers to be installed over a portion or all of the primary treatment area to contain odors. A new odor extraction and treatment system will also be constructed.

**Justification:** This project restores the mechanical and structural integrity of the aging clarifiers and provides odor control measures.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Development | 30 | | | 1,636 | 691 | 295 | | | 2,622 | | 2,652 |
| Design | | | | | | 9,411 | 1,211 | | 10,622 | | 10,622 |
| Bid & Award | | | | | | 138 | 70 | | 208 | | 208 |
| Construction | | | | | | 997 | 20,895 | 686 | 22,578 | 75,977 | 98,555 |
| Post Construction | | | | | | | | | | 1,167 | 1,167 |
| **TOTAL** | **30** | | | **1,636** | **691** | **10,841** | **22,176** | **686** | **36,030** | **77,144** | **113,204** |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | 30 | | | 1,636 | 691 | 10,841 | 22,176 | 686 | 36,030 | 77,144 | 113,204 |
| **TOTAL** | **30** | | | **1,636** | **691** | **10,841** | **22,176** | **686** | **36,030** | **77,144** | **113,204** |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

**None**

**Major Changes in Project Cost:**

2012-2016 CIP - increase of $80.1 million; $16.626 million due to increase of scope to incorporate master planning recommendations for seismic upgrades and odor control measures; $63.52 million reflects the addition of the Beyond 5-Year expense not previously programmed.
2013-2017 CIP - decrease of $1.7 million due to revised cost estimate.
2015-2019 CIP - increase of $27.5 million due to revised project validation cost estimate.
2016-2020 CIP - increase of $3.6 million due to escalation of construction costs.

**Notes:**

This project corresponds to Plant Master Plan Project Nos. 9, 10, and 11 and Validation Project PLP-02. The schedule was revised during the 2015-2019 project validation process.

**FY Initiated:** 2010-2011
**Initial Project Budget:** $3,605,000
**Appn. #:** 7226
**USGBC LEED:** N/A

## 4. Iron Salt Feed Station

| | | | |
|---|---|---|---|
| **CSA:** | Environmental and Utility Services | **Initial Start Date:** | 3rd Qtr. 2010 |
| **CSA Outcome:** | Reliable Utility Infrastructure | **Revised Start Date:** | 1st Qtr. 2012 |
| **Department:** | Environmental Services | **Initial Completion Date:** | 2nd Qtr. 2012 |
| **Council District:** | 4 | **Revised Completion Date:** | 2nd Qtr. 2017 |
| **Location:** | Water Pollution Control Plant | | |

**Description:** This project constructs a permanent iron salt and polymer dosing station, including a concrete containment structure and ancillary pumping, piping, and instrumentation to deliver chemical solution to incoming wastewater.

**Justification:** The addition of iron salts and polymer to incoming wastewater will improve Plant operation by enhancing the sludge settling in the primary clarifiers, reducing corrosion and odor, reducing energy usage in the secondary treatment system, and increasing feedstock to digesters, which will increase biogas production.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Development | 99 | 1 | 1 | | | | | | | | 100 |
| Design | 42 | 1,420 | 1,309 | 111 | | | | | 111 | | 1,462 |
| Bid & Award | | 22 | | 32 | | | | | 32 | | 32 |
| Construction | | 3,417 | | 5,107 | 380 | | | | 5,487 | | 5,487 |
| Post Construction | | | | | 112 | | | | 112 | | 112 |
| **TOTAL** | **141** | **4,860** | **1,310** | **5,250** | **492** | | | | **5,742** | | **7,193** |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | 141 | 4,860 | 1,310 | 5,250 | 492 | | | | 5,742 | | 7,193 |
| **TOTAL** | **141** | **4,860** | **1,310** | **5,250** | **492** | | | | **5,742** | | **7,193** |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

| | | | | | |
|---|---|---|---|---|---|
| Cost Offset | (236) | (999) | (1,059) | (1,122) | |
| Maintenance | 56 | 233 | 243 | 252 | |
| Operating | 425 | 1,883 | 1,992 | 2,109 | |
| **TOTAL** | **245** | **1,117** | **1,176** | **1,239** | |

**Major Changes in Project Cost:**

2014-2018 CIP - decrease of $347,000 due to scope revision.
2015-2019 CIP - increase of $3.3 million due to revised project validation cost estimate.
2016-2020 CIP - increase of $1.9 million due to revised scope and cost estimate.

**Notes:**

This project corresponds to Plant Master Plan Project No. 14 and Validation Project PLP-01. The schedule was revised during the 2015-2019 project validation process.

| | | | |
|---|---|---|---|
| **FY Initiated:** | 2010-2011 | **Appn. #:** | 7230 |
| **Initial Project Budget:** | $2,340,000 | **USGBC LEED:** | N/A |

## 5. Aeration Tanks and Blower Rehabilitation

**CSA:** Environmental and Utility Services
**CSA Outcome:** Reliable Utility Infrastructure
**Department:** Environmental Services
**Council District:** 4
**Location:** Water Pollution Control Plant

**Initial Start Date:** 1st Qtr. 2015
**Revised Start Date:**
**Initial Completion Date:** 3rd Qtr. 2025
**Revised Completion Date:** 1st Qtr. 2029

**Description:** This project rehabilitates the secondary and nitrification aeration tanks including structural, mechanical, electrical, and instrumentation upgrades. It also replaces the existing coarse bubble diffusers with fine bubble diffusers, installs partition walls, and reconfigures air piping to optimize process treatment capabilities; installs variable frequency drives (VFDs) to the electric driven blowers in Building 40 and decommission the engine drive blowers in the Secondary Blower Building; and replaces the S11 switchgear and install VFDs on the nitrification blowers. A condition assessment study, aeration assessment, and process modeling will be completed to inform the ultimate project scope.

**Justification:** The secondary and nitrification aeration tanks were constructed in phases between the 1960s and 1980s. Due to their age and the aggressive and corrosive environment they operate in, extensive rehabilitation is required. Conversion to fine bubble diffusers will increase the oxygen transfer efficiency and decrease energy requirements. Installing VFDs will minimize the impact of starting current on the blowers when the Plant is running on emergency power. Lastly, the S11 switchgear is outdated and needs to be upgraded to be compatible with the new VFDs.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Development | | 1,580 | 200 | 1,815 | 492 | 41 | | | 2,348 | | 2,548 |
| Design | | | | | | 9,645 | 1,163 | | 10,808 | | 10,808 |
| Bid & Award | | | | | | 146 | 48 | 25 | 219 | | 219 |
| Construction | | | | | | 873 | | 22,131 | 23,004 | 81,392 | 104,396 |
| Post Construction | | | | | | | | | | 1,326 | 1,326 |
| **TOTAL** | | **1,580** | **200** | **1,815** | **492** | **10,705** | **1,211** | **22,156** | **36,379** | **82,718** | **119,297** |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | | 1,580 | 200 | 1,815 | 492 | 10,705 | 1,211 | 22,156 | 36,379 | 82,718 | 119,297 |
| **TOTAL** | | **1,580** | **200** | **1,815** | **492** | **10,705** | **1,211** | **22,156** | **36,379** | **82,718** | **119,297** |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

**None**

**Major Changes in Project Cost:**

2016-2020 CIP - increase of $4.4 million due to escalation of construction costs.

**Notes:**

This project corresponds to Plant Master Plan Project Nos. 20, 24, and 85 and Validation Project PLS-01.

**FY Initiated:** 2014-2015
**Initial Project Budget:** $114,880,000
**Appn. #:** 7677
**USGBC LEED:** N/A

## 6. Nitrification Clarifier Rehabilitation

**CSA:** Environmental and Utility Services
**CSA Outcome:** Reliable Utility Infrastructure
**Department:** Environmental Services
**Council District:** 4
**Location:** Water Pollution Control Plant

**Initial Start Date:** 3rd Qtr. 2009
**Revised Start Date:**
**Initial Completion Date:** 2nd Qtr. 2024
**Revised Completion Date:** 2nd Qtr. 2022

**Description:** This project includes phased rehabilitation of the 16 nitrification clarifiers. Structural improvements may include but are not limited to concrete repairs and coating, new clarifier mechanisms and baffle installations, pipe support and meter vault replacements, and walkway improvements. Mechanical improvements may include but are not limited to piping, valve and actuator replacements, spray water system replacements, scum skimmer system upgrades, and return activated sludge piping lining. Electrical and instrumentation improvements may include but are not limited to motor control center replacements, new wiring, and other electrical equipment upgrades. Other incidental work may include grouting, painting, coating, and other surface treatments.

**Justification:** The Plant's 16 nitrification clarifiers have been in service for 30 to 40 years depending on the year of construction. A condition assessment study, completed in 2011, recommended phased rehabilitation of the nitrification clarifiers. The improvements are needed to address structural, mechanical, electrical, and instrumentation deficiencies and will extend the useful life of the clarifier assets for an additional 30 years.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Development | 1,146 | 3,300 | 2,000 | 1,300 | 1,050 | | | | 2,350 | | 5,496 |
| Design | 18 | | | | 4,711 | | | | 4,711 | | 4,729 |
| Bid & Award | | | | | 50 | 80 | | | 130 | | 130 |
| Construction | | | | | 1,250 | 40,512 | 213 | 213 | 42,188 | 426 | 42,614 |
| Post Construction | | | | | 100 | | | | 100 | 113 | 213 |
| **TOTAL** | **1,164** | **3,300** | **2,000** | **1,300** | **7,161** | **40,592** | **213** | **213** | **49,479** | **539** | **53,182** |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | 1,164 | 3,300 | 2,000 | 1,300 | 7,161 | 40,592 | 213 | 213 | 49,479 | 539 | 53,182 |
| **TOTAL** | **1,164** | **3,300** | **2,000** | **1,300** | **7,161** | **40,592** | **213** | **213** | **49,479** | **539** | **53,182** |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

**None**

**Major Changes in Project Cost:**

2014-2018 CIP - increase of $13.0 million due to revised estimate.
2015-2019 CIP - increase of $22.0 million due to revised project validation cost estimate.
2016-2020 CIP - decrease of $8.5 million due to revised scope and cost estimate.

**Notes:**

This project corresponds to Plant Master Plan Project Nos. 21 and Validation Project PLS-02. This project is planned to be completed in multiple phases. Prior to 2016-2020, this project was titled "Secondary and Nitrification Clarifier Rehabilitation".

**FY Initiated:** 2009-2010
**Initial Project Budget:** $26,701,000
**Appn. #:** 7074
**USGBC LEED:** N/A

## 7. Filter Rehabilitation

| | | | |
|---|---|---|---|
| **CSA:** | Environmental and Utility Services | **Initial Start Date:** | 3rd Qtr. 2011 |
| **CSA Outcome:** | Reliable Utility Infrastructure | **Revised Start Date:** | 3rd Qtr. 2013 |
| **Department:** | Environmental Services | **Initial Completion Date:** | 2nd Qtr. 2013 |
| **Council District:** | 4 | **Revised Completion Date:** | 2nd Qtr. 2022 |
| **Location:** | Water Pollution Control Plant | | |

**Description:** This project will replace filter media and potentially underdrain systems for all filters. It will also include valve replacements, electrical control replacements, air scouring equipment and piping additions, and concrete repairs. The extent of rehabilitation will depend on the results of a detailed condition assessment to be completed in summer 2016, which will determine whether to fully refurbish the filter facility or keep it operational until a new filter complex is built.

**Justification:** The existing filter complex was constructed in the 1970s and requires significant refurbishment. The filter media, consisting of anthracite and sand, needs to be replaced and some of the mechanical and electrical components need to be upgraded. These potentially interim improvements are needed to ensure continued regulatory compliance and operational reliability.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Development | 3 | 490 | 190 | 1,361 | 598 | | | | 1,959 | | 2,152 |
| Design | 117 | 22 | 22 | | 3,568 | 425 | | | 3,993 | | 4,132 |
| Bid & Award | 2 | 1 | 1 | | 25 | 56 | | | 81 | | 84 |
| Construction | 1 | 591 | 591 | | 1,500 | | 25,201 | 240 | 26,941 | 116 | 27,649 |
| Post Construction | | 49 | 49 | | 50 | | | | 50 | 104 | 203 |
| **TOTAL** | **123** | **1,153** | **853** | **1,361** | **5,741** | **481** | **25,201** | **240** | **33,024** | **220** | **34,220** |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | 123 | 1,153 | 853 | 1,361 | 5,741 | 481 | 25,201 | 240 | 33,024 | 220 | 34,220 |
| **TOTAL** | **123** | **1,153** | **853** | **1,361** | **5,741** | **481** | **25,201** | **240** | **33,024** | **220** | **34,220** |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

**None**

**Major Changes in Project Cost:**

2014-2018 CIP - decrease of $2.7 million due to the removal of scope that is dependent on the evaluation of the demonstration project.
2015-2019 CIP - increase of $26.9 million due to revised scope and project validation cost estimate.
2016-2020 CIP - increase of $6.5 million due to revised cost estimate and escalation of construction costs.

**Notes:**

This project corresponds to Plant Master Plan Project Nos. 31 and 32 and Validation Project PLF-01. Prior to 2015-2019, this project was titled “Filter Improvements”. The schedule was revised during the 2015-2019 project validation process.

| | | | |
|---|---|---|---|
| **FY Initiated:** | 2010-2011 | **Appn. #:** | 7227 |
| **Initial Project Budget:** | $3,506,000 | **USGBC LEED:** | N/A |

## 8. Outfall Bridge and Levee Improvements

**CSA:** Environmental and Utility Services
**CSA Outcome:** Reliable Utility Infrastructure
**Department:** Environmental Services
**Council District:** 4
**Location:** Water Pollution Control Plant

**Initial Start Date:** 3rd Qtr. 2014
**Revised Start Date:**
**Initial Completion Date:** 2nd Qtr. 2019
**Revised Completion Date:** 4th Qtr. 2020

**Description:** This project includes a condition assessment, bridge repairs or replacement, levee and levee gate repairs, and electrical transformer refurbishment.

**Justification:** The existing outfall bridge and instrumentation supports are in poor condition. In addition, the west-side levee of Pond A-18 is experiencing significant erosion. This project will improve the aging facilities to ensure reliability at the outfall compliance point.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Development | | 300 | 300 | 1,083 | 61 | | | | 1,144 | | 1,444 |
| Design | | | | | 843 | 209 | 61 | | 1,113 | | 1,113 |
| Bid & Award | | | | | 28 | | 25 | | 53 | | 53 |
| Construction | | | | | 343 | | 6,383 | 320 | 7,046 | 67 | 7,113 |
| Post Construction | | | | | 56 | | | | 56 | 49 | 105 |
| **TOTAL** | | **300** | **300** | **1,083** | **1,331** | **209** | **6,469** | **320** | **9,412** | **116** | **9,828** |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | | 300 | 300 | 1,083 | 1,331 | 209 | 6,469 | 320 | 9,412 | 116 | 9,828 |
| **TOTAL** | | **300** | **300** | **1,083** | **1,331** | **209** | **6,469** | **320** | **9,412** | **116** | **9,828** |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

**None**

**Major Changes in Project Cost:**

2016-2020 CIP - increase of $1.7 million due to escalation of construction costs.

**Notes:**

This project corresponds to Validation Project PLD-02.

**FY Initiated:** 2014-2015
**Initial Project Budget:** $8,120,000
**Appn. #:** 7678
**USGBC LEED:** N/A

## 9. Digested Sludge Dewatering Facility

| | | | |
|---|---|---|---|
| **CSA:** | Environmental and Utility Services | **Initial Start Date:** | 3rd Qtr. 2012 |
| **CSA Outcome:** | Reliable Utility Infrastructure | **Revised Start Date:** | 2nd Qtr. 2014 |
| **Department:** | Environmental Services | **Initial Completion Date:** | 2nd Qtr. 2013 |
| **Council District:** | 4 | **Revised Completion Date:** | 3rd Qtr. 2020 |
| **Location:** | Water Pollution Control Plant | | |

**Description:** This project will construct a new mechanical dewatering facility and support systems to replace the existing sludge storage lagoons and open air solar drying beds. The size, type, design, and technology selected for the new biosolids dewatering facility will depend on an engineering study currently underway that looks at siting, available technologies, and an evaluation of capital and operational costs for various alternatives. All new mechanical dewatering units, feed tank, storage, conveyance, and chemical dosing facilities will be housed in an odor-controlled building.

**Justification:** This project responds to a recommendation in the adopted Plant Master Plan to consolidate the Plant's operational area by reducing the biosolids process footprint. It also provides greater flexibility in biosolids disposal options in anticipation of the potential Newby Island landfill closure in 2025, responds to stricter regulations for landfilling and alternative daily cover, and addresses odor, noise, and aesthetics concerns from the operations of the lagoons and sludge drying beds.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Development | 527 | 2,794 | 1,754 | 1,430 | 1,490 | | | | 2,920 | | 5,201 |
| Design | | | | | 5,630 | 1,080 | | | 6,710 | | 6,710 |
| Bid & Award | | | | | 312 | 200 | | | 512 | | 512 |
| Construction | | | | | 4,270 | 46,960 | 3,235 | 3,115 | 57,580 | | 57,580 |
| Post Construction | | | | | 473 | | | 200 | 673 | 200 | 873 |
| **TOTAL** | **527** | **2,794** | **1,754** | **1,430** | **12,175** | **48,240** | **3,235** | **3,315** | **68,395** | **200** | **70,876** |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | 527 | 2,794 | 1,754 | 1,430 | 12,175 | 48,240 | 3,235 | 3,315 | 68,395 | 200 | 70,876 |
| **TOTAL** | **527** | **2,794** | **1,754** | **1,430** | **12,175** | **48,240** | **3,235** | **3,315** | **68,395** | **200** | **70,876** |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

| | |
|---|---|
| Maintenance | 234 |
| Operating | 2,222 |
| **TOTAL** | **2,456** |

**Major Changes in Project Cost:**

2014-2018 CIP - increase of $325.0 million due to accelerated project start and compressed implementation schedule.
2015-2019 CIP - decrease of $256.8 million due to creation of separate biosolids projects through project validation.
2016-2020 CIP - increase of $1.6 million due to escalation of construction costs.

**Notes:**

This project corresponds to Plant Master Plan Project Nos. 44, 54, 57-60, and 64 and Validation Project PS-03. The Expenditure Schedule is based on the design/build estimate. Prior to 2015-2019, this project was titled "New Biosolids Facility". The schedule was revised during the 2015-2019 project validation process.

| | | | |
|---|---|---|---|
| **FY Initiated:** | 2012-2013 | **Appn. #:** | 7452 |
| **Initial Project Budget:** | $1,000,000 | **USGBC LEED:** | N/A |

## 10. Digester and Thickener Facilities Upgrade

| | | | |
|---|---|---|---|
| **CSA:** | Environmental and Utility Services | **Initial Start Date:** | 3rd Qtr. 2006 |
| **CSA Outcome:** | Reliable Utility Infrastructure | **Revised Start Date:** | |
| **Department:** | Environmental Services | **Initial Completion Date:** | 2nd Qtr. 2008 |
| **Council District:** | 4 | **Revised Completion Date:** | 4th Qtr. 2025 |
| **Location:** | Water Pollution Control Plant | | |

**Description:** This project will rehabilitate up to ten anaerobic digesters through a phased approach. This first phase rehabilitates four digesters. The project also rehabilitates and modifies six dissolved air flotation units, pressure saturation tanks, pipes, pumps, and ancillary equipment. A new odor control system, blending tank, primary sludge screening facility, heat exchangers, waste biogas flare, and polymer dosing facility will be constructed. The digester gas conveyance and tunnel systems will also be upgraded.

**Justification:** The Plant has 16 anaerobic digesters constructed between 1956 and 1983. This project will restore digester capacity and improve reliability and safety of the gas conveyance system to ensure reliable operation of the digestion process.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Development | 669 | 113 | 113 | | | | | 1,191 | 1,191 | 389 | 2,362 |
| Design | 1,844 | 13,887 | 13,652 | 548 | | | | | 548 | 6,386 | 22,430 |
| Bid & Award | 1 | 80 | | 80 | | | | | 80 | 117 | 198 |
| Construction | 1 | | | 89,658 | 712 | 344 | | | 90,714 | 55,753 | 146,468 |
| Post Construction | | | | | | 16 | 32 | | 48 | 639 | 687 |
| **TOTAL** | **2,515** | **14,080** | **13,765** | **90,286** | **712** | **360** | **32** | **1,191** | **92,581** | **63,284** | **172,145** |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | 2,515 | 14,080 | 13,765 | 90,286 | 712 | 360 | 32 | 1,191 | 92,581 | 63,284 | 172,145 |
| **TOTAL** | **2,515** | **14,080** | **13,765** | **90,286** | **712** | **360** | **32** | **1,191** | **92,581** | **63,284** | **172,145** |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

| | | |
|---|---|---|
| Maintenance | 11 | 11 |
| Operating | 598 | 623 |
| **TOTAL** | **609** | **634** |

**Major Changes in Project Cost:**

2008-2012 CIP-increase of $1.6M based on revised estimates. 2009-2013 CIP-increase of $84.0M due to increased scope. 2010-2014 CIP-increase of $11.5M due to inclusion of digester gas line replacement. 2011-2015 CIP-decrease of $34.0M due to decrease in the number of digesters. 2012-2016 CIP-decrease of $23.2M due to realignment of project. 2013-2017 CIP-increase of $24.2M due to revision of estimation methodology. 2014-2018 CIP-increase of $57.3M to align with the Master Plan recommendation. 2015-2019 CIP- increase of $18.3M due to revised project validation cost estimate. 2016-2020 CIP-increase of $31.4M due to conversion to thermophilic digestion and inclusion of scope from other projects.

**Notes:**

This project corresponds to Plant Master Plan Project Nos. 45 -53 and Validation Project PS-01. This project is planned to be completed in two phases. Prior to 2015-2019, this project was titled “Digester Rehabilitation".

| | | | |
|---|---|---|---|
| **FY Initiated:** | 2006-2007 | **Appn. #:** | 4127 |
| **Initial Project Budget:** | $1,000,000 | **USGBC LEED:** | N/A |

## 11. Lagoons and Drying Beds Retirement

**CSA:** Environmental and Utility Services
**CSA Outcome:** Reliable Utility Infrastructure
**Department:** Environmental Services
**Council District:** 4
**Location:** Water Pollution Control Plant

**Initial Start Date:** 1st Qtr. 2016
**Revised Start Date:**
**Initial Completion Date:** 2nd Qtr. 2028
**Revised Completion Date:**

**Description:** This project will decommission the use of the existing sludge storage lagoons and open-air solar drying beds for post digestion processing through a phased approach. It involves successively turning over and emptying the existing lagoons of their biosolids contents in coordination with commissioning of the new biosolids dewatering facility. The project does not address follow up earthwork or rehabilitation needs to prepare the site for future development.

**Justification:** The adopted Plant Master Plan recommends consolidating the Plant's operational area including reducing the biosolids process footprint. This project responds to this recommendation. It also provides for more flexibility in biosolids disposal options in anticipation of the potential Newby Island landfill closure in 2025, responds to more stringent regulations for landfilling and alternative daily cover, and addresses odor, noise, and aesthetics concerns from the operations of the lagoons and sludge drying beds.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Development | | | | 443 | 1,158 | 112 | 111 | | 1,824 | | 1,824 |
| Design | | | | | | | 1,363 | 649 | 2,012 | 182 | 2,194 |
| Bid & Award | | | | | | | 42 | 10 | 52 | 12 | 64 |
| Construction | | | | | | | 298 | | 298 | 29,638 | 29,936 |
| Post Construction | | | | | | | 208 | | 208 | 156 | 364 |
| **TOTAL** | | | | **443** | **1,158** | **112** | **2,022** | **659** | **4,394** | **29,988** | **34,382** |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | | | | 443 | 1,158 | 112 | 2,022 | 659 | 4,394 | 29,988 | 34,382 |
| **TOTAL** | | | | **443** | **1,158** | **112** | **2,022** | **659** | **4,394** | **29,988** | **34,382** |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

**None**

**Major Changes in Project Cost:**

N/A

**Notes:**

This project corresponds to Plant Master Plan Project No. 62 and Validation Project PS-07. Construction costs under this project have been divided into four phases to correspond with yearly retirement requirements.

**FY Initiated:** 2015-2016
**Initial Project Budget:** $34,382,000
**Appn. #:** 6285
**USGBC LEED:** N/A

## 12. Combined Heat and Power Equipment Repair and Rehabilitation

**CSA:** Environmental and Utility Services
**CSA Outcome:** Reliable Utility Infrastructure
**Department:** Environmental Services
**Council District:** 4
**Location:** Water Pollution Control Plant

**Initial Start Date:** 3rd Qtr. 2012
**Revised Start Date:**
**Initial Completion Date:** 2nd Qtr. 2013
**Revised Completion Date:** 3rd Qtr. 2016

**Description:** This project will install new digester gas compressors housed in a new building, along with new digester gas pre-coolers, cooling towers, gas piping, and associated utility tie-ins. In addition, this project will replace an existing digester gas holder.

**Justification:** A reliable supply of digester gas will be a key input to the Plant's new cogeneration facility. The existing gas compressors are more than 30 years old and increasingly unreliable and difficult to maintain. The existing digester gas holder was built in 1984 and is currently out of service. Rehabilitating these systems is critical to safely and efficiently manage the Plant's valuable digester gas.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Development | 3 | | | | | | | | | | 3 |
| Design | 677 | 140 | 140 | | | | | | | | 817 |
| Bid & Award | 85 | | | | | | | | | | 85 |
| Construction | 29 | 15,779 | 15,779 | 745 | | | | | 745 | | 16,553 |
| Post Construction | 1 | | | 50 | 120 | | | | 170 | | 171 |
| **TOTAL** | **795** | **15,919** | **15,919** | **795** | **120** | | | | **915** | | **17,629** |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | 795 | 15,919 | 15,919 | 795 | 120 | | | | 915 | | 17,629 |
| **TOTAL** | **795** | **15,919** | **15,919** | **795** | **120** | | | | **915** | | **17,629** |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Operating | | | | | 4 | 4 | 4 | 4 | | | |
| **TOTAL** | | | | | **4** | **4** | **4** | **4** | | | |

**Major Changes in Project Cost:**

2014-2018 CIP - increase of $8.2 million due to addition of new projects (Digester Gas Compressor Upgrade and Digester Gas Holding Tank Upgrade).
2015-2019 CIP - increase of $600,000 due to increased engineer's estimate for Digester Gas Compressor Upgrade project.
2016-2020 CIP - increase of $5.7 million due to higher than expected construction costs for Digester Gas Compressor Upgrade project.

**Notes:**

This project corresponds to Validation Projects PE-03 and PE-04. The schedule was revised during the 2015-2019 project validation process.

**FY Initiated:** 2012-2013
**Initial Project Budget:** $3,200,000
**Appn. #:** 7453
**USGBC LEED:** N/A

## 13. Energy Generation Improvements

**CSA:** Environmental and Utility Services
**CSA Outcome:** Reliable Utility Infrastructure
**Department:** Environmental Services
**Council District:** 4
**Location:** Water Pollution Control Pant

**Initial Start Date:** 3rd Qtr. 2012
**Revised Start Date:**
**Initial Completion Date:** 2nd Qtr. 2013
**Revised Completion Date:** 1st Qtr. 2019

**Description:** This project will install new, lower-emission engine-generators to replace the aged existing engine-generators and allow the aged engine-driven blowers to be retired. It includes a new generator building, gas cleaning and blending systems, piping, control system, and motor control centers. This project will also install emergency diesel generators and storage tanks to provide backup power in the event of an extended PG&E power outage. The emergency diesel generators will start operation in 2016-2017 and will have associated maintenance and operating costs.

**Justification:** Energy generation capacity and operational reliability are significant issues at the Plant. The outdated engine-generators are increasingly difficult to maintain. Moreover, while the existing systems meet current air regulations, they will not meet the stricter regulations anticipated in the future. Replacing these facilities with new lower-emission engine-generators will reduce the risk of operational failure and permit violations while providing reliable energy generating facilities to power the Plant for decades.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Development | 1,270 | 679 | 679 | | | | | | | | 1,949 |
| Design | 461 | 330 | | 5,165 | 2,885 | 120 | | | 8,170 | | 8,631 |
| Bid & Award | 87 | 362 | 200 | 20 | | | | | 20 | | 307 |
| Construction | 1 | 40,541 | 24,433 | 11,415 | 38,660 | 28,162 | 1,150 | | 79,387 | | 103,821 |
| Post Construction | | | | | 473 | | 250 | | 723 | | 723 |
| **TOTAL** | **1,819** | **41,912** | **25,312** | **16,600** | **42,018** | **28,282** | **1,400** | | **88,300** | | **115,431** |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | 1,819 | 41,912 | 25,312 | 16,600 | 42,018 | 28,282 | 1,400 | | 88,300 | | 115,431 |
| **TOTAL** | **1,819** | **41,912** | **25,312** | **16,600** | **42,018** | **28,282** | **1,400** | | **88,300** | | **115,431** |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Cost Offset | | | | | | | (9,884) | (10,115) | | | |
| Maintenance | | | | | 37 | 38 | (2,442) | (2,469) | | | |
| Operating | | | | | 40 | 41 | 7,058 | 7,415 | | | |
| **TOTAL** | | | | | **77** | **79** | **(5,268)** | **(5,169)** | | | |

**Major Changes in Project Cost:**

2014-2018 CIP - increase of $100.0 million due to acceleration of the implementation schedule.
2015-2019 CIP - increase of $24.5 million due to revised program validation cost estimate.
2016-2020 CIP - decrease of $10.4 million due to reduction of project scope and revised cost estimate.

**Notes:**

This project corresponds to Plant Master Plan Nos. 74, 75, and 76 and Validation Projects PE-01 and PE-02. Prior to 2014-2018, this project was titled "Combined Heat and Power Technology Evaluation".

**FY Initiated:** 2012-2013
**Initial Project Budget:** $1,300,000
**Appn. #:** 7454
**USGBC LEED:** N/A

## 14. Plant Electrical Reliability

| | | | |
|---|---|---|---|
| **CSA:** | Environmental and Utility Services | **Initial Start Date:** | 3rd Qtr. 2003 |
| **CSA Outcome:** | Reliable Utility Infrastructure | **Revised Start Date:** | |
| **Department:** | Environmental Services | **Initial Completion Date:** | 2nd Qtr. 2014 |
| **Council District:** | 4 | **Revised Completion Date:** | 2nd Qtr. 2016 |
| **Location:** | Water Pollution Control Plant | | |

**Description:** This project replaces substations and switches, modifies power distribution buses and cabling, and provides backup systems to enhance the overall safety and reliability of the Plant electrical systems. The project includes a multi-phase construction schedule based upon a study completed in 2004.

**Justification:** The current power distribution network has grown in a patched manner over the years, and many electrical system components have reached the end of their service life. This project addresses immediate safety needs and provides for future reliability needs.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Development | 507 | 41 | 41 | | | | | | | | 548 |
| Design | 6,374 | 1,342 | 642 | 700 | | | | | 700 | | 7,716 |
| Bid & Award | 50 | 100 | 65 | 35 | | | | | 35 | | 150 |
| Construction | 15,270 | 6,696 | 5,465 | 1,231 | | | | | 1,231 | | 21,966 |
| Post Construction | 20 | 37 | 3 | 34 | | | | | 34 | | 57 |
| **TOTAL** | **22,221** | **8,216** | **6,216** | **2,000** | | | | | **2,000** | | **30,437** |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | 22,221 | 8,216 | 6,216 | 2,000 | | | | | 2,000 | | 30,437 |
| **TOTAL** | **22,221** | **8,216** | **6,216** | **2,000** | | | | | **2,000** | | **30,437** |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

**None**

**Major Changes in Project Cost:**

2005-2009 CIP - increase of $33.5 million to fund construction/rehabilitation costs due to increased project scope.
2007-2011 CIP - increase of $15.6 million to fund construction/rehabilitation costs due to increased project scope.
2008-2012 CIP - increase of $26.5 million to fund construction/rehabilitation costs due to increased project scope.
2009-2013 CIP - decrease of $3.0 million to reflect a project scope change.
2011-2015 CIP - increase of $11.4 million due to increased project scope.
2013-2017 CIP - decrease of $64.7 million due to removal of the Gas Turbine/Internal Combustion Engine project scope, which is being refined and will be included as part of the Energy Generation Improvements project.
2014-2018 CIP - decrease of $1.4 million due to decreased project scope.
2015-2019 CIP - increase of $6.0 million due to revised project validation cost estimate.

**Notes:**

This project replaces a formerly ongoing allocation titled "Electrical System Improvements".

| | | | |
|---|---|---|---|
| **FY Initiated:** | 2003-2004 | **Appn. #:** | 4341 |
| **Initial Project Budget:** | $7,671,000 | **USGBC LEED:** | N/A |

## 15. Advanced Facility Control and Meter Replacement

**CSA:** Environmental and Utility Services
**CSA Outcome:** Reliable Utility Infrastructure
**Department:** Environmental Services
**Council District:** 4
**Location:** Water Pollution Control Plant

**Initial Start Date:** 3rd Qtr. 2010
**Revised Start Date:**
**Initial Completion Date:** 2nd Qtr. 2014
**Revised Completion Date:** 4th Qtr. 2019

**Description:** This project will develop a Plant-wide automation master plan, replace existing flow meters and actuators, and upgrade sensors, controls, and monitoring equipment throughout the Plant.

**Justification:** The Plant currently has hundreds of meters measuring liquid, sludge, and gas streams. Many existing sensors, actuators, and flow meters are inaccurate or unreliable. Due to their age, it is more cost effective to replace them with modern equipment to ensure performance reliability and assure that needed components are available for ongoing maintenance. This project will allow the Plant to move towards improved data capture, resulting in greater operational reliability and flexibility.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Development | 45 | 1,549 | 1,926 | 1,600 | 66 | | | | 1,666 | | 3,637 |
| Design | 46 | 685 | | | 2,979 | 73 | | | 3,052 | | 3,098 |
| Bid & Award | | 19 | | | 42 | 21 | | | 63 | | 63 |
| Construction | 36 | 1,273 | | | 1,158 | 23,636 | 1,051 | 88 | 25,933 | | 25,969 |
| Post Construction | 147 | | | | 105 | | | 105 | 210 | | 357 |
| **TOTAL** | **274** | **3,526** | **1,926** | **1,600** | **4,350** | **23,730** | **1,051** | **193** | **30,924** | | **33,124** |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | 274 | 3,526 | 1,926 | 1,600 | 4,350 | 23,730 | 1,051 | 193 | 30,924 | | 33,124 |
| **TOTAL** | **274** | **3,526** | **1,926** | **1,600** | **4,350** | **23,730** | **1,051** | **193** | **30,924** | | **33,124** |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

**None**

**Major Changes in Project Cost:**

2012-2016 CIP - decrease of $5.9 million due to decreased scope.
2013-2017 CIP - decrease of $2.1 million due to the establishment of the Treatment Plant Distributed Control System project as part of the approval of the 2011-2012 Mid-Year Budget Review.
2014-2018 CIP - increase of $500,000 due to updated cost estimate.
2015-2019 CIP - increase of $30.4 million due to revised scope, addition of meter replacement scope, and project validation cost estimate.
2016-2020 CIP - decrease of $823,000 due to reduction of project scope.

**Notes:**

This project corresponds to Plant Master Plan No. 90 and Validation Project PA-01. Prior to the 2015-2019 CIP, this project was titled “Advanced Process Control and Automation”. This project is planned to be completed in two phases. The schedule was revised during the 2015-2019 project validation process.

**FY Initiated:** 2010-2011
**Initial Project Budget:** $11,000,000
**Appn. #:** 7224
**USGBC LEED:** N/A

## 16. Treatment Plant Distributed Control System

**CSA:** Environmental and Utility Services
**CSA Outcome:** Reliable Utility Infrastructure
**Department:** Environmental Services
**Council District:** 4
**Location:** Water Pollution Control Plant

**Initial Start Date:** 1st Qtr. 2012
**Revised Start Date:**
**Initial Completion Date:** 2nd Qtr. 2016
**Revised Completion Date:** 2nd Qtr. 2019

**Description:** This project will upgrade and convert the existing Distributed Control System (DCS) at the Plant. The system is composed of a network of field controllers, workstations, and servers that control most aspects of Plant operations.

**Justification:** The current control system is outdated and will no longer be supported by the vendor beginning in 2015. Upgrading the system is vital to maintaining efficient operations and improving monitoring capabilities.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Design | 253 | 75 | 75 | 75 | 75 | 75 | 75 | | 300 | | 628 |
| Construction | 1,380 | 1,587 | 1,587 | 425 | 425 | 425 | 425 | | 1,700 | | 4,667 |
| **TOTAL** | **1,633** | **1,662** | **1,662** | **500** | **500** | **500** | **500** | | **2,000** | | **5,295** |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | 1,633 | 1,662 | 1,662 | 500 | 500 | 500 | 500 | | 2,000 | | 5,295 |
| **TOTAL** | **1,633** | **1,662** | **1,662** | **500** | **500** | **500** | **500** | | **2,000** | | **5,295** |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

**None**

**Major Changes in Project Cost:**

2014-2018 CIP - increase of $499,000 due to higher than expected consultant costs.
2015-2019 CIP - decrease of $163,000 due to lower than expected construction costs.
2016-2020 CIP - increase of $894,000 due to inclusion of an additional project phase that will convert and configure the hardware for 18 distributed control unit controllers.

**Notes:**

**FY Initiated:** 2012-2013
**Initial Project Budget:** $4,065,000
**Appn. #:** 7394
**USGBC LEED:** N/A

## 17. Construction-Enabling Improvements

**CSA:** Environmental and Utility Services
**CSA Outcome:** Reliable Utility Infrastructure
**Department:** Environmental Services
**Council District:** 4
**Location:** Water Pollution Control Plant

**Initial Start Date:** 3rd Qtr. 2015
**Revised Start Date:**
**Initial Completion Date:** 4th Qtr. 2016
**Revised Completion Date:**

**Description:** This project provides funding for construction management trailers, utility connections, fencing, and security facilities. In addition, it includes road and parking improvements and access improvements from Zanker Road to the Plant.

**Justification:** This project provides the infrastructure necessary to support the increased construction activity anticipated at the Plant.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Design | | | | 520 | | | | | 520 | | 520 |
| Bid & Award | | | | 65 | | | | | 65 | | 65 |
| Construction | | | | 2,891 | 21 | | | | 2,912 | | 2,912 |
| Post Construction | | | | | 55 | | | | 55 | | 55 |
| **TOTAL** | | | | **3,476** | **76** | | | | **3,552** | | **3,552** |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | | | | 3,476 | 76 | | | | 3,552 | | 3,552 |
| **TOTAL** | | | | **3,476** | **76** | | | | **3,552** | | **3,552** |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

**None**

**Major Changes in Project Cost:**
N/A

**Notes:**

**FY Initiated:** 2015-2016
**Initial Project Budget:** $3,552,000
**Appn. #:** 6313
**USGBC LEED:** N/A

## 18. Equipment Replacement

**CSA:** Environmental and Utility Services
**CSA Outcome:** Reliable Utility Infrastructure
**Department:** Environmental Services
**Council District:** 4
**Location:** Water Pollution Control Plant

**Initial Start Date:** Ongoing
**Revised Start Date:**
**Initial Completion Date:** Ongoing
**Revised Completion Date:**

**Description:** This allocation provides for the ongoing replacement and rehabilitation of equipment at the Plant. Equipment anticipated to be replaced or rehabilitated includes air compressors, tanks, pumps, motors, control systems, valves, heat exchangers, engine auxiliaries, lab instruments, and other equipment as required.

**Justification:** The replacement and rehabilitation of Plant equipment are necessary as a result of wear, obsolescence, or new or updated regulatory requirements and will ensure continued efficient operation of the Plant facilities.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Development<br>Design<br>Construction<br>Equipment | | 3,927 | 3,956 | 1,663 | 1,663 | 1,663 | 1,663 | 1,663 | 8,315 | | |
| **TOTAL** | | **3,927** | **3,956** | **1,663** | **1,663** | **1,663** | **1,663** | **1,663** | **8,315** | | |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | | 3,927 | 3,956 | 1,663 | 1,663 | 1,663 | 1,663 | 1,663 | 8,315 | | |
| **TOTAL** | | **3,927** | **3,956** | **1,663** | **1,663** | **1,663** | **1,663** | **1,663** | **8,315** | | |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

**None**

**Major Changes in Project Cost:**

N/A

**Notes:**

Project schedule dates and selected budget information are not provided due to the ongoing nature of this project.

**FY Initiated:** Ongoing
**Initial Project Budget:**
**Appn. #:** 4332
**USGBC LEED:** N/A

## 19. Facility Wide Water Systems Improvements

**CSA:** Environmental and Utility Services
**CSA Outcome:** Reliable Utility Infrastructure
**Department:** Environmental Services
**Council District:** 4
**Location:** Water Pollution Control Plant

**Initial Start Date:** 3rd Qtr. 2014
**Revised Start Date:**
**Initial Completion Date:** 1st Qtr. 2022
**Revised Completion Date:** 3rd Qtr. 2020

**Description:** This project rehabilitates, replaces, and/or extends the Plant's four water systems including piping, valves, pumps, controls, and other ancillary equipment. The scope of work will be based on hydraulic modeling and study of existing and future water demands at the Plant. The project may be constructed in phases based on the outcome of the study and priority of needs.

**Justification:** The Plant's four water systems include potable water, groundwater, process/fire protection water, and recycled water. These were constructed over time with various Plant expansions and are in need of rehabilitation and upgrade due to age, condition, worker safety, and code compliance requirements. In addition, changes to water uses and demands have not been addressed over time. An updated hydraulic model and assessment of current and future water demands will allow for the proper sizing of these systems to improve current and future performance and reduce damage to pumping equipment.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Development | | 460 | 310 | 1,167 | | | | | 1,167 | | 1,477 |
| Design | | | | 25 | 2,176 | 283 | | | 2,484 | | 2,484 |
| Bid & Award | | | | | | 126 | | | 126 | | 126 |
| Construction | | | | | | 10,812 | 247 | 436 | 11,495 | | 11,495 |
| Post Construction | | | | | | | | 174 | 174 | | 174 |
| **TOTAL** | | **460** | **310** | **1,192** | **2,176** | **11,221** | **247** | **610** | **15,446** | | **15,756** |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | | 460 | 310 | 1,192 | 2,176 | 11,221 | 247 | 610 | 15,446 | | 15,756 |
| **TOTAL** | | **460** | **310** | **1,192** | **2,176** | **11,221** | **247** | **610** | **15,446** | | **15,756** |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

**None**

**Major Changes in Project Cost:**

2016-2020 CIP - increase of $1.6 million due to escalation of construction costs.

**Notes:**

This project corresponds to Plant Master Plan Project No. 105 and Validation Project PF-06. This project will have close-out costs only in 2020-2021.

**FY Initiated:** 2014-2015
**Initial Project Budget:** $14,130,000
**Appn. #:** 7679
**USGBC LEED:** N/A

## 20. Plant Infrastructure Improvements

**CSA:** Environmental and Utility Services
**CSA Outcome:** Reliable Utility Infrastructure
**Department:** Environmental Services
**Council District:** 4
**Location:** Water Pollution Control Plant

**Initial Start Date:** Ongoing
**Revised Start Date:**
**Initial Completion Date:** Ongoing
**Revised Completion Date:**

**Description:** This allocation provides for improvements, rehabilitation, or replacement of existing Plant infrastructure. Examples of the ongoing replacement and rehabilitation work include handrail replacement, concrete repairs, telecommunication systems upgrade, and Plant support system improvements.

**Justification:** Many mechanical, electrical, and structural assets at the Plant are in poor condition due to age and wear. Rehabilitation, improvements, and replacement of capital infrastructure are necessary to maintain process viability and to ensure regulatory compliance, structural integrity, reliability, functionality, and safety of Plant buildings and process facilities.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Development | | 539 | 539 | | | | | | | | |
| Design | | 154 | 154 | | | | | | | | |
| Bid & Award | | 6 | 6 | | | | | | | | |
| Construction | | 3,878 | 3,878 | 994 | 1,000 | 1,000 | 1,000 | 1,000 | 4,994 | | |
| Post Construction | | 257 | 257 | 6 | | | | | 6 | | |
| Program Management | | | | | | | | | | | |
| **TOTAL** | | **4,834** | **4,834** | **1,000** | **1,000** | **1,000** | **1,000** | **1,000** | **5,000** | | |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | | 4,834 | 4,834 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 5,000 | | |
| **TOTAL** | | **4,834** | **4,834** | **1,000** | **1,000** | **1,000** | **1,000** | **1,000** | **5,000** | | |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

**None**

**Major Changes in Project Cost:**

N/A

**Notes:**

This project corresponds to Plant Master Plan Project No. 97 and Validation Project PF-03. Project schedule dates and selected budget information are not provided due to the ongoing nature of this project.

**FY Initiated:** Ongoing
**Initial Project Budget:**
**Appn. #:** 5690
**USGBC LEED:** N/A

## 21. Plant Instrument Air System Upgrade

**CSA:** Environmental and Utility Services
**CSA Outcome:** Reliable Utility Infrastructure
**Department:** Environmental Services
**Council District:** 4
**Location:** Water Pollution Control Plant

**Initial Start Date:** 3rd Qtr. 2014
**Revised Start Date:**
**Initial Completion Date:** 1st Qtr. 2019
**Revised Completion Date:** 1st Qtr. 2018

**Description:** This project replaces the existing high-pressure Plant instrument air supply system with a new above-grade distributed system. This project also makes electrical upgrades to provide for power and redundancy improvements to the Plant air supply system.

**Justification:** The instrument air supply system plays a critical role by providing high pressure air for pneumatic operations and controls of valves and instruments located throughout the Plant process areas. The existing system is outdated and its location in the basement of the Secondary Blower Building makes it vulnerable to flooding. The existing system also lacks an independent power source and sufficient reservoirs for maintaining operations during an extended power failure. Replacement of the system will improve operational reliability and minimize interruptions to critical operations.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Development | | 278 | 278 | | | | | | | | 278 |
| Design | | 731 | 731 | 965 | | | | | 965 | | 1,696 |
| Bid & Award | | 190 | | 24 | | | | | 24 | | 24 |
| Construction | | 7,316 | 3,531 | 2,986 | 493 | | | | 3,479 | | 7,010 |
| Post Construction | | 25 | | 25 | | 30 | | | 55 | | 55 |
| **TOTAL** | | **8,540** | **4,540** | **4,000** | **493** | **30** | | | **4,523** | | **9,063** |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | | 8,540 | 4,540 | 4,000 | 493 | 30 | | | 4,523 | | 9,063 |
| **TOTAL** | | **8,540** | **4,540** | **4,000** | **493** | **30** | | | **4,523** | | **9,063** |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

**None**

**Major Changes in Project Cost:**
2016-2020 CIP - decrease of $37,000 due to revised cost estimate.

**Notes:**
This project corresponds to Validation Project PF-07.

**FY Initiated:** 2014-2015
**Initial Project Budget:** $9,100,000
**Appn. #:** 7680
**USGBC LEED:** N/A

## 22. Support Building Improvements

| | | | |
|---|---|---|---|
| **CSA:** | Environmental and Utility Services | **Initial Start Date:** | 1st Qtr. 2015 |
| **CSA Outcome:** | Reliable Utility Infrastructure | **Revised Start Date:** | 3rd Qtr. 2015 |
| **Department:** | Environmental Services | **Initial Completion Date:** | 3rd Qtr. 2023 |
| **Council District:** | 4 | **Revised Completion Date:** | 4th Qtr. 2026 |
| **Location:** | Water Pollution Control Plant | | |

**Description:** This project constructs various tenant improvements to the administration, operations, engineering, and other support buildings located throughout the Plant. It may include floor, ceiling, wall, partition, plumbing, heating, ventilation and air conditioning upgrades, fire protection, and security improvements, as well as ancillary landscaping improvements. It also constructs new warehousing facilities and an electronic warehouse management system which may include new computers, a central database, barcode scanners, mobile tablets, and other technology improvements. This project will be constructed in phases based on a detailed tenant improvement study, warehouse design study, and priority of needs.

**Justification:** Most of the buildings at the Plant are between 30 and 50 years old and are in need of refurbishment to improve worker health, safety, and environment. The tenant improvements are also needed to bring the buildings into compliance with current building and safety codes. The new warehousing facility and warehouse management system will improve operational efficiency through better control of the movement and storage of materials, including shipping, receiving, material stocking, use, and distribution.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Development | | 490 | | 890 | 219 | 101 | | | 1,210 | | 1,210 |
| Design | | | | | | 4,095 | 806 | 29 | 4,930 | | 4,930 |
| Bid & Award | | | | | | 67 | | 34 | 101 | | 101 |
| Construction | | | | | | 475 | | 10,129 | 10,604 | 37,333 | 47,937 |
| Post Construction | | | | | | | | | | 556 | 556 |
| **TOTAL** | | **490** | | **890** | **219** | **4,738** | **806** | **10,192** | **16,845** | **37,889** | **54,734** |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | | 490 | | 890 | 219 | 4,738 | 806 | 10,192 | 16,845 | 37,889 | 54,734 |
| **TOTAL** | | **490** | | **890** | **219** | **4,738** | **806** | **10,192** | **16,845** | **37,889** | **54,734** |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

**None**

**Major Changes in Project Cost:**

2016-2020 CIP - decrease of $856,000 due to revised cost estimate.

**Notes:**

This project corresponds to Plant Master Plan Project Nos. 94, 95, 96, 98, 106, and 107 and Validation Project PF-02.

| | | | |
|---|---|---|---|
| **FY Initiated:** | 2014-2015 | **Appn. #:** | 7681 |
| **Initial Project Budget:** | $55,590,000 | **USGBC LEED:** | N/A |

## 23. Treatment Plant Engine Rebuild

**CSA:** Environmental and Utility Services
**CSA Outcome:** Reliable Utility Infrastructure
**Department:** Environmental Services
**Council District:** 4
**Location:** Water Pollution Control Plant

**Initial Start Date:** 1st Qtr. 2012
**Revised Start Date:**
**Initial Completion Date:** 2nd Qtr. 2014
**Revised Completion Date:** 2nd Qtr. 2016

**Description:** This project will fund original equipment manufacturer parts for rebuilding the engines in Building 40 and the Pump and Engine Building.

**Justification:** This project will improve the reliability of the Water Pollution Control Plant's engines and keep them operational until they are replaced with new gas turbines or lateral combustion engines.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Construction | 2,281 | 660 | 170 | 490 | | | | | 490 | | 2,941 |
| **TOTAL** | **2,281** | **660** | **170** | **490** | | | | | **490** | | **2,941** |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | 2,281 | 660 | 170 | 490 | | | | | 490 | | 2,941 |
| **TOTAL** | **2,281** | **660** | **170** | **490** | | | | | **490** | | **2,941** |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

**None**

**Major Changes in Project Cost:**

None

**Notes:**

This project was previously included as part of the Plant Infrastructure Improvements project and was established as part of the approval of the 2011-2012 Mid-Year Budget Review.

**FY Initiated:** 2011-2012
**Initial Project Budget:** $3,000,000
**Appn. #:** 7393
**USGBC LEED:** N/A

## 24. Tunnel Rehabilitation

| | | | |
|---|---|---|---|
| **CSA:** | Environmental and Utility Services | **Initial Start Date:** | 2nd Qtr. 2015 |
| **CSA Outcome:** | Reliable Utility Infrastructure | **Revised Start Date:** | 4th Qtr. 2015 |
| **Department:** | Environmental Services | **Initial Completion Date:** | 4th Qtr. 2024 |
| **Council District:** | 4 | **Revised Completion Date:** | 3rd Qtr. 2026 |
| **Location:** | Water Pollution Control Plant | | |

**Description:** This project will rehabilitate and make safety improvements to the tunnel system throughout the Plant. The work may include structural, mechanical, electrical, ventilation, fire safety, and coating improvements and will be completed in phases based on a detailed condition assessment, physical testing, and prioritization of needs.

**Justification:** The Plant has an extensive tunnel system that houses piping, valves, pumps, controls, and other equipment. Many of these tunnels were built more than 50 years ago and need to be rehabilitated and upgraded to ensure compliance with safety requirements. To the extent practical, obsolete piping in the tunnels should also be removed to improve maintenance access and make room for new process piping.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Development | | 60 | | 1,000 | 141 | 68 | | | 1,209 | | 1,209 |
| Design | | | | | | 2,088 | 384 | | 2,472 | | 2,472 |
| Bid & Award | | | | | | 33 | 12 | 5 | 50 | | 50 |
| Construction | | | | | | 232 | | 5,257 | 5,489 | 18,222 | 23,711 |
| Post Construction | | | | | | | | | | 277 | 277 |
| **TOTAL** | | **60** | | **1,000** | **141** | **2,421** | **396** | **5,262** | **9,220** | **18,499** | **27,719** |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | | 60 | | 1,000 | 141 | 2,421 | 396 | 5,262 | 9,220 | 18,499 | 27,719 |
| **TOTAL** | | **60** | | **1,000** | **141** | **2,421** | **396** | **5,262** | **9,220** | **18,499** | **27,719** |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

**None**

**Major Changes in Project Cost:**

2016-2020 CIP - increase of $2.2 million due to escalation of construction costs.

**Notes:**

This project corresponds to Plant Master Plan Project Nos. 12, 13, 46, 103, and 104 and Validation Project PF-01.

| | | | |
|---|---|---|---|
| **FY Initiated:** | 2014-2015 | **Appn. #:** | 7698 |
| **Initial Project Budget:** | $25,550,000 | **USGBC LEED:** | N/A |

## 25. Urgent and Unscheduled Treatment Plant Rehabilitation

**CSA:** Environmental and Utility Services
**CSA Outcome:** Reliable Utility Infrastructure
**Department:** Environmental Services
**Council District:** 4
**Location:** Water Pollution Control Plant

**Initial Start Date:** Ongoing
**Revised Start Date:**
**Initial Completion Date:** Ongoing
**Revised Completion Date:**

**Description:** This ongoing allocation is used to investigate, prioritize, and rehabilitate structures and systems at the Water Pollution Control Plant. This funding will be used to respond to the Plant's urgent maintenance and rehabilitation needs that cannot be programmed during the annual CIP budget process.

**Justification:** This allocation is required due to the deterioration of structures and systems at the Plant.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Development | | 2,331 | 2,331 | 1,500 | 1,500 | 1,500 | 1,500 | 1,500 | 7,500 | | |
| Design | | 190 | 190 | | | | | | | | |
| Construction | | 500 | 500 | | | | | | | | |
| Post Construction | | 6 | 6 | | | | | | | | |
| **TOTAL** | | **3,027** | **3,027** | **1,500** | **1,500** | **1,500** | **1,500** | **1,500** | **7,500** | | |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | | 3,027 | 3,027 | 1,500 | 1,500 | 1,500 | 1,500 | 1,500 | 7,500 | | |
| **TOTAL** | | **3,027** | **3,027** | **1,500** | **1,500** | **1,500** | **1,500** | **1,500** | **7,500** | | |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

**None**

**Major Changes in Project Cost:**

N/A

**Notes:**

Project schedule dates and selected budget information are not provided due to the ongoing nature of this project.

**FY Initiated:** Ongoing
**Initial Project Budget:**
**Appn. #:** 7395
**USGBC LEED:** N/A

## 26. Yard Piping and Road Improvements

**CSA:** Environmental and Utility Services
**CSA Outcome:** Reliable Utility Infrastructure
**Department:** Environmental Services
**Council District:** 4
**Location:** Water Pollution Control Plant

**Initial Start Date:** Ongoing
**Revised Start Date:**
**Initial Completion Date:** Ongoing
**Revised Completion Date:**

**Description:** This project will rehabilitate and/or replace process piping systems, valves, and related appurtenances throughout the Plant. The work will be completed in phases based on the outcome of a detailed condition assessment, physical testing, and prioritization of needs. This project will also make roadway and drainage-related improvements throughout the Plant's main operations and residual management areas.

**Justification:** The Plant has approximately 300,000 linear feet of piping along with associated valves and related appurtenances. The pipes range in diameter from 8 inches to 144 inches and carry gas, liquids, sludge, air, steam, and other process streams to and from the various treatment areas. The pipes vary in age, material, condition, reliability, and redundancy. Over 70 percent of the piping was installed more than 25 years ago and is in need of rehabilitation or replacement due to age, failure, and/or excessive maintenance. The Plant also has an extensive roadway network, nearly 40,000 linear feet of paved surfaces, that needs rehabilitation and/or replacement due to excessive wear, heavy vehicle traffic, and drainage issues.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Development | | 362 | 362 | 1,127 | 494 | 492 | 10 | | 2,123 | | |
| Design | | 1 | 1 | | | | 11,079 | 1,602 | 12,681 | | |
| Bid & Award | | 1 | 1 | | | | 166 | 72 | 238 | | |
| Construction | | 514 | 514 | | | | 1,188 | | 1,188 | | |
| Post Construction | | 10 | 10 | | | | | | | | |
| **TOTAL** | | **888** | **888** | **1,127** | **494** | **492** | **12,443** | **1,674** | **16,230** | | |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | | 888 | 888 | 1,127 | 494 | 492 | 12,443 | 1,674 | 16,230 | | |
| **TOTAL** | | **888** | **888** | **1,127** | **494** | **492** | **12,443** | **1,674** | **16,230** | | |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

**None**

**Major Changes in Project Cost:**

N/A

**Notes:**

Project schedule dates and selected budget information are not provided due to the ongoing nature of this project. This project corresponds to Plant Master Plan Project Nos. 98 and 100 and Validation Project PF-04. Prior to 2015-2019, this project was titled "Treatment Plant Street Rehabilitation".

**FY Initiated:** Ongoing
**Initial Project Budget:**
**Appn. #:** 7396
**USGBC LEED:** N/A

## 27. SBWR Extension

**CSA:** Environmental and Utility Services
**CSA Outcome:** Healthy Streams, Rivers, Marsh and Bay
**Department:** Environmental Services
**Council District:** 4
**Location:** Water Pollution Control Plant

**Initial Start Date:** Ongoing
**Revised Start Date:**
**Initial Completion Date:** Ongoing
**Revised Completion Date:**

**Description:** This project expands the SBWR system through the construction of pipeline and ancillary distribution system projects. The SBWR system expansion is limited to extensions that are justified by projected water revenues, grant funding, or funds from developers or other government agencies (i.e. Santa Clara Valley Water District). No revenue from Plant Tributary Agencies or City Sanitary Sewer rate payers will be used to fund this appropriation.

**Justification:** The SBWR Extension project includes construction of extensions to the existing recycled water distribution system that will provide additional capacity and result in increased water sales and system revenue with the goal of bringing the SBWR system to full cost recovery.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Development<br>Design<br>Bid & Award<br>Construction<br>Program Management | | 7,923 | 4,515 | 3,408 | | | | | 3,408 | | |
| **TOTAL** | | **7,923** | **4,515** | **3,408** | | | | | **3,408** | | |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | | 7,923 | 4,515 | 3,408 | | | | | 3,408 | | |
| **TOTAL** | | **7,923** | **4,515** | **3,408** | | | | | **3,408** | | |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

**None**

**Major Changes in Project Cost:**

N/A

**Notes:**

Project schedule dates and selected budget information are not provided due to the ongoing nature of this project. Per the contract with the Santa Clara Valley Water District (SCVWD), which began on July 1, 2010, the City and the SCVWD will review the net costs of operating the SBWR and the Advanced Water Treatment Facility (AWTF) beginning in 2012. This is a cost-sharing project with City costs not to exceed $2 million annually. Annual Operating Budget impacts are evaluated on an ongoing basis. Prior to the 2013-2017 CIP this project was titled "Revised South Bay Action Plan - SBWR Extension".

**FY Initiated:** Ongoing
**Initial Project Budget:**
**Appn. #:** 6589
**USGBC LEED:** N/A

## 28. SBWR System Reliability and Infrastructure Replacement

| | | | |
|---|---|---|---|
| **CSA:** | Environmental and Utility Services | **Initial Start Date:** | 3rd Qtr. 2012 |
| **CSA Outcome:** | Safe, Reliable, and Sufficient Water Supply | **Revised Start Date:** | |
| **Department:** | Environmental Services | **Initial Completion Date:** | 2nd Qtr. 2016 |
| **Council District:** | 4 | **Revised Completion Date:** | |
| **Location:** | Water Pollution Control Plant | | |

**Description:** This allocation will be used for system reliability improvements including, but not limited to, rehabilitation and/or replacement of pump station components (pumps, motors, and ancillary equipment), control and communication systems, pipelines, and other system-related infrastructure.

**Justification:** This project improves system reliability, addresses critical infrastructure needs, and ensures the integrity and reliability of the distribution system.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Design | 18 | | | | | | | | | | 18 |
| Construction | 115 | 3,250 | 58 | 4,692 | | | | | 4,692 | | 4,865 |
| **TOTAL** | **133** | **3,250** | **58** | **4,692** | | | | | **4,692** | | **4,883** |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | 133 | 3,250 | 58 | 4,692 | | | | | 4,692 | | 4,883 |
| **TOTAL** | **133** | **3,250** | **58** | **4,692** | | | | | **4,692** | | **4,883** |

**ANNUAL OPERATING BUDGET IMPACT (000'S)**

**None**

**Major Changes in Project Cost:**

2015-2019 CIP - decrease of $1.1 million due to reduction of scope.
2016-2020 CIP - decrease of $505,000 due to reduction of scope.

**Notes:**

| | | | |
|---|---|---|---|
| **FY Initiated:** | 2012-2013 | **Appn. #:** | 7455 |
| **Initial Project Budget:** | $6,500,000 | **USGBC LEED:** | N/A |

## 29. Payment for Clean Water Financing Authority Trustee

**CSA:** Environmental and Utility Services

**CSA Outcome:** Reliable Utility Infrastructure

**Department:** Environmental Services

**Description:** This allocation provides for administrative costs of the San José/Santa Clara Clean Water Financing Authority related to bond issuances.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Program Management | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 25 | | |
| **TOTAL** | | **5** | **5** | **5** | **5** | **5** | **5** | **5** | **25** | | |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 25 | | |
| **TOTAL** | | **5** | **5** | **5** | **5** | **5** | **5** | **5** | **25** | | |

**Notes:**

Selected budget information is not provided due to the ongoing nature of this project.

**Appn. #:** 6584

## 30. Preliminary Engineering

**CSA:** Environmental and Utility Services

**CSA Outcome:** Reliable Utility Infrastructure

**Department:** Environmental Services

**Description:** This allocation provides funding to support preliminary engineering for Plant-related projects, including studies, pilots, and field verifications to evaluate impacts on operations.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Development | | 5,500 | 5,513 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 5,000 | | |
| **TOTAL** | | **5,500** | **5,513** | **1,000** | **1,000** | **1,000** | **1,000** | **1,000** | **5,000** | | |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | | 5,500 | 5,513 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 5,000 | | |
| **TOTAL** | | **5,500** | **5,513** | **1,000** | **1,000** | **1,000** | **1,000** | **1,000** | **5,000** | | |

**Notes:**

Selected budget information is not provided due to the ongoing nature of this project.

**Appn. #:** 7456

## 31. Program Management

**CSA:** Environmental and Utility Services
**CSA Outcome:** Reliable Utility Infrastructure
**Department:** Environmental Services
**Description:** This allocation funds the administration and management of the Water Pollution Control CIP.

| EXPENDITURE SCHEDULE (000'S) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cost Elements** | **Prior Years** | **2014-15 Appn.** | **2014-15 Estimate** | **2015-16** | **2016-17** | **2017-18** | **2018-19** | **2019-20** | **5-Year Total** | **Beyond 5-Year** | **Project Total** |
| Development<br>Program Management | | 14,332 | 14,332 | 10,065 | 8,125 | 1,845 | 1,605 | 1,670 | 23,310 | | |
| **TOTAL** | | **14,332** | **14,332** | **10,065** | **8,125** | **1,845** | **1,605** | **1,670** | **23,310** | | |
| **FUNDING SOURCE SCHEDULE (000'S)** | | | | | | | | | | | |
| San José-Santa Clara Treatment Plant Capital Fund | | 14,332 | 14,332 | 10,065 | 8,125 | 1,845 | 1,605 | 1,670 | 23,310 | | |
| **TOTAL** | | **14,332** | **14,332** | **10,065** | **8,125** | **1,845** | **1,605** | **1,670** | **23,310** | | |

**Notes:**

Selected budget information is not provided due to the ongoing nature of this project.

**Appn. #:** 7481

## 32. Record Drawings

**CSA:** Environmental and Utility Services
**CSA Outcome:** Reliable Utility Infrastructure
**Department:** Environmental Services
**Description:** This project develops a document management system and standards for electronically capturing, indexing, storing, retrieving, distributing, and versioning master drawings, specifications, and other final design documents. It also involves inventorying, developing, updating, and integrating existing records and field drawings.

| EXPENDITURE SCHEDULE (000'S) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cost Elements** | **Prior Years** | **2014-15 Appn.** | **2014-15 Estimate** | **2015-16** | **2016-17** | **2017-18** | **2018-19** | **2019-20** | **5-Year Total** | **Beyond 5-Year** | **Project Total** |
| Development | | | | | 58 | | | | 58 | | 58 |
| Post Construction | | 250 | | 250 | 12,781 | 162 | 162 | 164 | 13,519 | | 13,519 |
| **TOTAL** | | **250** | | **250** | **12,839** | **162** | **162** | **164** | **13,577** | | **13,577** |
| **FUNDING SOURCE SCHEDULE (000'S)** | | | | | | | | | | | |
| San José-Santa Clara Treatment Plant Capital Fund | | 250 | | 250 | 12,839 | 162 | 162 | 164 | 13,577 | | 13,577 |
| **TOTAL** | | **250** | | **250** | **12,839** | **162** | **162** | **164** | **13,577** | | **13,577** |

**Notes:**

This project corresponds to Plant Master Plan Project No. 114 and Validation Project PF-05. Funding in 2016-2017 is for the consultant encumbrance and some staff costs; the remaining years of this project fund staff costs necessary to complete the project.

**Appn. #:** 7683

## 33. State Revolving Fund Loan Repayment

**CSA:** Environmental and Utility Services

**CSA Outcome:** Healthy Streams, Rivers, Marsh and Bay

**Department:** Environmental Services

**Description:** This allocation provides for the repayment of low interest State loans awarded for South Bay Water Recycling projects.

**EXPENDITURE SCHEDULE (000'S)**

| Cost Elements | Prior Years | 2014-15 Appn. | 2014-15 Estimate | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 5-Year Total | Beyond 5-Year | Project Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Debt Service | 67,654 | 4,464 | 4,464 | 4,464 | 4,464 | 4,464 | 1,804 | | 15,196 | | 87,314 |
| **TOTAL** | **67,654** | **4,464** | **4,464** | **4,464** | **4,464** | **4,464** | **1,804** | | **15,196** | | **87,314** |

**FUNDING SOURCE SCHEDULE (000'S)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| San José-Santa Clara Treatment Plant Capital Fund | 67,654 | 4,464 | 4,464 | 4,464 | 4,464 | 4,464 | 1,804 | | 15,196 | | 87,314 |
| **TOTAL** | **67,654** | **4,464** | **4,464** | **4,464** | **4,464** | **4,464** | **1,804** | | **15,196** | | **87,314** |

**Appn. #:** 6590

# 2015-2016 Capital Budget

# 2016-2020 Capital Improvement Program

# Water Pollution Control

## Summary of Projects that Start after 2015-2016

## Summary of Projects with Close-Out Costs Only in 2015-2016

## Summary of Reserves

## Explanation of Funds

## Flow and Priority of Funds

*The Summary of Projects that Start after 2015-2016 includes those projects that have funding budgeted starting after 2015-2016. The Summary of Projects with Close-Out Costs Only in 2015-2016 includes those projects that are near completion with only minimal costs (typically inspection services and program management) to finish the project budgeted in 2015-2016. The Summary of Reserves includes all reserves budgeted within the Five-Year Capital Improvement Program. On the Use of Funds statement, the projects in these summaries are not numbered.*

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| **Project Name:** | **Aeration Basin Future Modifications** | **Initial Start Date:** | 3rd Qtr. 2019 |
| **5-Year CIP Budget:** | $846,000 | **Revised Start Date:** | |
| **Total Budget:** | $50,277,000 | **Initial End Date:** | 4th Qtr. 2030 |
| **Council District:** | 4 | **Revised End Date:** | |
| **USGBC LEED:** | N/A | | |

**Description:** This project modifies the existing step-feed aeration basins to a Modified Ludzack-Ettinger (MLE) process, which would involve structural modifications to existing tanks and new mixers, pumps, fine bubble diffusers, and methanol feed systems.

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| **Project Name:** | **Alternative Filter Technology Field Verification** | **Initial Start Date:** | 3rd Qtr. 2019 |
| **5-Year CIP Budget:** | $81,000 | **Revised Start Date:** | |
| **Total Budget:** | $3,258,000 | **Initial End Date:** | 3rd Qtr. 2024 |
| **Council District:** | 4 | **Revised End Date:** | |
| **USGBC LEED:** | N/A | | |

**Description:** The Plant has several filtration options to achieve NPDES permit compliance. One approach is to rehabilitate the existing filters. Another approach is to replace existing dual-membrane filters with alternative technology, such as disk filters. This project will field test and verify up to three filtration technologies to determine the alternative most suitable for the needs of the Plant's secondary effluent, for both Bay discharge and recycled water supply.

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| **Project Name:** | **FOG Receiving** | **Initial Start Date:** | 3rd Qtr. 2019 |
| **5-Year CIP Budget:** | $313,000 | **Revised Start Date:** | |
| **Total Budget:** | $12,850,000 | **Initial End Date:** | 2nd Qtr. 2026 |
| **Council District:** | 4 | **Revised End Date:** | |
| **USGBC LEED:** | N/A | | |

**Description:** This project constructs a new FOG (Fats, Oils, Grease) receiving station; including storage tanks, access control, feed piping from the receiving station to the digesters accepting FOG, and a ½-mile of access road improvements.

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| **Project Name:** | **Final Effluent Pump Station & Stormwater Channel Improvements** | **Initial Start Date:** | 3rd Qtr. 2019 |
| **5-Year CIP Budget:** | $902,000 | **Revised Start Date:** | |
| **Total Budget:** | $47,358,000 | **Initial End Date:** | 3rd Qtr. 2025 |
| **Council District:** | 4 | **Revised End Date:** | |
| **USGBC LEED:** | N/A | | |

**Description:** This project constructs a new pump station to hydraulically push the Plant's final treated effluent to the Coyote Creek. Additionally, it will improve the existing stormwater channel by rehabilitating the flapper gates and embankments.

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| **Project Name:** | **Master Plan Updates** | **Initial Start Date:** | 4th Qtr. 2016 |
| **5-Year CIP Budget:** | $3,000,000 | **Revised Start Date:** | |
| **Total Budget:** | $3,000,000 | **Initial End Date:** | 4th Qtr. 2018 |
| **Council District:** | 4 | **Revised End Date:** | |
| **USGBC LEED:** | N/A | | |

**Description:** This project will periodically review and update the Plant Master Plan to ensure program goals and objectives are being met and incorporate any major changes that may be triggered by operational, regulatory, technological, and economic conditions.

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| **Project Name:** | **New Disinfection Facilities** | **Initial Start Date:** | 2nd Qtr. 2019 |
| **5-Year CIP Budget:** | $952,000 | **Revised Start Date:** | |
| **Total Budget:** | $56,977,000 | **Initial End Date:** | 1st Qtr. 2027 |
| **Council District:** | 4 | **Revised End Date:** | 4th Qtr. 2027 |
| **USGBC LEED:** | N/A | | |

**Description:** This project constructs a new disinfection facility (currently assumed to be based on ultraviolet (UV) technology) to replace the existing sodium hypochlorite disinfection facility. It may also expand the existing chlorine contact basins to accommodate future peak hour wet weather flows and construct a new on-site hypochlorite generation facility. This project would only be triggered if new regulations concerning emerging contaminants are issued by the Regional Water Board within the next two to three NPDES permit cycles, and additional studies confirm future flow projections.

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| **Project Name:** | **Secondary Clarifier Rehabilitation** | **Initial Start Date:** | 1st Qtr. 2017 |
| **5-Year CIP Budget:** | $25,881,000 | **Revised Start Date:** | |
| **Total Budget:** | $26,559,000 | **Initial End Date:** | 2nd Qtr. 2020 |
| **Council District:** | 4 | **Revised End Date:** | 4th Qtr. 2021 |
| **USGBC LEED:** | N/A | | |

**Description:** The Plant has 26 secondary clarifiers configured with peripheral mix liquor feed channel, and either central or peripheral launders. The first phase of this project rehabilitates one secondary (BNR1) clarifier and retrofits it to receive a new baffle configuration based on computational fluid dynamic (CFD) modeling results. The new configuration is expected to improve clarifier performance and efficiency. The subsequent phases of the project will rehabilitate and convert the remaining 25 clarifiers based on the results of the first phase. Rehabilitation will include structural, mechanical, electrical, and instrumentation improvements.

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Summary of Projects with Close-out Costs Only in 2015-2016

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| **Project Name:** | **Treatment Plant Fire Main Replacement** | **Initial Start Date:** | 1st Qtr. 2012 |
| **5-Year CIP Budget:** | $10,000 | **Revised Start Date:** | |
| **Total Budget:** | $3,541,000 | **Initial End Date:** | 2nd Qtr. 2013 |
| **Council District:** | 4 | **Revised End Date:** | 2nd Qtr. 2016 |
| **USGBC LEED:** | N/A | | |

**Description:** The fire main piping system, which is part of the Fire Protection System for the Plant, consists of approximately 15,000 linear feet of pipes ranging from 6, 8, 10, and 12 inches; two 100-HP electric pumps; fire hydrants; and associated valves. The fire main piping was installed as the Plant expanded over the past 50 years. A condition assessment was conducted in 2007 and revealed that most of the existing pipes are corroded. This funding rehabilitates the system.

## Summary of Reserves

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| **Project Name:** | **Equipment Replacement Reserve** | **Initial Start Date:** | N/A |
| **5-Year CIP Budget:** | $5,000,000 | **Revised Start Date:** | |
| **Total Budget:** | $5,000,000 | **Initial End Date:** | N/A |
| **Council District:** | 4 | **Revised End Date:** | |
| **USGBC LEED:** | N/A | | |

**Description:** This reserve provides for unforeseen replacement and rehabilitation of equipment that, due to age, wear, or obsolescence, must be replaced for the efficient operation of the Plant.

## Explanation of Funds

Revenues and expenditures for the operation and maintenance of the San José-Santa Clara Water Pollution Control Plant (Plant) are accounted for by the City of San José, as the administering agency, through the San José-Santa Clara Treatment Plant Operating Fund (Operating Fund) and the San José-Santa Clara Treatment Plant Capital Fund (Capital Fund).

Revenues from tributary agencies of the San José-Santa Clara Water Pollution Control Plant are recorded directly into the Operating and Capital Funds. The tributary agencies include the City of Milpitas, City of Cupertino, Burbank Sanitary District, County Sanitation District No. 2-3, and West Valley Sanitation District.

Tributary agencies are assessed for their share of annual operation, maintenance, equipment, and facilities replacement and capital costs, based on their respective flow and strength of sewage conveyed to the Plant.

The San José Sewer Service and Use Charge Fund was established in the San José Municipal Code Section 15.12.640 in August 1959. This fund is the depository of revenues from Sewer Service and Use Charges received from residential, commercial, and industrial users of the sanitary sewer system. A portion of these monies is transferred to the Operating and Capital Funds to pay for the City of San José's share of operating and capital costs of the Plant.

The Santa Clara Sewer Revenue Fund was established by Resolution Number 916 of the City Council of Santa Clara in October 1960. Like the City of San José, revenues from this fund are transferred directly to the Operating and Capital Funds.

The Capital Fund provides all monies used for capital projects. Included in this fund is the Treatment Plant Renewal and Replacement Fund. This fund was established to satisfy the Plant's federal and State grant agreements as well as to comply with bond covenants.

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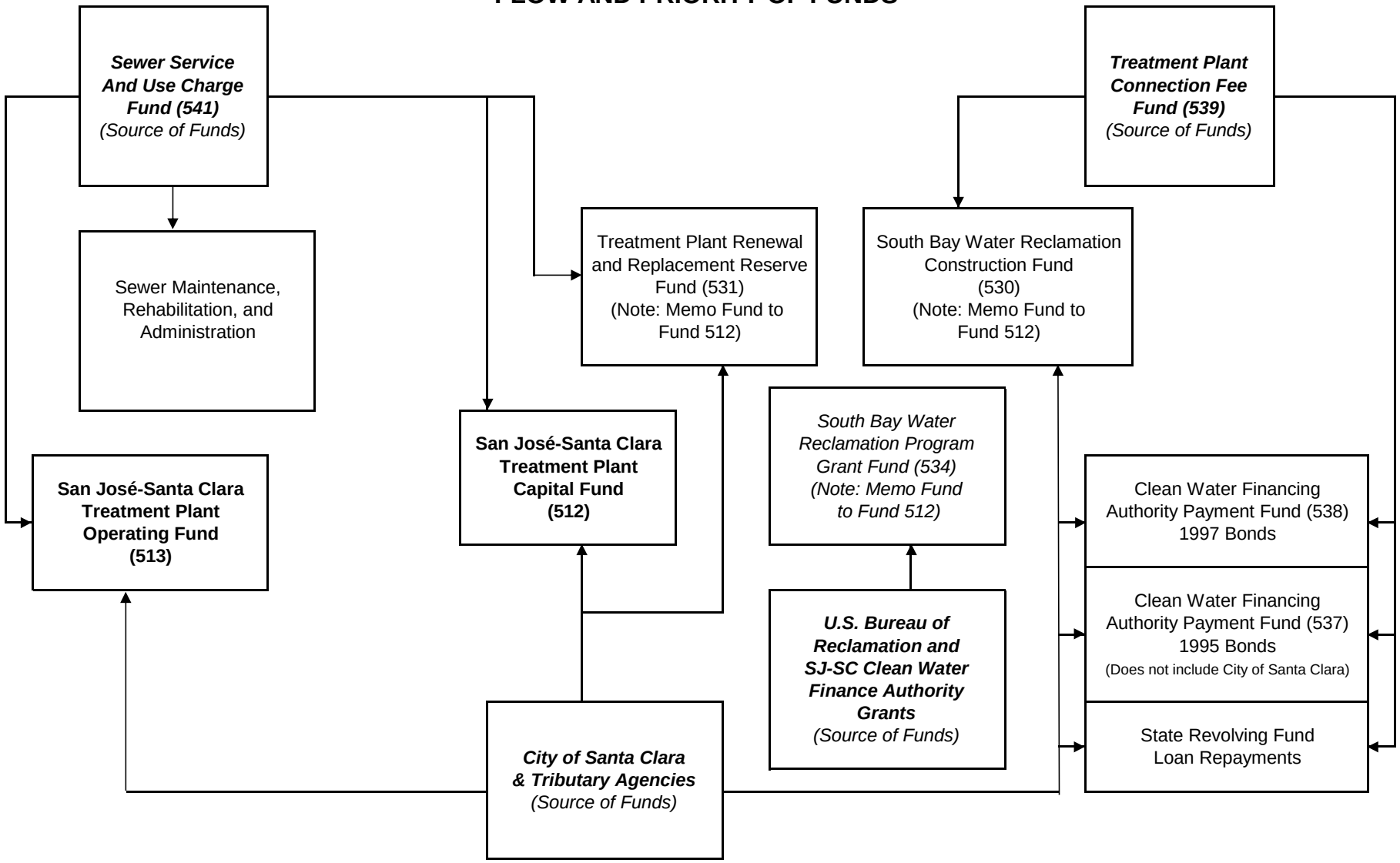
# WATER POLLUTION CONTROL PLANT
# FLOW AND PRIORITY OF FUNDS




The arrows indicate the flow of funds from each of the various sources to the fund in which the revenues are expended.

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