SAN JOSÉ/SANTA CLARA TREATMENT PLANT ADVISORY COMMITTEE

SAM LICCARDO, CHAIR
DEBI DAVIS, VICE CHAIR
LAN DIEP, MEMBER
DAVID SYKES, MEMBER
DEV DAVIS, MEMBER
CARMEN MONTANO, MEMBER
KATHY WATANABE, MEMBER
STEVEN LEONARDIS, MEMBER
JOHN GATTO, MEMBER

SPECIAL MEETING AMENDED AGENDA/ TPAC

4:00 p.m. May 16, 2019 Room 1734

1. ROLL CALL

2. APPROVAL OF MINUTES

A. April 11, 2019

3. UNFINISHED BUSINESS/REQUEST FOR DEFERRALS

4. DIRECTOR'S REPORT

A. Director's Report (verbal)
- Monthly Progress Report

5. AGREEMENTS/ACTION ITEMS

A. First Amendment to the Master Agreement with Golder Associates for Environmental Support Services

Staff Recommendation:

Approve the First Amendment to the Master Agreement with Golder Associates for environmental consulting services, increasing the amount of compensation by $500,000, for a total agreement not to exceed $1,000,000. No extension is being recommended on the term of the agreement, which expires on June 30, 2020.

This item is scheduled for consideration by the City Council on May 21, 2019.

B. Agreements with ABB Inc., DBA ABB DE, Inc., for a Distributed Control Unit (DCU) upgrade and ongoing support and maintenance at the San José/Santa

Clara Regional Wastewater Facility

Staff Recommendation:

Adopt a resolution authorizing the City Manager to:

a. Negotiate and execute an agreement with ABB Inc., dba ABB DE, Inc., (Wickliffe, OH) to upgrade distributed control units at the San José/Santa Clara Regional Wastewater Facility, including hardware, software, programming, configuration, and related professional services, beginning May 1, 2019 and ending December 31, 2022 for a maximum not-to-exceed compensation of $6,377,000, subject to the appropriation of funds; and

b. Execute the Water Care Enhanced Agreement with ABB Inc., dba ABB DE, Inc. (Wickliffe, OH) and annual purchase orders pursuant to the terms of the Water Care Enhanced Agreement for ongoing support and maintenance ($233,194 per year) and as-needed parts replacement and repair and rebuilding services (estimated at $500,000-$750,000 per year) for a five-year term beginning May 1, 2019 and ending April 30, 2024 and for a combined compensation not to exceed $3,915,970, subject to the appropriation of funds; and

c. Negotiate and execute amendments and change orders to the agreements as required for unanticipated changes, subject to the appropriations of funds.

This item is scheduled for consideration by the City Council on May 21, 2019.

C. Discharge Regulations and Future Impacts on the San José-Santa Clara Regional Wastewater Facility

Staff Recommendation:

Accept the annual update on regulatory items related to the San José-Santa Clara Regional Wastewater Facility.

This item was accepted by the T&E Committee on May 6, 2019.

D. Proposed 2020-2024 CIP Budget

Staff Recommendation: TPAC approval of the San José/Santa Clara Regional Wastewater Facility Control Proposed 2020-2024 Capital Improvement Program.

The San José/Santa Clara Regional Wastewater Facility Proposed 2020-2024 Capital Improvement Program is scheduled for Council consideration on June 11, 2019, and for adoption on June 18, 2019.

E. Proposed 2019-2020 O&M Budget

Staff Recommendation: TPAC approval of the San José/Santa Clara Regional Wastewater Facility Control Proposed 2019-2020 Operating Budget.

The San José/Santa Clara Regional Wastewater Facility Proposed 2019-2020 Operating Budget is scheduled for Council consideration on June 11, 2019, and for adoption on June 18, 2019.

6. OTHER BUSINESS/CORRESPONDENCE

7. STATUS OF ITEMS PREVIOUSLY RECOMMENDED FOR APPROVAL BY TPAC

A. San José- Santa Clara Regional Wastewater Facility Capital Improvement Program Semiannual Status Report

Staff Recommendation:

Accept the semiannual status report on the San José-Santa Clara Regional Wastewater Facility Capital Improvement Program for the period of July 2018-December 2018.

This item was approved by the T&E Committee on April 8, 2019.

B. Actions Related to the Purchase Order for Clarifier Coating Rehabilitation Services

Staff Recommendation:

Adopt a resolution authorizing the City Manager to:

(a) Execute a Purchase Order with Euro Style Management, Inc. (North Highlands, CA) for clarifier coating rehabilitation services at the San José-Santa Clara Regional Wastewater Facility for an initial twelve-month period, starting on or about May 1, 2019 and ending on or about April 30, 2020, for an amount not to exceed $717,200; and

(b) Exercise up to four one-year options to extend the term of the Purchase Order with the last option year ending on or about April 30, 2024, subject to the annual appropriation of funds.

Desired Outcome: Increase the life expectancy of the Regional Wastewater Facility clarifier tanks.

This item was approved by the City Council on April 23, 2019.

C. Actions Related to the Purchase Order for Sand Blasting and Painting Services

Staff Recommendation:

Adopt a resolution authorizing the City Manager to:

(a) Execute a Purchase Order with Jeffco Painting and Coating, Inc. (Vallejo, CA) for sandblasting and painting services at the San Jose-Santa Clara Regional Wastewater Facility for an initial twelve-month period, starting on or about May 1, 2019 and ending on or about April 30, 2020, for an amount not to exceed $400,000; and

(b) Exercise up to four one-year options to extend the term of the Purchase Order with the last option year ending on or about April 30, 2024, subject to the appropriation of funds.

Desired Outcome: To complete scheduled sandblasting and painting projects at the Regional Wastewater Facility to ensure equipment and infrastructure are preserved.

This item was approved by the City Council on April 23, 2019.

8. REPORTS

A. Open Purchase Orders Greater Than $100,000 (including Service Orders)

The attached monthly Procurement and Contract Activity Report summarizes the purchase and contracting of goods with an estimated value between $100,000 and $1.17 million and of services between $100,000 and $290,000.

9. MISCELLANEOUS

A. The next monthly TPAC Meeting is on **June 13, 2019, at 4:00 p.m.**, City Hall, Room 1734.

10. OPEN FORUM

11. ADJOURNMENT

NOTE: If you have any changes or questions, please contact Eva Roa, Environmental Services (408) 975-2547.

To request an accommodation or alternative format for City-sponsored meetings, events or printed materials, please contact Eva Roa (408) 975-2547 or (408) 294-9337 (TTY) as soon as possible, but at least three business days before the meeting/event.

Availability of Public Records. All public records relating to an open session item on this agenda, which are not exempt from disclosure pursuant to the California Public Records Act, that are distributed to a majority of the legislative body will be available for public inspection at San Jose City Hall, 200 East Santa Clara Street, 10th Floor, Environmental Services at the same time that the public records are distributed or made available to the legislative body.

MINUTES OF THE
SAN JOSÉ/SANTA CLARA
TREATMENT PLANT ADVISORY COMMITTEE
San José City Hall, T-1734
Thursday, April 11, 2019 at 4:01 p.m.

1. ROLL CALL

Minutes of the Treatment Plant Advisory Committee convened this date at 4:01p.m. Roll call was taken with the following members in attendance:

Committee Members: Debi Davis, Dev Davis, Lan Diep, John Gatto, Steven Leonardis, Sam Liccardo, David Sykes, Kathy Watanabe

Absent: Carmen Montano

2. APPROVAL OF MINUTES

A. March 14, 2019

Committee Member Leonardis pointed out that the draft minutes listed the wrong date (it should read February 14, 2019).
On a motion made by Committee Member Leonardis and a second by Committee Member Gatto, TPAC recommended approval of the minutes with the amendment of the date.

Ayes – 8 (Debi Davis, Dev Davis, Diep, Gatto, Leonardis, Liccardo, Ortbal, Watanabe)
Absent – 1 (Montano)

3. UNFINISHED BUSINESS/REQUEST FOR DEFERRALS

4. DIRECTOR'S REPORT

A. Director's Report (verbal)
Director Kerrie Romanow was available for questions regarding the CIP update included in the TPAC packet this month.

5. AGREEMENTS/ACTION ITEMS

A. San José- Santa Clara Regional Wastewater Facility Capital Improvement Program Semiannual Status Report

Staff Recommendation:

Accept the semiannual status report on the San José-Santa Clara Regional Wastewater Facility Capital Improvement Program for the period of July 2018-December 2018.

This item is scheduled for consideration by the T&E Committee on April 8, 2019.

Assistant Director of Environmental Services Napp Fukuda and Division Manager of the RWF Capital Improvement Program David Ohlson presented.

Committee Member Gatto had reservations regarding Biosolids Solution and the Dewatering Facility.

Assistant Director Fukuda addressed the concern, mentioning the hire of an Environmental Services Program Manager to initiate the Biosolids market study and the strategies that are being used to address these issues.

Director Kerrie Romanow added that markets change and fluctuate over time.

Committee Member Gatto was concerned that there were companies that could take care of the whole biosolids process and that there hadn't been sufficient vetting of all options.

Chair Liccardo agreed and said that he believed that nothing had been settled and that it sounded like the process was ongoing to find the right solution.

Assistant Director Fukuda said that this was correct and that the hope was the market study would be able to resolve some of these issues.

Committee Member Gatto asked if the Dewatering Facility was a necessary factor to all the solutions.

Assistant Director Fukuda stated that it may not be needed for all solutions but that it was need for some.

Committee Member Gatto wondered if delaying for six to nine months might allow more clarity and make a significant difference.

Assistant Director Fukuda said that is what they were doing and Director

Romanow added that by the time the Dewatering Project was awarded the Biosolids strategy would be in place.

Chair Liccardo asked what the vacancy percentage was.

Director Romanow answered that the rate was a little under 30% and that it was becoming apparent that something different needs to be done to deliver this program.

Chair Liccardo asked what the relationship with San José State and other universities regarding a pipeline of applicants.

Director Romanow answered that it was relatively ok for entry positions, but it was the senior positions that were more in need. She discussed the strategies that the positions were using to try and attract more applicants.

Chair Liccardo asked if this meant that the program will need to rely more on consultants.

Director Romanow said yes.

Chair Liccardo asked if timing was important in choosing when to do construction.

Director Romanow said that the list of projects could be looked at and see if the team could offer their insight in that matter, including Matt Cano and his expertise in construction.

Chair Liccardo asked why Design-Build was chosen for the Dewatering Facility.

Division Manager of RWF Capital Improvement Program David Ohlson replied that there is a benefit to a contractor and designer working together to come up with innovative solutions for the design. For this type of project, the design will be driven by the performance criteria, so collaboration with the design-builder is more advantageous than a traditional design-bid-build process.

Committee Member Gatto also gave background that one of the benefits of having a design-build contract would be the proposal could be written in such a way that the outcome could be written but the creativity of the people designing, and building would be able to provide different options that might not otherwise be allowed.

Chair Liccardo asked why this Design-Build type of team wasn't always hired.

Deputy Director of Public Works Mike O'Connell replied it depends on the

creativity needed for the project or how challenging or not challenging the project is. Design-Build allows more creativity in the design of a project. Traditional Design-Bid-Build method is best for projects that are more typical and the design can be more prescriptive.

On a motion made by Committee Member Dev Davis and a second by Committee Member Leonardis, TPAC recommended approval of staff's recommendation for Item 5.A.

Ayes – 8 (Debi Davis, Dev Davis, Diep, Gatto, Leonardis, Liccardo, Ortbal, Watanabe)
Absent – 1 (Montano)

B. Actions Related to the Purchase Order for Clarifier Coating Rehabilitation Services

Staff Recommendation:

Adopt a resolution authorizing the City Manager to:

(a) Execute a Purchase Order with Euro Style Management, Inc. (North Highlands, CA) for clarifier coating rehabilitation services at the San José-Santa Clara Regional Wastewater Facility for an initial twelve-month period, starting on or about May 1, 2019 and ending on or about April 30, 2020, for an amount not to exceed $717,200; and

(b) Exercise up to four one-year options to extend the term of the Purchase Order with the last option year ending on or about April 30, 2024, subject to the annual appropriation of funds.

Desired Outcome: Increase the life expectancy of the Regional Wastewater Facility clarifier tanks.

This item is scheduled for consideration by the City Council on April 23, 2019.

Assistant Director Fukuda explained the reasoning behind this Purchase Order and the following Purchase Order and was available for questions.

Committee Member Gatto asked if there was previous experience with the company that the work was being contracted to.

Assistant Director Fukuda said yes.

On a motion made by Committee Member Gatto and a second by Committee Member Debi Davis, TPAC recommended approval of staff's recommendation for Item 5.B.

Ayes – 8 (Debi Davis, Dev Davis, Diep, Gatto, Leonardis, Liccardo, Ortbal, Watanabe)
Absent – 1 (Montano)

C. Actions Related to the Purchase Order for Sand Blasting and Painting Services

Staff Recommendation:

Adopt a resolution authorizing the City Manager to:

(a) Execute a Purchase Order with Jeffco Painting and Coating, Inc. (Vallejo, CA) for sandblasting and painting services at the San Jose-Santa Clara Regional Wastewater Facility for an initial twelve-month period, starting on or about May 1, 2019 and ending on or about April 30, 2020, for an amount not to exceed $400,000; and

(b) Exercise up to four one-year options to extend the term of the Purchase Order with the last option year ending on or about April 30, 2024, subject to the appropriation of funds.

Desired Outcome: To complete scheduled sandblasting and painting projects at the Regional Wastewater Facility to ensure equipment and infrastructure are preserved.

This item is scheduled for consideration by the City Council on April 23, 2019.

On a motion made by Committee Member Gatto and a second by Committee Member Dev Davis, TPAC recommended approval of staff's recommendation for Item 5.C.

Ayes – 8 (Debi Davis, Dev Davis, Diep, Gatto, Leonardis, Liccardo, Ortbal, Watanabe)
Absent – 1 (Montano)

6. OTHER BUSINESS/CORRESPONDENCE

7. STATUS OF ITEMS PREVIOUSLY RECOMMENDED FOR APPROVAL BY TPAC

A. Election of Chair

Committee Members approved Sam Liccardo as Chair.

B. Election of Vice Chair

Committee Members approved Debi Davis as Vice Chair.

C. 8716 – South Bay Water Recycling Pump Station 5 VFD Replacement

Staff Recommendation:

Report on bids and award of contract for the 8716 - South Bay Water Recycling Pump Station 5 VFD Replacement project to the low bidder, CESCORP dba CAL ELECTRIC, in the amount of $243,100 and approve a contingency in the amount of $24,300, for a total of $267,400.

This item is was approved by the City Council on March 19, 2019.

8. REPORTS

A. Open Purchase Orders Greater Than $100,000 (including Service Orders)

The attached monthly Procurement and Contract Activity Report summarizes the purchase and contracting of goods with an estimated value between $100,000 and $1.17 million and of services between $100,000 and $290,000.

9. MISCELLANEOUS

A. The next TPAC Meeting is on **May 16, 2019, at 4:00 p.m.**, City Hall, Room 1734.

10. OPEN FORUM

Dean Stanford was confused and thought the Pond A18 report was meant to be on this Agenda.

Chair Liccardo replied that it had not been scheduled.

Dean Stanford gave an update to his work with the Pond A18 issue and the consideration of a park.

Chair Liccardo asked if Pond A18 would be on a future Agenda.

Director Romanow replied that it would be.

11. ADJOURNMENT

A. The Treatment Plant Advisory Committee adjourned at 4:33 p.m.

Sam Liccardo, Chair

TREATMENT PLANT ADVISORY COMMITTEE

San José-Santa Clara Regional Wastewater Facility

Capital Improvement Program

Monthly Status Report: March 2019

May 9, 2019

This report summarizes the progress and accomplishments of the Capital Improvement Program (CIP) for the San José-Santa Clara Regional Wastewater Facility (RWF) for March 2019.

Report Contents

Project Delivery Models

Design-Bid-Build Active Projects

Flood Protection

Storm Drain System Improvements

Facility Wide Water Systems Improvements

96-Inch and 87-Inch Settled Sewage Pipe Rehabilitation

Advanced Facility Control and Meter Replacement – Phase 2

Filter Rehabilitation

Nitrification Clarifiers Rehabilitation – Phase 1

Switchgear M4 Replacement and G3 & G3A Removal

Advanced Facility Control and Meter Replacement – Phase 1

Blower Improvements

Digester & Thickener Facilities Upgrade

Construction-Enabling Improvements

Plant Instrument Air System Upgrade

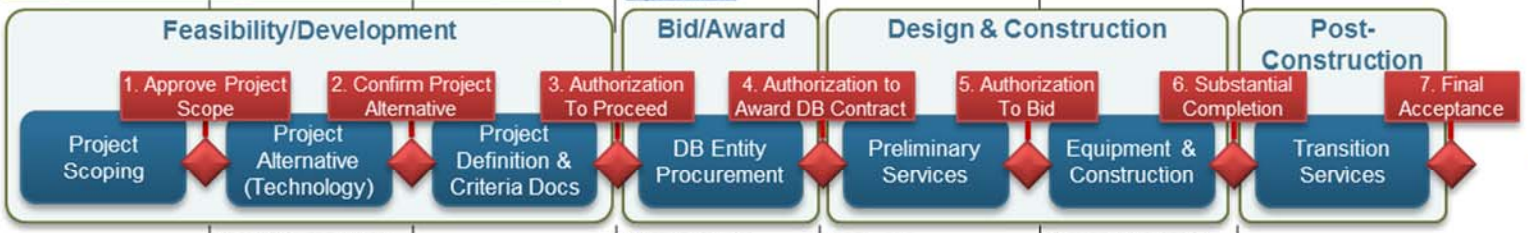
Low-Bid Design-Build Active Projects

HVAC Improvements

Fire Life Safety Upgrades

Outfall Bridge and Instrumentation Improvements

Progressive Design-Build Active Projects

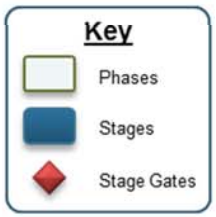


Yard Piping and Road Improvements

Digested Sludge Dewatering Facility

Headworks

Cogeneration Facility



*Projects shown *underlined and in blue and italics* have either been initiated or advanced this reporting period

Program Summary

March 2019

In March, three projects advanced to the next stage in the Project Delivery Model (PDM):

1. HVAC Improvements Project passed Stage Gate 2: Confirm Project Alternative
2. Outfall Bridge and Instrumentation Improvements Project passed Stage Gate 3: Authorization to Proceed
3. 96-Inch and 87-Inch Settled Sewage Pipe Rehabilitation Project passed Stage Gate 4: Approve Preliminary Design.

The contractor on the Digester and Thickener Facilities Upgrade Project completed concrete roof placement on Digesters 6 and 8, with work continuing on Digester 7. Construction of the concrete digester seismic rings progressed with multiple lifts being placed. The contractor isolated and tied in two blended gas pipelines in preparation for a future connection with the new cogeneration facility. Work also continued on the elevated pipe rack with the excavation of four column foundations north of the gas compressor building and installation of water and digester gas piping along 10 more sections of the pipe rack.

The design-builder for the Cogeneration Facility Project continued to erect the concrete masonry unit walls and completed the wall bracing of the main generator building. The under-slab plumbing and electrical work was also completed for the concrete slab that will be poured in April for the cooling towers and chillers. The Blower Improvements Project contractor completed a pre-assessment of all 10 existing blowers to establish baseline conditions prior to rehabilitation work due to commence in the summer.

The Headworks Project team held workshops to discuss startup and acceptance testing, as well as influent pump station design configuration. On the Digested Sludge Dewatering Facility Project, the project team continued negotiations with the top-ranked firm selected in the recent request for proposals (RFP) procurement.

The design consultants for the Filter Rehabilitation and Nitrification Clarifiers Rehabilitation – Phase 1 projects submitted the 60 percent and 100 percent designs, respectively. The Nitrification Clarifiers Rehabilitation – Phase 1 Project team reviewed the Statements of Qualifications (SOQs) received from contractors as part of the prequalification process. The City expects to post a list of qualified contractors in April. For the 96-Inch and 87-Inch Settled Sewage Pipe Rehabilitation Project, the City advertised prequalification documents for construction contractors.

Look Ahead

The following key activities are forecast for April and May 2019:

- The notice of determination for pre-qualified contractors for the Nitrification Clarifiers Rehabilitation – Phase 1 Project will be posted and the project will be advertised for bid.
- The CIP will hold four stage gates as projects seek approval to advance to the next stage of the PDM. Anticipated stage gates include:
  - 96-inch and 87-inch Settled Sewage Rehabilitation Project – Stage Gate 5: Authorization to Bid
  - Construction Enabling Improvements Project – Stage Gate 7: Substantial Completion
  - Nitrification Clarifiers Rehabilitation – Phase 1 Project – Stage Gate 5: Authorization to Bid
  - Plant Instrument Air System Upgrade - Stage Gate 7: Substantial Completion
- The Cogeneration Facility Project will pour concrete base slabs for the electrical and mechanical building, digester gas treatment system, and cooling towers and chillers. Preparation work will start on the main generator building roof installation.
- For the Headworks Project, the design-builder will conduct subsurface investigations of the proposed new headworks facility site.
- The contractor for the Advanced Facility Control and Meter Replacement – Phase 1 Project will begin replacement of flow meters and other critical equipment.
- The City will issue notices of completion and acceptance for the Construction-Enabling Improvements and Plant Instrument Air System Upgrade projects.

Program Highlight – Detailed Design

During the detailed design stage of the PDM (see blue box in Figure 1, below), designers complete a project's design details based on the Preliminary Design Report prepared in the previous stage (refer to Monthly Status Report: November 2018), approved by CIP leadership in Stage Gate 4: Approve Preliminary Design. The detailed design stage follows preliminary definition of key project parameters. During this phase, accepted value engineering (VE) recommendations are incorporated into the project design. The project team, Operations and Maintenance (O&M), construction management team, and selected technical experts conduct detailed design reviews at the 60 percent and 90 percent completion points.

Key areas of focus during detailed design include:

- Geotechnical – Complete all field work and incorporate results into the design;
- Performance – Revisit in detail project performance standards;
- Operations – Confirm operations strategies with O&M staff;
- Procurement – Conclude equipment pre-purchase, early work packages, and contractor pre-qualification;
- Interfaces – Update interface mitigation measures and coordinate with other CIP projects;
- HAZOP – Incorporate hazard and operability (HAZOP) study results into design details;
- Costs – Update the project Opinion of Probable Construction Costs (OPCC) (Class 2) and operating cost estimates, based on the latest information;
- Risks – Update threats and opportunities and confirm response plans;
- Constructability – Complete proposed construction sequencing and identify mandatory constraints for the contractor;
- Commissioning and Startup – Specify detailed startup and testing procedures;
- Permitting – Conclude detailed permitting requirements and specify impacts on the contractor;
- VE – Incorporate accepted VE recommendations into the design;
- Schedule – Refine the construction schedule;
- Environmental – Complete the California Environmental Quality Act (CEQA) documents for the project;
- Safety – Define the health and safety requirements for the general contractor; and
- Specifications – Assemble and adapt standard City contractual conditions specific to this contract.

For design-bid-build projects, the detailed design phase produces a set of documents used to solicit construction bids. At the conclusion of the detailed design phase, CIP leadership reviews the project at Stage Gate 5: Authorization to Bid and, upon approval, authorizes the project team to seek construction bids.

For both progressive design-build (PDB) and low-bid design-build (LBDB) projects, the detailed design is completed by the design-builder. In the case of PDB projects, detailed design happens during the Preliminary Services phase to the extent required to define the project costs. Once the guaranteed maximum price (GMP) is agreed upon and approved, detailed design development continues in the Equipment and Construction phase to provide details for construction. For LBDB projects, the project is awarded based on preliminary design documents and detailed design occurs during the Detailed Design and Construction phase. In both cases, the City reviews and approves the detailed design, resulting in a complete set of design documents.

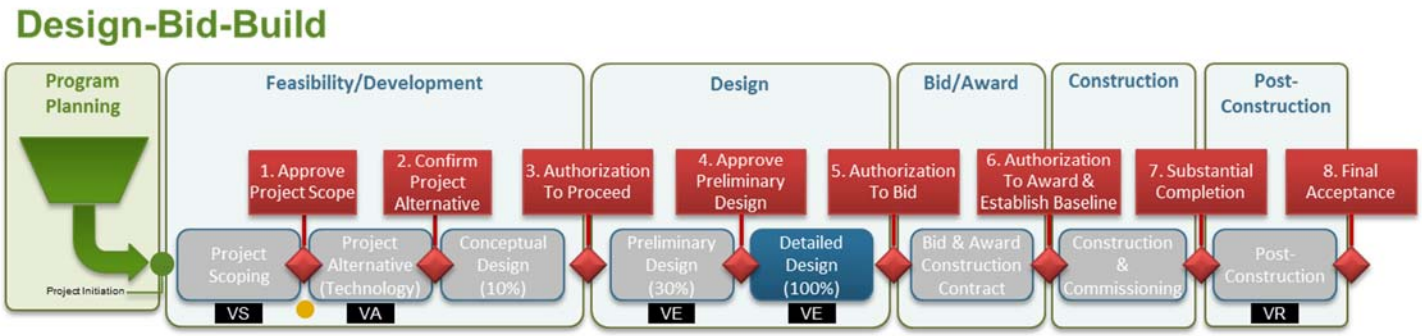


Figure 1: Design-bid-build PDM with detailed design stage highlighted

Program Performance Summary

Seven key performance indicators (KPIs) have been established to measure overall CIP success. Each KPI represents a metric that will be monitored on a regular frequency. Through the life of the CIP, KPIs that best reflect the current program will be selected and measured. KPIs are reset each fiscal year.

Program Key Performance Indicators – Fiscal Year 2018-2019

KPI	Target	Fiscal Year to Date			Fiscal Year End		
		Actual	Status	Trend	Forecast	Status	Trend
Stage Gates	90%	93% 14/15 [1]	●	↑	95% 19/20 [2]	●	↑
Measurement: Percentage of initiated projects and studies that successfully pass each stage gate on their first attempt. Target: Green: >= 90%; Amber: 75% to 90%; Red: < 75%							
Schedule	90%	0% 1/3	◆	→	33% 1/3	◆	→
Measurement: Percentage of CIP projects delivered within 2 months of approved baseline Beneficial Use Milestone.[3] Target: Green: >= 90%; Amber: 75% to 89%; Red: < 75%							
Budget	90%	100% 2/2	●	→	75% 3/4	▲	→
Measurement: Percentage of CIP projects that are accepted by the City within the approved baseline budget.[3] Target: Green: >= 90%; Amber: 75% to 89%; Red: < 75%							
Expenditure	$253M	$273M	●	↑	$285M [4]	●	↓
Measurement: CIP FY18-19 committed costs. Target: Committed cost meets or exceeds 70% of planned Budget. 70% of $361M = $253M. Therefore Fiscal Year End Green: >=$253M; Amber: $199M to $253M; Red: < $199M							
Safety	0	0	●	→	0	●	→
Measurement: Number of OSHA reportable incidents associated with CIP delivery for the fiscal year. Criteria: Green: zero incidents; Amber: 1 to 2; Red: > 2							
Environmental	0	0	●	→	0	●	→
Measurement: Number of permit violations caused by CIP delivery for the fiscal year. Target: Green: zero incidents; Amber: 1 to 2; Red: > 2							
Vacancy Rate[5]	10%	22% 18/83 [6]	◆	↑	11% 9/83	▲	↑
Measurement: Ratio of the number of vacant approved positions to approved positions. Target: Green: <= 10%; Amber: 10% to 20%; Red: > 20%							

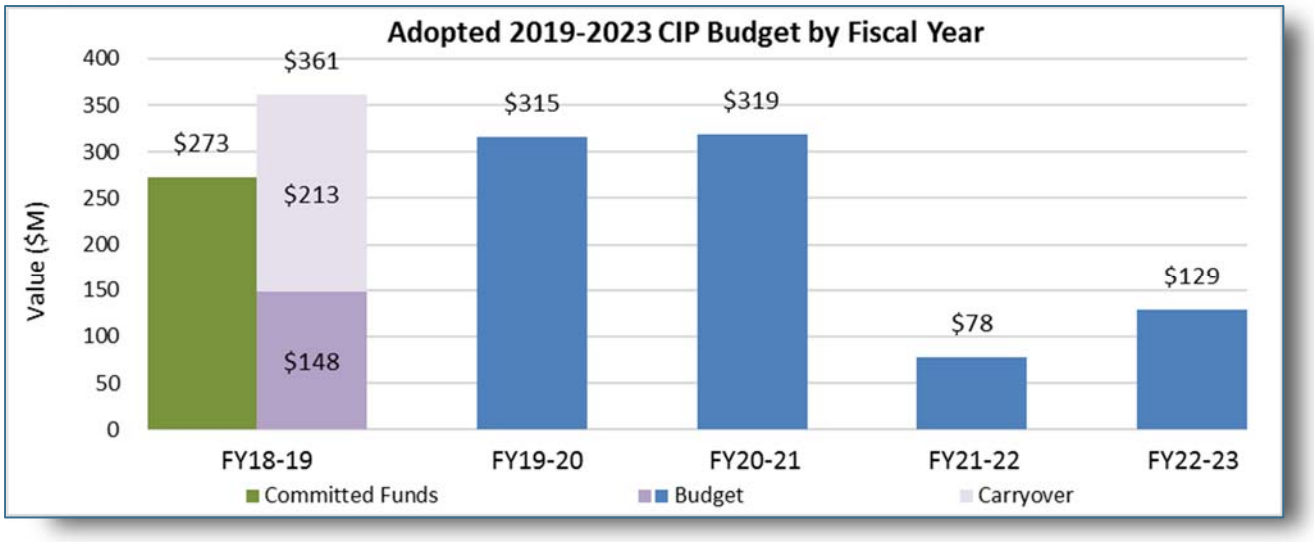
Notes

1. The 96-Inch and 87-Inch Settled Sewage Pipe Rehabilitation, HVAC Improvements, and Outfall Bridge and Instrumentation Improvements projects passed Stage Gate 4: Approve Preliminary Design, Stage Gate 2: Confirm Project Alternative, and Stage Gate 3: Authorization to Proceed, respectively.
2. The quantity of forecasted fiscal year-end stage gates increased by one due to revised project schedules.
3. The baseline Beneficial Use date and the baseline budget for each project are established at construction contract award and execution.
4. The forecasted fiscal year-end expenditure decreased because several design awards have moved to the next fiscal year.
5. The Vacancy Rate KPI measures CIP-approved positions (ESD and Public Works) and program management consultant full-time staff.
6. The CIP vacancy count increased by three.

Program Budget Performance Summary

This section summarizes the cumulative monthly budget performance for fiscal year (FY)18-19 based on the Adopted 2019-2023 CIP.

Adopted 2019-2023 CIP Expenditure and Encumbrances



Notes:

Committed Funds: Total of expenditures and encumbrances.

Expenditure: Actual cost expended, either by check to a vendor or through the City's financial system, for expenses such as payroll or for non-personal expenses that do not require a contract.

Encumbrance**:** Financial commitments such as purchase orders or contracts that are committed to a vendor, consultant, or contractor. An encumbrance reserves the funding within the appropriation and project.

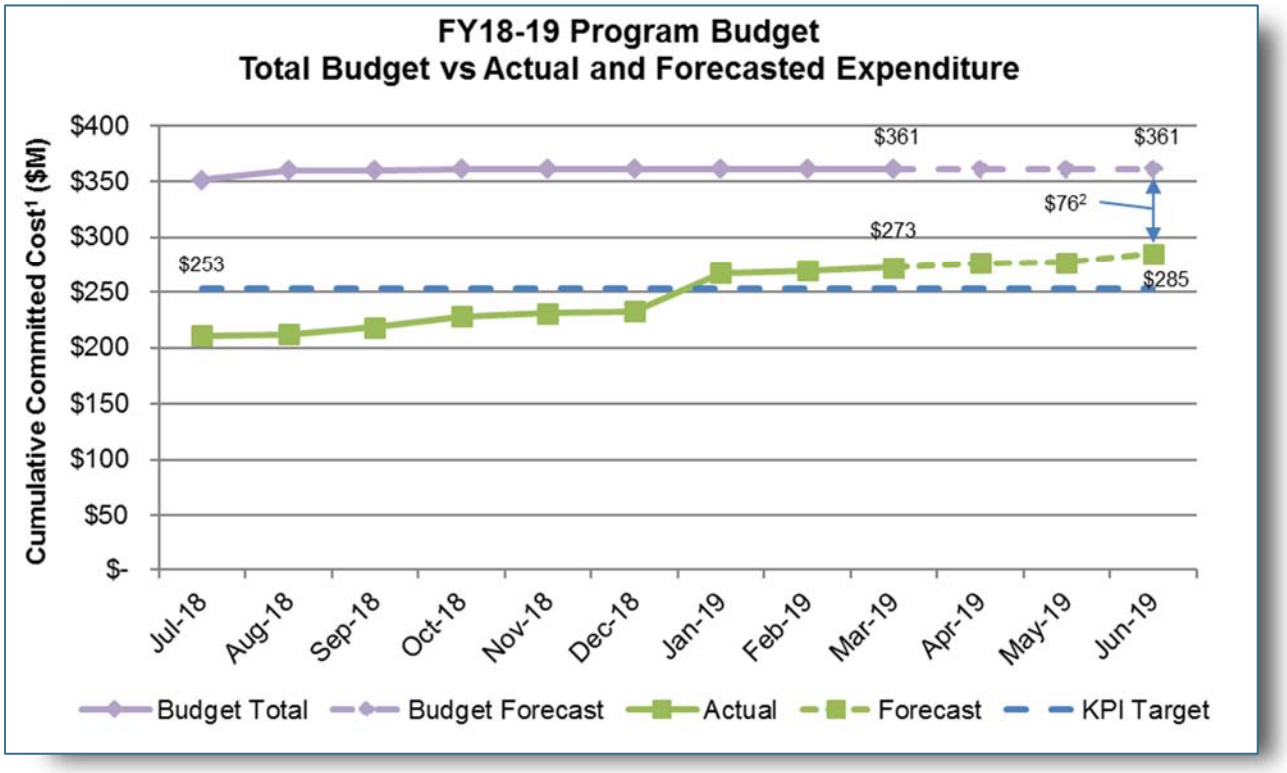
The FY18-19 budget is $185 million, which consists of $131 million in new funds and $54 million in rebudgets. For purposes of this monthly report, the adopted FY18-19 budget is adjusted from $185 million to $148 million due to the exclusion of certain appropriations that are not measured as part of the expenditure KPI. Excluded appropriations include City Hall Debt Service Fund; Clean Water Financing Authority Debt Service Payment Fund; Debt Service Repayment for Plant Capital Improvement Projects (San José only debt service); Equipment Replacement Reserve; Ending Fund Balance; Public Art; SBWR Extension; State Revolving Fund Loan Repayment; and Urgent and Unscheduled Treatment Plant Rehabilitation. Similar adjustments have been made to the budgets for FY19-20 through FY 22-23.

Carryover: Encumbrance balances at the end of the previous fiscal year are automatically carried forward to the current fiscal year as carryover funding to pay invoices for approved construction contracts and consultant agreements. FY18-19 carryover is $213 million.

Budget of $148 million and carryover of $213 million totals $361 million for FY18-19.

Fiscal Year 2018-2019 Program Budget Performance

The FY18-19 CIP budget is comprised of approximately $148 million in new funds, plus encumbered carryover of $213 million for a total of $361 million. This excludes City Hall Debt Service Fund; Clean Water Financing Authority Debt Service Payment Fund; Debt Service Repayment for Plant Capital Improvement Projects (San José only debt service); Equipment Replacement Reserve; Ending Fund Balance; Public Art; SBWR Extension; State Revolving Fund Loan Repayment; and Urgent and Unscheduled Treatment Plant Rehabilitation items. Overall, the forecasted fiscal year-end committed funds exceed the fiscal year-end target by $32 million.



Notes:

1. Committed costs are expenditures and encumbrance balances, including carryover (encumbrance balances from the previous fiscal year).
2. The variance between forecasted budget and forecasted commitments can be primarily attributed to the following factors:
    a. Several construction contracts are now anticipated to be awarded in FY19-20 instead of FY18-19 based on updated schedules:
        i. Fire Life Safety Upgrades Project
        ii. Switchgear M4 Replacement and G3 & G3A Removal Project
    b. Several consultant service orders will not be awarded in FY18-19:
        i. Aeration Tank Rehabilitation Project
        ii. Support Facilities Project
        iii. Tunnel Rehabilitation Project
    c. The Digested Sludge Dewatering Facility Project preliminary services contract is now anticipated to be awarded in FY19-20.
    d. The Blower Improvement Project construction bids came in under budget.
    e. Several other minor encumbrances for consultant services are either lower than budgeted or are anticipated to be awarded in FY19-20.
    f. Several authorized positions remain vacant, resulting in lower predicted personal services expenses than budgeted.
    g. The FY16-17 payment budgeted for the annual Owners Controlled Insurance Program premium covered the period through FY17-18. Funds rebudgeted from FY17-18 will be programmed in FY19-20.

Project Performance Summary

There are currently six projects in the construction and post-construction phases and an additional 14 projects in feasibility/development, design, bid and award, or design and construction phases (see PDM, page 2). Projects in the construction phase have established cost and schedule baselines and are monitored using the City's Capital Project Management System (CPMS). Green/red icons are included in the table below to indicate whether these projects are on budget and schedule.

Project Performance – Baselined Projects

Project Name	Phase	Estimated Beneficial Use Date[1]	Cost Performance[2]	Schedule Performance[2]
1. Construction-Enabling Improvements	Post-Construction	Aug 2018[3]	◆	◆
2. Plant Instrument Air System Upgrade	Post-Construction	Nov 2018[3]	●	◆
3. Cogeneration Facility	Design & Construction	Sep 2020	●	●
4. Digester and Thickener Facilities Upgrade	Construction	Nov 2020	◆	◆
5. Advanced Facility Control & Meter Replacement - Phase 1	Construction	June 2021	●	●
6. Blower Improvements	Construction	Sep 2022	●	●

Key:

Cost:	● On Budget	◆ >1% Over Budget	**Schedule:**	● On Schedule	◆ >2 months delay

Notes

1. Beneficial Use is defined as work that is sufficiently complete, in accordance with contract documents, that it can be used or occupied by the City. Beneficial Use dates are reviewed as part of project schedule reviews.
2. An explanation of cost and schedule variances on specific projects identified in this table is provided on pages 11 and 12.
3. Actual Beneficial Use date.

Project Performance – Pre-Baselined Projects

Project Name	Phase	Estimated Beneficial Use Date[1]
1. Digested Sludge Dewatering Facility	Bid/Award	Jan 2023
2. 96-Inch and 87-Inch Settled Sewage Pipe Rehabilitation	Design	Oct 2020
3. Outfall Bridge and Instrumentation Improvements	Design	Jan 2022
4. Switchgear M4 Replacement and G3 & G3A Removal	Design	Feb 2022
5. Fire Life Safety Upgrades	Design	Sep 2022
6. Advanced Facility Control & Meter Replacement - Phase 2	Design	Dec 2022
7. Headworks	Design and Construction	Dec 2022
8. Filter Rehabilitation	Design	Apr 2023
9. Nitrification Clarifiers Rehabilitation – Phase 1	Design	Oct 2023
10. HVAC Improvements	Feasibility/Development	Mar 2023
11. Storm Drain System Improvements	Feasibility/Development	Apr 2023
12. Flood Protection	Feasibility/Development	Jun 2023
13. Facility Wide Water Systems Improvements	Feasibility/Development	Aug 2024
14. Yard Piping and Road Improvements	Feasibility/Development	Oct 2027

Notes

1. Beneficial Use is defined as work that is sufficiently complete, in accordance with contract documents, that it can be used or occupied by the City. Beneficial Use dates are reviewed as part of project schedule reviews.

Project Significant Accomplishments

Biosolids Package

Digester and Thickener Facilities Upgrade

- Contractor Walsh isolated and tied in two blended gas pipelines between the compressor room and the connection point to the future cogeneration facility, at the east end of the elevated pipe rack east end; completed four additional elevated pipe rack foundations; and completed the Digester 8 concrete roof pour.
- Walsh completed pre-operation testing on two master control centers in the existing sludge control compressor room and two master control centers inside the new sludge screening building.

Facilities Package

96-Inch and 87-Inch Settled Sewage Pipe Rehabilitation

- The project team passed Stage Gate 4: Approve Preliminary Design.
- The City advertised prequalification documentation and began the CEQA exemption process.
- Design consultant Black and Veatch submitted the 100 percent design and specifications for City review.

HVAC Improvements

- The project team finished the alternatives analysis report, passed Stage Gate 2: Confirm Project Alternative, and authorized design consultant K/J to begin the conceptual design, which is expected to be completed in July 2019.

Outfall Bridge and Instrumentation Improvements

- The project team passed Stage Gate 3: Authorization to Proceed, allowing design consultant AECOM to begin preliminary design, which is anticipated to be completed in August 2019.

Liquids Package

Blowers Improvements

- Contractor Monterey Mechanical completed pre-assessment of all 10 existing blowers to establish baseline operating conditions prior to the rehabilitation work slated to start this summer.

Filter Rehabilitation

- Design consultant K/J completed field verification of the existing electrical infrastructure, submitted the 60 percent design, and conducted a workshop to review the design with project stakeholders. The project team anticipates completing the 100 percent design in November 2019.

Headworks

- The project team held workshops on startup and acceptance testing and on various technical issues, including influent pump type, force main routing, and metering options. Next month, the project team will conduct workshops to address cost estimating, process control, and condition assessment approaches.
- The project team completed the CEQA addendum and continued preparing the 30 percent design submittal.

Nitrification Clarifiers Rehabilitation – Phase 1

- Design consultant HDR completed the 100 percent design documents and will submit the associated OPCC next month. The project team anticipates seeking authorization to bid at Stage Gate 4 next month.

Power and Energy Package

Cogeneration Facility

- Design-builder CH2M completed the wall bracing of the main generator building. Next, they will begin setting the roof steel frames, including the bridge crane track and trolley.
- The design-builder also completed the under-slab plumbing and electrical work in preparation to pour the concrete slab in April for the chillers and cooling towers. Once the concrete has cured, CH2M will install the four cooling tower skids received this month.

Explanation of Project Performance Issues

Construction-Enabling Improvements Project

This project was originally scheduled to be substantially complete by mid-February 2017. Due to the extremely wet 2016-17 winter season, contractor Teichert Construction was unable to perform site work on several occasions between October 2016 and April 2017. Teichert was granted extra work days for weather-related delays and for extra work associated with several contract change orders. A new contract completion date of June 8, 2017 was established. However, Teichert's subcontractor, ModSpace, was slow to respond and regularly submitted late and incomplete documentation, which resulted in the portable trailers arriving in January 2018, approximately nine months later than the contract completion date.

Teichert experienced additional delays completing installation of the portable trailers and submitting complete and acceptable documentation for access ramps and canopies. In early August 2018, the contractor completed installation of the electrical, communications, and wastewater utilities. Also in August, the City of San José Building Division issued the Certificate of Occupancy permit for the trailers, and the construction management group issued the Notice of Substantial Completion, which indicated that the project had reached Beneficial Use. The project team provided Teichert with a list of remaining contract work to be completed. The project team has reached agreement with Teichert for liquidated damages and to complete outstanding tasks for project closeout. The project team anticipates accepting the project in May 2019.

Plant Instrument Air System Upgrade Project

Project construction was delayed by seven months due to four issues: 1) The project team discovered that the planned construction site access route crossed a large settled sludge pipeline, requiring development and construction of an alternative access route; 2) the contractor was temporarily unable to install a section of the conduit from the sludge control building to the new compressor building due to other work being performed in the area by a different contractor; 3) development of the 28-day commissioning test procedure took longer than anticipated; and 4) during the eight-hour functioning test the project team discovered oxidized (rusted) carbon steel shavings in an existing condensate tank unrelated to the project construction. The material was removed, and the test was successfully completed. The project achieved Beneficial Use in November 2018. The project team anticipates project acceptance in May 2019.

Digester and Thickener Facilities Upgrade Project

This project encountered numerous unforeseen conditions at the beginning of construction in 2016, described below. In 2017, design modifications were required to address seismic risks, and discovery of hazardous materials required extensive cleanup. Delays for these conditions have amounted to 273 working days. The original construction completion and Beneficial Use date in September 2019 has been delayed to November 2020.

The City has negotiated contract change orders for the following unforeseen conditions discovered in 2016:

- Major corrosion of a below-ground, 78-inch settled sewage pipeline and junction structure delayed the construction of dissolved air flotation tank piping connections, two new pressurization flow boxes, and utility relocation work. The contractor postponed all repairs until a temporary pumping and pipeline system could be designed and safely installed to enable replacement of the pipeline in the 2018 dry season. In May of 2018, the contractor started full-time operation of this temporary pumping and pipeline system and began replacing the 78-inch settled sewage pipeline, which was completed in late September 2018.
- A 36-inch biochemical oxygen demand pipe was found to be obstructing the new sludge screening building foundation. The contractor removed this pipe and relocated several gas drain vaults and associated piping before the foundation construction began.
- Multiple conflicts between contract work and existing utilities required numerous relocations including water, natural gas, digester gas, landfill gas, storm drains, and sanitary sewer pipelines. The contractor completed necessary relocations and rerouting, especially near the new digester gas pipe rack footings. Many of these modifications also required design changes.
- Bay Area Air Quality Management District venting restrictions also delayed digester work. The contractor completed the temporary digester gas connections and the system became operational in February 2018.

The City has negotiated contract change orders for the following issues discovered in 2017 and 2018:

- Digester structural redesign: The design consultant revised the structural drawings to address seismic concerns by enlarging the foundation ring beam at the base of each of the four digesters. The contractor provided a cost proposal associated with this revision and the City issued a final, global change order to cover work activities;
- Distributed control system architectural changes: The design guidelines for the distributed control system were developed after the project plans were completed. Several changes were required for fiber optic cable, electrical wiring, patch panels, converters, communications instrumentation, and emergency power supply. Drawings, color-coding labeling, and process diagrams had to be revised to reflect these changes;

- Fire Department requirements: Fire permit requirements changed after the design was completed. The Fire Marshal required additional alarms and electrical connections. A new electrical fire suppression system was installed to meet current environmental requirements. At one structure, additional time was needed to confirm that the fire suppression system was not required;
- Structural issues with the west electrical building, DAFT tank walls, DAFT ceiling slab, and digester feed pump canopy;
- Drainage of one DAFT underground gallery, polymer pad, Main Street drainage; and
- Required warranty extensions resulting from construction delays.

The hazardous material mitigation issue is currently being evaluated and is expected to result in additional costs. Testing of soils and concrete for PCBs was completed, and the federal Environmental Protection Agency (EPA) issued a final conditional approval. In compliance with the EPA-approved, risk-based management plan, removal and disposal of all contaminated materials in three of four affected digesters and all tunnel joints has been completed. All contaminated soils have been removed and disposed of and most of the impacted concrete has been encased. The last portion of the work will be finalized once the digester foundation ring beam layers and roof work are complete. The project team anticipates submittal of final work reports to the EPA in June 2019.

In November 2017, Council approved a construction contingency increase of $15 million. The City issued change orders against the increased contingency for delays associated with the conditions discovered in 2016.

In June 2018, Council approved a second construction contingency increase of $25 million for additional costs associated with the seismic redesign, hazardous material remediation, and extended construction duration.

To minimize further delays, the contractor is executing several tasks concurrently that had been planned originally in series.

Project Profile – Advanced Facility Control and Meter Replacement – Phase 2

The RWF relies on control equipment—flow meters; valves and actuators; sensors and transmitters—for process monitoring and control, to safely and efficiently operate the RWF, and maintain compliance with its National Pollutant Discharge Elimination System permit. Most of the RWF's control equipment was installed during the 1960s and 1970s, is in poor condition, and requires excessive maintenance. Some of this equipment is difficult to repair because it is no longer supported by the manufacturers, and replacement parts are either scarce or unavailable. Historically, these devices were replaced only after they had failed, resulting in disruptions and potential risks to plant operational goals. New control equipment is urgently needed to increase equipment and data reliability and integrity, improve the RWF's overall operational efficiency, and reduce maintenance of the advanced control equipment.

The second phase of the Advanced Facility Control and Meter Replacement Project will replace or upgrade the control equipment in the following treatment areas (see Figure 2): east primary, secondary A battery, nitrification A battery, and the filtration building. The project scope includes replacing 53 flow meters, four density meters, 24 valves, 12 valve actuators, and 61 sensors and transmitters, including associated piping modifications and electrical improvements.

In July 2017, the larger Advanced Facility Control and Meter Replacement Project was split into two phases to better align construction with planned maintenance shutdowns of the secondary and nitrification treatment areas. Both phases are being delivered using the traditional design-bid-build approach. The first phase is currently in construction and is anticipated to reach Beneficial Use in winter 2020. For Phase 2, design consultant Black and Veatch is completing the design and anticipates submitting the 100 percent design in May. The City plans to advertise prequalification documents in May, advertising the project for bid in fall 2019, and recommending Council award the construction contract in spring 2020. The total estimated project cost is $18.2 million and expected to reach Beneficial Use in winter 2022.

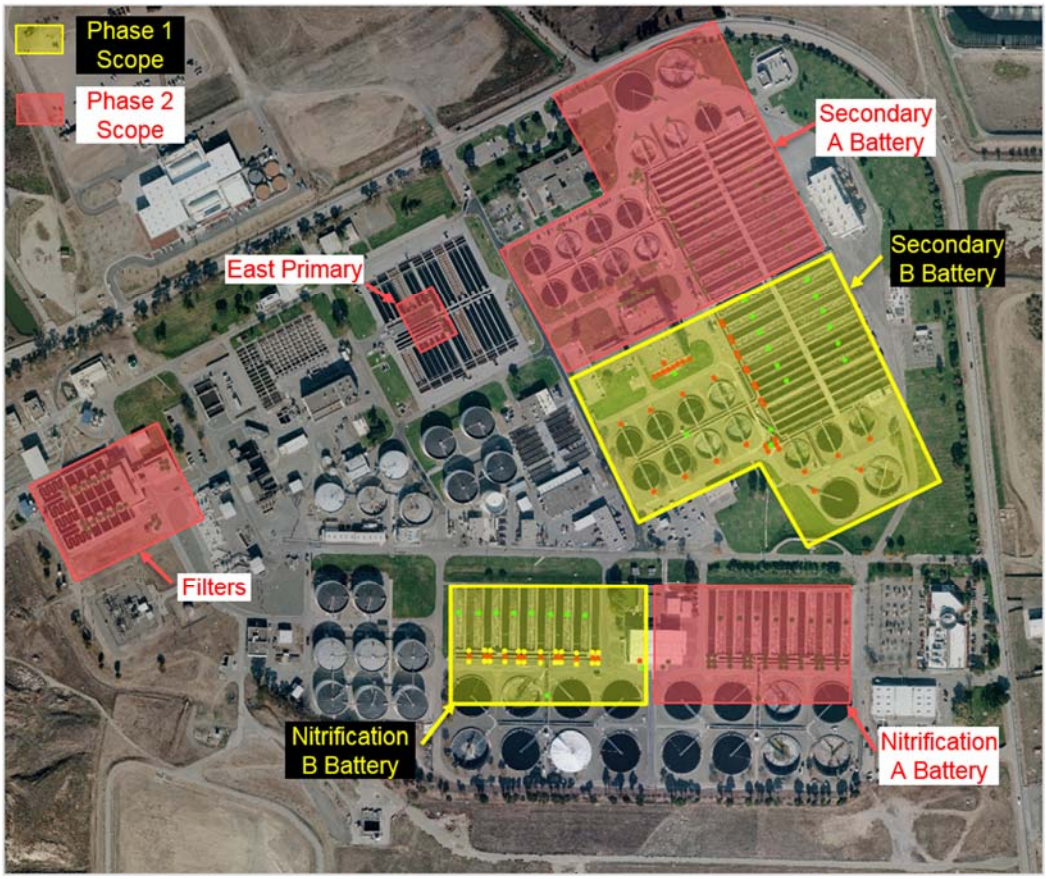


Figure 2: Project Map

Regional Wastewater Facility Treatment – Current Treatment Process Flow Diagram

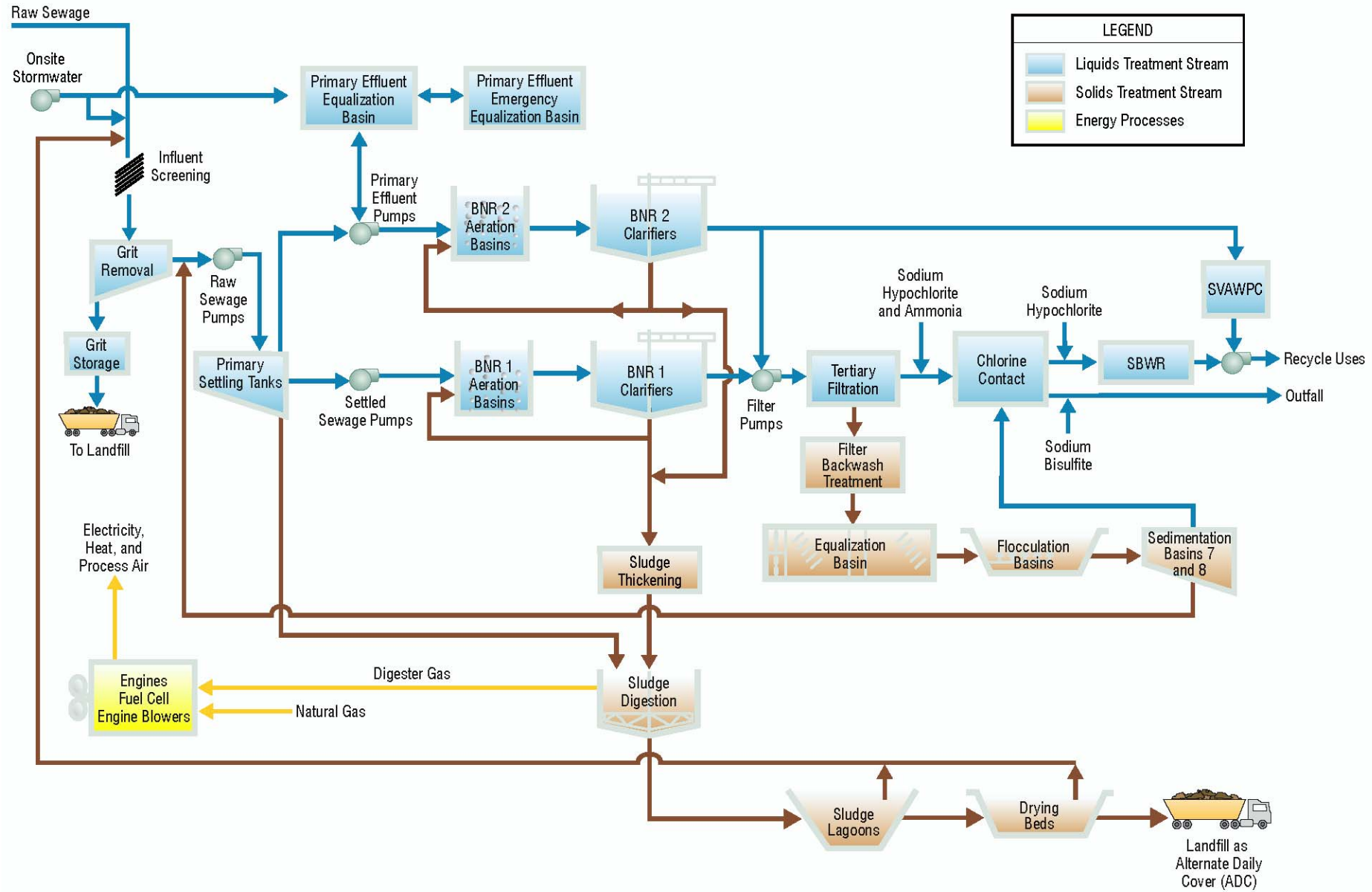


Figure 3 – Current Treatment Process Flow Diagram

Regional Wastewater Facility Treatment – Proposed Treatment Process Flow Diagram

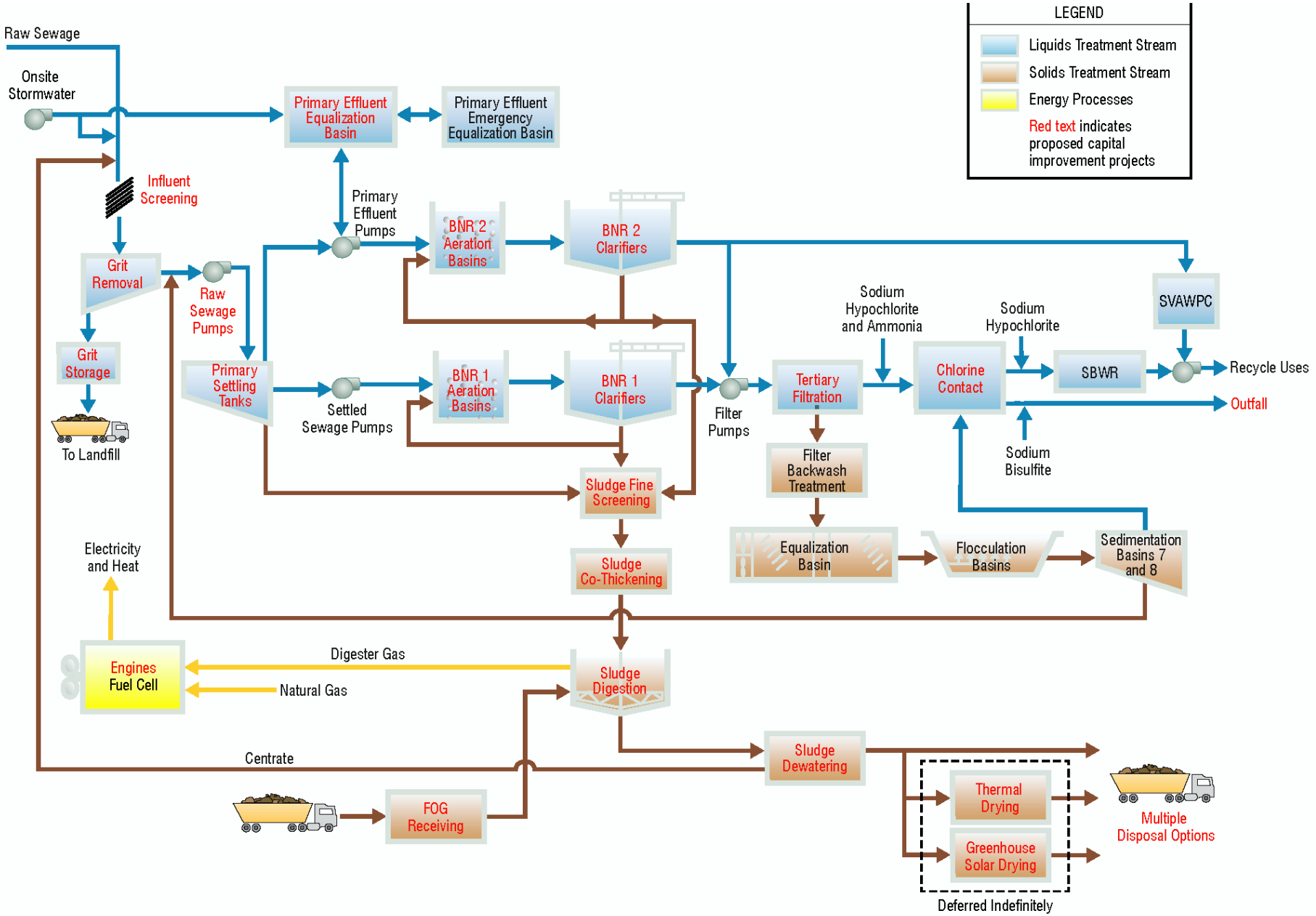


Figure 4 – Proposed Treatment Process Flow Diagram

Active Construction Projects – Aerial Plan

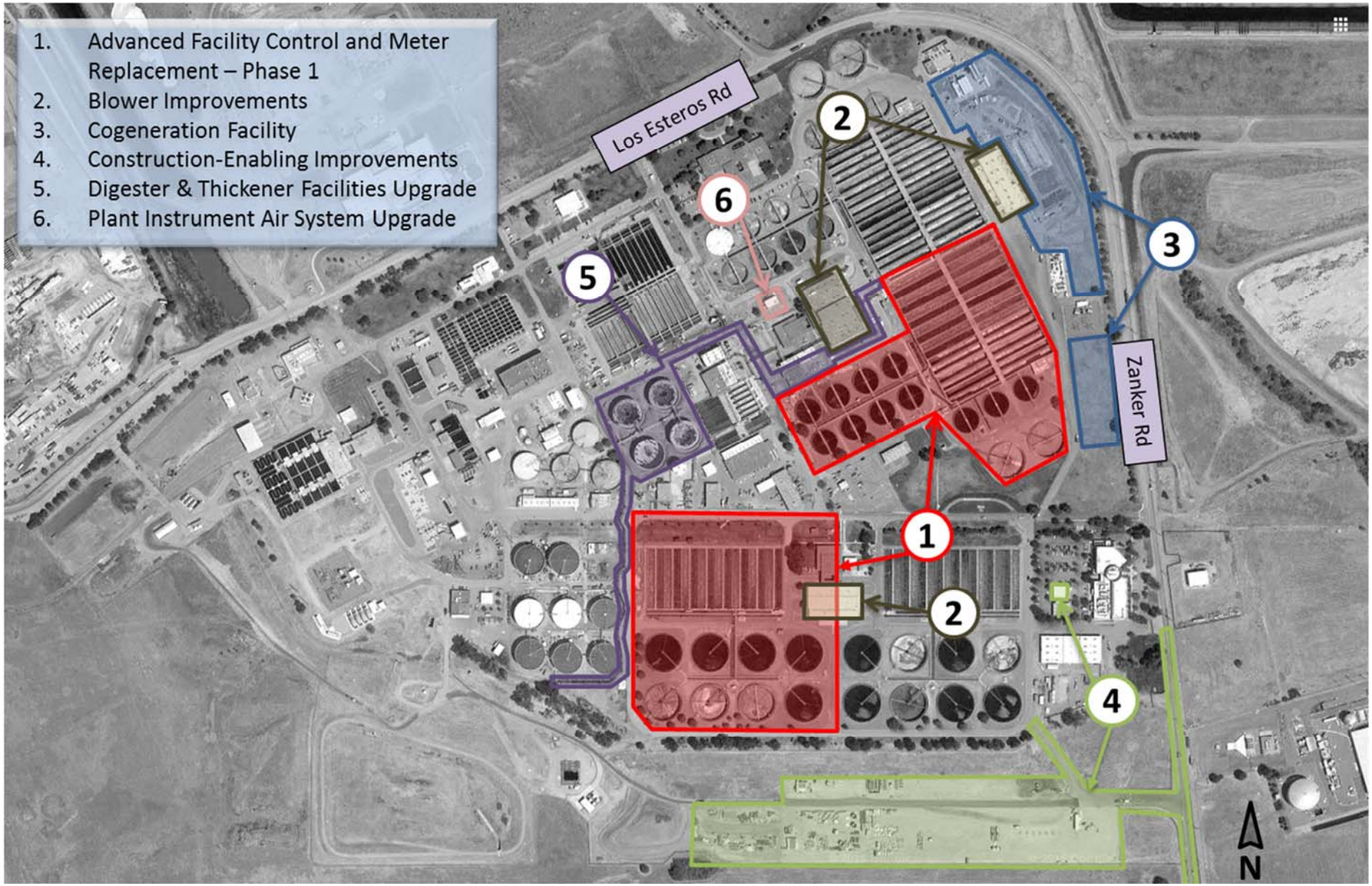


Figure 5: Active Construction Projects

COUNCIL AGENDA: 5/21/19
FILE: 19-341
ITEM:

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: HONORABLE MAYOR AND CITY COUNCIL

FROM: Kerrie Romanow

SUBJECT: **SEE BELOW**

DATE: May 8, 2019

Approved [signature] Date 5/8/19

SUBJECT: FIRST AMENDMENT TO THE MASTER AGREEMENT WITH GOLDER ASSOCIATES FOR ENVIRONMENTAL SUPPORT SERVICES

RECOMMENDATION

Approve the First Amendment to the Master Agreement with Golder Associates for environmental consulting services, increasing the amount of compensation by $500,000, for a total agreement not to exceed $1,000,000. No extension is being recommended on the term of the agreement, which expires on June 30, 2020.

OUTCOME

Approval of the recommendation will provide for continued consultant services including investigation and testing and remediation for potential contamination found at the Fire Training Facility, ongoing operation and maintenance of the landfill gas flare at the former Singleton Landfill, and further contamination investigations at the former Nine Par Landfill.

BACKGROUND

On April 25, 2017, Council awarded a Master Agreement for Consultant Services for environmental consulting services in the amount of $500,000 to Golder Associates following a competitive procurement. The Environmental Services Department has issued sixteen Service Orders under this agreement, totaling $428,050 for various projects, including a solvent leak investigation at the former Nine Par Landfill, operation and maintenance activities for a landfill gas flare at the former Singleton Road Landfill, and regulatory support services and investigations for recently discovered environmental contamination at the San Jose Fire Department's Training Facility.

The City purchased the former Nine Par Landfill in late 1970s after it had been a private landfill from 1938 to 1970. The Regional Wastewater Facility (RWF) used the property for cleaning equipment. In 2011, investigations were performed on the site to formally close the landfill with State regulatory agencies. During the closure investigations, groundwater contaminated with solvents was discovered at the landfill. Golder Associates is assisting the City in environmental testing and potential remediation of environmental concerns raised during the closure activities. The project is under regulatory oversight of the Regional Water Quality Control Board (RWQCB).

The City operated Singleton Road Landfill from 1964 until its closure in 1978. A flare with an underground gas collection system was installed in 1988 to capture the landfill gas for combustion. The gas collection system prevents the landfill gases from creating a potential safety hazard. As the gas flare and collection system ages, it requires increased maintenance and repair to keep it functioning adequately. The City has historically spent about $100,000 to $150,000 per year to maintain the gas flare and collection system. Costs have increased in the past few years due to the flare and collection system needing frequent repairs. Golder Associates has been maintaining the system for the past year, as well as performing compliance monitoring and minor repairs. The Bay Area Air Quality Management District (BAAQMD) and CalRecycle are the regulatory oversight agency for Singleton Landfill.

During environmental due diligence by Google for its purchase of the San Jose Fire Department's Fire Training Facility, located at 255 S. Montgomery Street, potential environmental concerns related to the historical use of the site was identified. Golder Associates will assist the City in conducting additional environmental sampling, investigation, and working with the regulators, likely the RWQCB, if necessary. The investigation into contamination is in the early stages and the extent, costs and regulatory requirements are to be determined.

ANALYSIS

As one of the City's on-call environmental consultants for the past two years, Golder Associates has obtained extensive knowledge of the Nine Par Landfill and Singleton Landfill sites' contaminant conditions. Their technical expertise provided to these projects, as well as numerous other environmental-related projects, are commensurate with the expertise necessary to characterize the extent of contamination at the Fire Station Facility property. Increasing the compensation on this Master Agreement will allow Golder Associates to continue to provide environmental consulting services to three critical projects, Nine Par Landfill, Singleton Road Landfill, and San Jose Fire Training Facility:

- Nine Par Landfill: Approximately $50,000 is needed to perform additional monitoring and contamination investigations in Fiscal Year (FY) 2019-2020.
- Singleton Landfill: Approximately $150,000 is needed to complete critical repairs of the landfill gas flare in FY 2019-2020.

- Fire Training Facility: Approximately $300,000 is needed to install monitoring wells both on and off-site, collect data, test for releases and assist with regulatory requirements in FY 2019-2020.

Increasing the maximum total compensation from $500,000 to $1,000,000 (with no change in term) of the Golder Associates Master Agreement will allow the City to continue to meet the regulatory requirements and ensure public safety in the most cost effective and timely manner.

EVALUATION AND FOLLOW-UP

No subsequent Council action on this issue is anticipated.

PUBLIC OUTREACH

This memorandum will be posted on the City's website for the Council Agenda of May 21, 2019.

COORDINATION

This memorandum was coordinated with the Public Works Department, the City Attorney's Office, and City Manager's Budget Office. This item is scheduled to be heard at the May 16, 2019 TPAC meeting.

COMMISSION RECOMMENDATION/INPUT

No commission recommendation or input is associated with this action.

COST SUMMARY/IMPLICATIONS

Work related to the Nine Par Landfill and the Singleton Road Landfill is anticipated to occur in FY 2019-2020 from existing ongoing funding sources within San José-Santa Clara Treatment Plant Operating Fund Non-Personal/Equipment appropriation ($50,000 for the Nine Par Landfill) and the Closed Landfill Compliance City-Wide appropriation in the General Fund ($150,000 for the Singleton Road Landfill).

Work related to the Fire Training Center is tentatively estimated at $300,000, approximately $100,000 for the remainder of FY 2018-2019, and $200,000 for FY 2019-2020. To ensure that environmental monitoring and testing moves forward, costs will temporarily be funded by the Unanticipated/Emergency Maintenance City-Wide appropriation in the General Fund. As part of the FY 2018-2019 Year-End Clean-up process, the Administration will provide a recommendation to the City Council to reallocate these costs to a new City-Wide appropriation,

as available resources allow. The Administration has factored the $200,000 for next fiscal year in the development of the FY 2019-2020 Proposed Budget scheduled for release May 1, 2019. Given the preliminary nature of this estimate, these costs may shift as more is learned about site conditions.

BUDGET REFERENCE

The table below identifies the funds and appropriations to fund the First Amendment to the Master Agreement with Golder Associates in 2018-2019 recommended as part of this memorandum.

Fund #	Appn. #	Appn. Name	Total Appn.	Amt. for Recommendation	2018-2019 Adopted Operating Budget Page	Last Budget Action (Date, Ord. No)
001	5393	Unanticipated / Emergency Maintenance	$1,456,000	$100,000	IX-56	10/16/2018 Ord No. 30172

CEQA

Not a Project, File No. PP17-002, Consultant services for design, study, inspection, or other professional services with no commitment to future action.

/s/
KERRIE ROMANOW
Director, Environmental Services

For questions please contact Ken Davies, Environmental Sustainability Manager, Environmental Services Department, at 408-975-2587.

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: HONORABLE MAYOR AND CITY COUNCIL

FROM: Julia H. Cooper
Kerrie Romanow

SUBJECT: SEE BELOW

DATE: April 29, 2019

Approved D. DSyL Date 5/9/19

SUBJECT: AGREEMENTS WITH ABB INC., DBA ABB DE, INC., FOR A DISTRIBUTED CONTROL UNIT (DCU) UPGRADE AND ONGOING SUPPORT AND MAINTENANCE AT THE SAN JOSÉ/SANTA CLARA REGIONAL WASTEWATER FACILITY

RECOMMENDATION

Adopt a resolution authorizing the City Manager to:

(a) Negotiate and execute an agreement with ABB Inc., dba ABB DE, Inc., (Wickliffe, OH) to upgrade distributed control units at the San José/Santa Clara Regional Wastewater Facility, including hardware, software, programming, configuration, and related professional services, beginning June 1, 2019 and ending December 31, 2022 for a maximum not-to-exceed compensation of $6,377,000, subject to the appropriation of funds; and

(b) Execute the Water Care Enhanced Agreement with ABB Inc., dba ABB DE, Inc. (Wickliffe, OH) and annual purchase orders pursuant to the terms of the Water Care Enhanced Agreement for ongoing support and maintenance ($233,194 per year) and as-needed parts replacement and repair and rebuilding services (estimated at $500,000-$750,000 per year) for a five-year term beginning June 1, 2019 and ending May 31, 2024 and for a combined compensation not to exceed $3,915,970, subject to the appropriation of funds; and

(c) Negotiate and execute amendments and change orders to the agreements as required for unanticipated changes, subject to the appropriation of funds.

OUTCOME

To upgrade and provide ongoing maintenance and support to the San José/Santa Clara Regional Wastewater Facility's (RWF's) control systems to provide enhanced system functionality, increase capacity to support capital improvements planned for the facility, and ensure reliable operations of the wastewater facility.

BACKGROUND

The San José/Santa Clara RWF is an advanced wastewater treatment facility controlled by a complex Distributed Control System (DCS) that runs and monitors critical aspects of the facility's operations. The DCS includes 18 Distributed Control Units (DCUs) connected to operational equipment that control electrical, hydraulic, biological, and chemical processes throughout the facility. The DCUs are networked to send data to the DCS and receive commands from facility staff who monitor the system on a 24/7/365 basis.

The City originally purchased this equipment from Fisher-Porter who was awarded an agreement in FY 1993-94 as a result of a competitive solicitation. Fisher-Porter was later purchased by ABB. With upkeep and maintenance, the system worked reliably for over 20 years, but by 2012 certain critical components of the system were nearing the end of its useful life.

The City determined that an upgrade in 3 phases was necessary:

Phase 1: Distributed Control System (DCS) hardware and software upgrade
Phase 2: Infrastructure and configuration updates
Phase 3: Distributed Control Unit (DCU) upgrade

City staff issued a Request for Proposal (RFP) to secure the services of a qualified vendor to perform Phase 1 of the upgrade. ABB was the sole responder, and in June 2013,[1] Council approved an award of contract to ABB for the DCS upgrade which was completed in December 2015. Since that time, staff has been working on Phase 2, along with supplemental services provided by ABB, to update wiring, cabinetry, and input/output modules. Phase 2 is still in process and is expected to be completed by September 2020.

In December 2015,[2] Council also authorized staff to execute purchase orders with ABB for ongoing parts replacement and repair and rebuilding services. The agreement that governed these purchase orders, as well as ongoing software support and maintenance, expired September 30, 2018.

ABB products and services are not interoperable with other brands or systems, so for other brands to be considered, a complete upgrade and replacement of the entire system would be necessary. As a complete upgrade and replacement of the entire suite of ABB systems and services is estimated to be in excess of $35,000,000, that approach has not been deemed practical and the City has opted to sustain operations of the DCS through maintenance and critical component upgrades. Through the years, the Chief Purchasing Officer has periodically reviewed and determined that these systems qualify as a brand name / sole source pursuant to San José Municipal Code Sections 4.12.230 and 4.12.240.B.2, 3, and 5. This determination is applicable to this project and is justified to ensure optimum operational performance of the RWF.

[1] 2013 Council Memo: http://sanjoseca.gov/DocumentCenter/View/17980
[2] 2015 Council Memo: https://sanjose.granicus.com/MetaViewer.php?view_id=&event_id=1475&meta_id=544230

ANALYSIS

In September 2017, the City contracted with ABB to upgrade one DCU to assess the impact of and develop a risk mitigation strategy for the Phase 3 upgrade. The pilot project was successfully completed in April 2018, and staff is now ready to move forward with the full Phase 3 upgrade of the remaining 17 DCUs.

The City must also execute a new agreement with ABB to provide ongoing maintenance and repair services for the Distributed Control System to ensure continued operational reliability. ABB calls this agreement the Water Care Enhanced Agreement.

Summary of Proposed Agreements: The DCU Upgrade Project Agreement with ABB includes fixed pricing for all DCU hardware, software, programming, configuration, and related professional services during the approximately 3-year implementation. The Agreement, based primarily on the City's standard contract terms and conditions, includes a detailed scope of services, a project implementation schedule, a compensation schedule with milestone payments tied to the successful completion of key project deliverables and a final acceptance process that triggers release of the retainage held on all deliverables. Warranties will become effective for a period of one year after Final System Acceptance of each stage (the "Warranty Period"). Following the Warranty Period, the Distributed Control System shall be maintained in accordance with the Water Care Enhanced Agreement. ABB required that the liability for consequential damages not exceed $5 million, and aggregate liability shall not exceed $10 million. Staff proposes implementing the project in stages to further mitigate and minimize the risk and impact to plant operations.

The Water Care Enhanced Agreement with ABB provides for ongoing services, including software support and maintenance, and parts and hardware replacement, and repair and rebuilding services for the Distributed Control System for the five-year term and replaces the agreement that expired September 30, 2018. City staff will issue purchase orders pursuant to the agreement on an annual basis to meet City needs for ongoing maintenance and support, including parts and services, to ensure optimal facility performance.

EVALUATION AND FOLLOW-UP

This memorandum will not require any follow-up from staff.

PUBLIC OUTREACH

This memorandum will be posted on the City's website for the May 21, 2019 City Council meeting.

COORDINATION

This memorandum has been coordinated with the City Manager's Budget Office and the City Attorney's Office.

COMMISSION RECOMMENDATION/INPUT

The Treatment Plant Advisory Committee (TPAC) will consider this item on May 16, 2019.

FISCAL/POLICY ALIGNMENT

This Council item is consistent with the City's 2019-2023 Adopted Capital Improvement Program[3] which includes 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.

COST SUMMARY/IMPLICATIONS

1. **AMOUNT OF RECOMMENDATION** **$10,292,970**

2. **COST ELEMENTS:**

DCU Upgrade Project Agreement (~3.5 years)

-	Project Management	$350,000
-	Administrative Meetings	521,034
-	Engineering Workshops	521,034
-	Project Engineering Services	521,032
-	Server Hardware and Services	637,700
-	Stages 1-3 – Hardware and Services	1,275,400
-	Stages 4-6 – Hardware and Services	1,275,400
-	Stages 7-9 – Hardware and Services	1,275,400
	DCU Upgrade Project Subtotal	**$6,377,000**

[3] 2019-2023 Adopted Capital Improvement Program: http://www.sanjoseca.gov/DocumentCenter/View/79822

Water Care Agreement (5 years)

Support and Maintenance:	
- Year 1	$233,194
- Year 2	233,194
- Year 3	233,194
- Year 4	233,194
- Year 5	233,194
Support and Maintenance Subtotal	**$1,165,970**
Estimated As-Needed Parts/Hardware Replacement/Repair/Rebuilding:	
- Year 1	$750,000
- Year 2	500,000
- Year 3	500,000
- Year 4	500,000
- Year 5	500,000
Estimated Parts Replacement/Repair/Rebuilding Subtotal	**$2,750,000**
GRAND TOTAL NOT TO EXCEED (BOTH CONTRACTS)	**$10,292,970**

3. **SOURCE OF FUNDING**: 512 – San José-Santa Clara Treatment Plant Capital Fund and 513 - San Jose-Santa Clara Treatment Plant Operating Fund

4. **FISCAL IMPACT**: There is no additional fiscal impact.

5. **PROJECT COST ALLOCATION:** In accordance with the recommendations set forth in the Capital Project Cost Allocations Technical Memo (Carollo Engineers, March 2016), the capital funding (Fund 512) for this project is allocated between the four billable parameters relative to the rolling weighted average distribution of all RWF assets.

BUDGET REFERENCE

The table below identifies the fund and appropriations proposed to fund the contracts recommended as part of this memo.

Fund #	Appn #	Appn. Name	Current Total Appn	Amt. for Contract *	2018-2019 Adopted Capital Budget Page	Last Budget Action (Date, Ord. No.)
512	7394	Treatment Plant Distributed Control System	$1,937,000	$1,913,100	V-154	06/19/2018 Ord. No. 30124
513	0762	Non-Personal/ Equipment (ESD)	$28,229,334	$150,000	X-79	02/12/2019 Ord. No: 30223

* Future funding has been proposed within the 2020-2024 Proposed Capital Budget and is subject to Council approval. Includes $6,377,000 for the DCU Upgrade Agreement and $250,000 for the first year of purchase orders issued under the Water Care Enhanced Agreement. Future funding for the total $3,515,970 is incorporated within the annual O&M budget as indicated in the five-year schedule above and is subject to Council approval on an annual basis.

CEQA

Statutorily Exempt, File No. PP18-104, CEQA Guidelines Section 15301(1), Existing Facilities.

/s/
JULIA H. COOPER
Director of Finance

/s/
KERRIE ROMANOW
Director of Environmental Services

For questions, please contact Jennifer Cheng, Deputy Director of Finance, at (408) 535-7059.

T&E AGENDA: 05/06/19
ITEM: d(3)

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: TRANSPORTATION & ENVIRONMENT COMMITTEE

FROM: Kerrie Romanow

SUBJECT: SEE BELOW

DATE: April 17, 2019

Approved

Date 4-23-19

SUBJECT: REPORT ON DISCHARGE REGULATIONS AND FUTURE IMPACTS ON THE SAN JOSE – SANTA CLARA REGIONAL WASTEWATER FACILITY

RECOMMENDATION

Accept the annual update on regulatory items related to the San José-Santa Clara Regional Wastewater Facility.

OUTCOME

Provide an update to the Transportation and Environment (T&E) Committee on status of potential regulatory requirements that could impact the San José-Santa Clara Regional Wastewater Facility[1] (RWF).

EXECUTIVE SUMMARY

The RWF is the largest advanced wastewater treatment plant in the western United States, serving a population of 1.5 million people and over 17,000 businesses across eight cities and the County. The RWF is the largest discharger into the San Francisco Bay, a large industrial air emissions source, and is continually faced with meeting increasingly stringent regulatory requirements. The RWF is regulated under two principal operating permits: A National Pollutant Discharge Elimination System (NPDES) permit under the Clean Water Act,

[1] *The legal facility name remains San Jose-Santa Clara Water Pollution Control Plant, but a new common name, San José-Santa Clara Regional Wastewater Facility, was approved in early 2013.*

administered by San Francisco Bay Regional Water Quality Control Board (Water Board), and an Air Operating Permit under Title V of the Clean Air Act, administered by Bay Area Air Quality Management District (BAAQMD).

NPDES permit requirements have become increasingly restrictive over the years, but the RWF has been able to successfully meet them through capital improvements and a robust pretreatment/source control program. Since 1997, the RWF has also had a South Bay Monitoring Program (SBMP), which tracks a variety of water quality and habitat data points to demonstrate that the RWF's discharge, or effluent, is not harmful to the South San Francisco Bay (Bay). Data from the SBMP has helped inform new regulations and facilitated a reduction in the requirements in recently issued NPDES permits. The SBMP also provides critical data that informs proposed water quality criteria that would be most protective for the Bay by the Water Board.

For air emissions, staff is focused on the California Air Resources Board (CARB) rulemaking for Toxic Air Contaminants and Greenhouse Gas (GHG) emissions, which could impact the RWF. Staff is also engaged with the BAAQMD in their implementation of a rule to limit human health risk and a second rule to limit GHG emissions from wastewater treatment facilities. Air emission regulations are typically focused on human health impacts in the vicinity of the source, but more focus on climate-related concerns where impacts are non-localized is a recent trend. Emissions reductions are typically achieved through end-of-pipe and fuel-cleaning control technologies. Like their wastewater counterparts, emissions reduction regulations can come with high costs. Staff continually evaluates new rules and proposed permit conditions and looks for the most cost-effective engineering and policy solutions.

In accordance with the adoption of Senate Bill (SB) 1383 in 2016, the California Department of Resources Recycling and Recovery (CalRecycle) is in the process of finalizing new regulations that attempt to reduce climate change pollutants, such as methane, that result from the landfill disposal of organic material. The latest proposed regulatory text includes biosolids in the definition of organic material and requires that biosolids only be transported for additional processing, composting, anaerobic digestion, or other recovery activities. This would alter the RWF's current practice of sending its biosolids to the nearby Newby Island Landfill for use as alternate daily cover (ADC), resulting in higher costs. To allow the City to position itself with the ability to pursue diversified disposition options, staff is conducting a regional biosolids market assessment.

New and pending wastewater regulations represent advancements in the identification of and detection of limits for water quality contaminants. Incremental improvements in overall water quality are not typically achieved by incremental investment in treatment technologies, if those even exist, so staff continues to monitor and participate in the formal rulemaking process on behalf of the rate payers in order to advocate for reasonable requirements. This report provides a summary of the more significant regulations that impact the RWF and discusses how ESD is advocating and often influencing these regulations, and also responding through capital improvements.

BACKGROUND

The RWF is the largest wastewater discharger in San Francisco Bay and the largest advanced wastewater treatment plant in the western United States, serving a population of 1.5 million people (roughly one-fifth of the entire Bay Area population) and over 17,000 businesses across eight cities and the County. From industrial dischargers to residents and restaurants, the RWF is responsible for cleaning wastewater to the highest standards before it is discharged to the shallow waters of the South Bay. The RWF incorporates primary, secondary biological nutrient removal (BNR), filtration, and disinfection into its treatment processes.

Since 1956, the RWF has continually treated the majority of Silicon Valley's wastewater and protecting public health and the Bay environment. The RWF is sized to treat an average of 167 million gallons per day (MGD) during dry weather. Currently, the year-round average influent flow is 103 MGD. Average effluent flow into the Bay through the Artesian Slough is between 70 to 84 MGD, with an average of approximately 11 MGD diverted to the South Bay Water Recycling system to be used as recycled water in three cities.

Wastewater treatment at the RWF is accomplished by using a series of physical, biological, and chemical processes to treat the liquids stream and the solids stream. Separated solids (or sludge) from wastewater are thickened and processed through anaerobic digesters to reduce pathogen content, sludge volume, and create biogas for beneficial reuse. The digested sludge is then pumped to open air lagoons capped with water, and then to drying beds for further sludge volume reduction. The treatment, and stabilization of biosolids is completed over a four-year cycle. At the RWF, this process generates approximately 85 dry metric tons of biosolids per day. The dried solids are sent annually to the adjacent Newby Island Landfill to be used as Alternate Daily Cover (ADC).

The RWF is a critical regional asset while being a good steward of the environment and enabling recreational uses by and in the Bay. The Don Edwards National Wildlife Refuge is located right near the effluent discharge. Public trails winding along Artesian Slough accommodate day hikers and wildlife photographers. Fishing enthusiasts and seasonal duck hunters launch from the nearby Alviso Boat Launch to fish and hunt in waters flowing from the RWF.

The RWF is regulated under two principal operating permits:

- A NPDES permit under the Clean Water Act, administered by the Water Board. The current NPDES Permit was issued in September 2014 and will be up for renewal in September 2019. RWF staff submitted an application for reissuance by the application due date of February 1, 2019.
- A "Permit to Operate" under Title V of the Clean Air Act, administered by BAAQMD. The Air Permit was issued in March 2017 and will be up for renewal in March 2022.

NPDES Permit

The NPDES Permit mandates water quality monitoring requirements for the RWF's effluent discharge to the Bay and sets specific concentration limits for a number of conventional wastewater pollutants, metals, and organic compounds. The NPDES Permit further requires that RWF effluent discharge may not cause or contribute to impairment of any beneficial uses designated for the Lower South Bay. The designated beneficial uses of the Lower South Bay are:

- Commercial and Sport Fishing
- Cold Freshwater Habitat
- Fish Migration
- Preservation of Rare and Endangered Species
- Fish Spawning
- Warm Freshwater Habitat
- Wildlife Habitat
- Contact Recreation
- Non-contact Recreation.

The RWF has been recognized in its NPDES Permit as supporting all of these beneficial uses and providing additional environmental enhancement to the Lower South Bay.

Over the last two decades, the United States Environmental Protection Agency (EPA) and the Water Board have developed water quality regulations related to a variety of pollutants. Regulatory focus through the late-1980s and early-1990s was on copper, nickel, and freshwater flows. In the late-1990s, this focus shifted to cyanide, legacy mercury, and Polychlorinated Biphenyls (PCBs).

Title V Permit

The Title V program is designed to standardize air quality permits for major sources of emissions across the country and is required for facilities that emit more than the Major Source Thresholds (MSTs) of criteria pollutants. The criteria pollutants include carbon monoxide, ozone, lead, nitrogen oxides, particulate matter, and sulfur dioxide. The Title V permit incorporates the RWF's Permit to Operate, also issued by the BAAQMD, and all other applicable local, state, and federal air quality regulations.

The RWF tracks emissions from its engine generators through a combination of fuel consumption, source testing, and monitoring of pollutant levels in the digester gas fuel supply. These parameters are reported to the BAAQMD on an annual basis. In addition, the RWF submits a report of Title V compliance status semi-annually.

ANALYSIS

Wastewater regulations typically evolve over multiple five-year NPDES and Air permit cycles but can have significant impacts to operational and capital costs that affect rate payers, so RWF

staff proactively engages with their regulators to advocate for the most cost-effective approaches. Staff is proactive in identifying issues on the horizon, collecting data, and building case studies to inform common sense, science-based solutions for the bay and the RWF.

Wastewater Regulations under Consideration or Development

San Francisco Bay Nutrient Watershed Permit – In addition to discharging a variety of chemical constituents within the range allowed under each Publicly-Owned Treatment Works' (POTWs) NPDES permit, POTWs are also large dischargers of nutrient compounds to the Bay, specifically nitrogen and phosphorus. Nitrogen levels in San Francisco Bay are elevated compared to other urban water bodies, but the elevated nitrogen is not currently causing impairment of the Bay, which would manifest through effects like harmful algal blooms. Despite no currently observed impairment, regulators have considered a hard limit, or cap, on nutrient loads discharged to the Bay and not allowing any future increases, disregarding inherent increases due to expected population growth.

Through continued participation in the research and investigations into the impact of nutrients into the Bay and collective negotiation with Water Board staff, the RWF and partner wastewater agencies successfully delayed load caps in any form until 2024, at the earliest; and secured agreement from the regulators to factor in projected population growth and inherent load variability into any future load caps. The 2019 Nutrient Watershed Permit will instead include increased funding from dischargers, based proportionally on nutrient discharge volumes from each facility, to support regional studies to further evaluate nutrient impacts on the Bay, continue to monitor nutrient discharges from wastewater treatment plants, and to evaluate potential nutrient reduction strategies utilizing natural treatment systems (wetlands and horizontal levees) and increased recycled water.

It is anticipated that the Water Board will impose nitrogen limits that account for growth and variability in the 2024 Nutrient Watershed Permit in the form of effluent load caps. Similar load caps for phosphorus are not expected because it does not appear to pose a potential threat to Bay water quality. The load caps envisioned for 2024 should be immediately achievable in 2024 without any additional treatment upgrades or modifications, unless impairment to the Bay is identified sooner. However, if no further action is taken after 2024 to reduce nitrogen loads discharged from the RWF to the Bay, the RWF will likely exceed the future nitrogen load caps at some point between 2024 and 2029.

Constituents of Emerging Concern – Constituents of Emerging Concern (CECs) is a term used to include a broad range of unregulated chemical components found at trace levels in many of our water supplies, and there is a concern that these compounds may have an impact on aquatic life. Examples of these components include pharmaceuticals and personal care products, which are increasingly being detected at low levels in surface water. The RWF is taking a proactive approach to CECs by engaging in regional science-driven efforts to understand the sources and environmental impacts of various CECs and integrating pollution prevention messaging into public outreach campaigns to educate the public on proper disposal.

Poly- and per-fluoroalkyl Compounds
The most recent regulatory focus has been on Poly- and per-fluoroalkyl compounds (PFAS), a large class of chemicals with a diverse number of applications in textiles, carpet treatment, metal plating, cookware coatings, food packaging, and firefighting foams. Because of its broad applications, PFAS are entering the wastewater stream through residential, commercial, and industrial pathways. PFAS are persistent in the environment and some forms accumulate in wildlife, potentially causing reproductive impairment or other toxic effects. With the recent scrutiny, the State Water Resources Control Board (SWRCB) announced initiation of a focused study to evaluate the risks of PFAS this past March.

The RWF, through active participation and leadership in proactive regional science programs, has measured concentrations of PFAS compounds in RWF effluent as part of three separate recent studies. RWF effluent is consistent with concentrations at other wastewater treatment plants in the region, meaning concentrations in RWF effluent are not likely to be the first sources targeted by regulators. This data will inform the state's investigative approach. Following the State's investigations and depending on the magnitude of PFAS in wastewater effluent relative to other PFAS sources, it is possible that future regulations of PFAS in treated wastewater effluent could be imposed.

Microplastics
A second category of CECs is microplastics. Microplastics are tiny particles of plastic that are smaller than 5 millimeters and are found in the form of microbeads, fragments, fibers, tiny plastic pellets called nurdles, or foamed plastic particles from packaging, cigarette filters and other items. Regardless of the form of microplastic, these particles originate from human use and are entering the environment because of human activities. Bay Area wastewater treatment plant effluent, including the RWF effluent, was analyzed for microplastics in 2015 and again in 2017. The results indicate that at least a portion of the microplastics in the sanitary waste stream pass through wastewater treatment plants, including those with advanced treatment technology and filtration like the RWF. The majority of microplastics in treated wastewater at the RWF were in the form of microfibers, which are present from laundering garments made with synthetic plastic fibers.

Wastewater treatment plants are not designed to remove such tiny particles from the waste stream, and technology to remove them at wastewater treatment plants is incredibly expensive due to the sheer volume of water that is treated at a centralized facility. However, detections of these microplastics in Bay water and in some fish is cause for concern since these particles are not food and could potentially contain chemicals that are toxic to aquatic organisms.

In December 2015, the Microbead-Free Waters Act of 2015 was signed into law by President Obama and the sale of products containing microbeads was banned starting in January 2018. While microbeads have been banned, the other types of microplastic particles such as fibers and fragments remain. Through the San Francisco Estuary Institute (SFEI), wastewater agencies, stormwater agencies, scientists, and regulators have partnered with representatives

from the garment industry and environmental groups to initiate further investigations into the environmental occurrence, sources, and environmental fate of microplastics.

State Toxicity Plan – Monthly chronic toxicity testing is required under the current RWF NPDES Permit, but testing is for diagnostic purposes and results are not evaluated against numeric effluent limits, but instead against measured effects on a test species. Adoption of numeric toxicity limits under the State Toxicity Plan was expected in Fall 2018 but has been delayed until Summer 2019. Exceeding numeric toxicity limits would result in NPDES Permit violations if final limits are unreasonably stringent. RWF staff are in discussions with regulators about any future toxicity limits and testing protocols that may put the RWF at risk of non-compliance. The RWF has a nationally accredited environmental laboratory and has recognized expertise in chronic toxicity testing. Despite this expertise and experience, it is important to note that the causes of chronic toxicity intermittently detected at the RWF have never been successfully identified; no other wastewater facility has been successful either. Consequently, any response to future non-compliance events for chronic toxicity, as a result of the new limits, would be exceptionally hard to design.

Air Quality Regulations under Consideration or Development

Toxic Air Contaminants – BAAQMD has begun implementing a new rule: Regulation 11, Rule 18 (Rule 11-18) is intended to assess and reduce human health risks associated with toxic air contaminant emissions from facilities throughout the Bay Area. The rule implementation has started with larger sources and has not yet affected the RWF. However, the RWF is among the sources subject to Rule 11-18 and will eventually be required to fund a human Health Risk Assessment (HRA) for the entire RWF by an independent contractor under the guidance of BAAQMD.

A HRA conducted as part of the permitting process for the new Cogeneration Facility showed compliance with health risk standards under the strict HRA methodology, because the project includes Best Available Control Technology (BACT) that complies with the requirements of the new rule. The Cogeneration Facility will also allow the decommissioning of older emissions sources that could be subject to more stringent requirements. In addition, the new headworks project that is currently under design and the sludge thickening facility under construction will include emissions control equipment that will reduce emissions of toxic air contaminants. The HRA for the entire RWF conducted pursuant to Rule 11-18 is expected to be conducted after 2020. Staff will coordinate with BAAQMD to ensure that the most up to date emissions information is used in the HRA so that the health risks associated with the RWF are accurate.

Greenhouse Gas Emissions / Cap and Trade – In the absence of federal action to reduce greenhouse gas (GHG) emissions, California has moved forward with state level programs, including a Cap and Trade program for GHG. The current program authorized by AB 32 in 2006 was set to expire in 2020 but was extended through 2030 with the adoption of SB 32 in 2017.

The RWF uses its digester gas as a fuel to power the facility but must blend it with large volumes of pipeline natural gas (a fossil fuel) to have sufficient fuel supplies. After five years of being

subject to the Cap and Trade program, the RWF was able to exit the program by purchasing electrical power from the utility grid rather than generating it onsite by using additional natural gas. This decreased GHG emissions generated onsite to less than the Cap and Trade threshold, but requires consistent management of emissions to remain under the cap. The RWF power generation system will change with the upcoming start-up of the new Cogeneration Facility. Staff is working on plans for the operation of the Cogeneration Facility with the goal of balancing overall GHG emissions below the Cap and Trade threshold, while powering the RWF in the most reliable and economical way for rate payers.

CARB is drafting a regulation to implement the directives of SB 32. The regulation to continue the Cap and Trade program will be similar in structure to the existing Cap and Trade regulation and will include the same 25,000 Metric Tons (MT) of Carbon Dioxide equivalents (CO_2e) applicability threshold. However, the overall allowable Statewide emissions cap will decrease from approximately 350 Million MT of CO2e of to 250 Million MT CO_2e in 2030. This is expected to cause an increase in the cost of GHG emission allowances. The increased allowance cost would result in higher compliance costs for the RWF if allowance purchases are required in the future.

Greenhouse Gas Emissions / BAAQMD Methane Rules – BAAQMD has begun rule development on measures intended to reduce methane emissions at Bay Area facilities. The first of these rules, Rule 13-1, is intended to require facilities to find and eliminate any large (defined as >10 pounds per day) methane leaks. Methane is an extremely potent GHG (21 times as potent as carbon dioxide) that is generated through the anaerobic decomposition of organic matter in processes such as the anaerobic digesters at the RWF. All biogas currently produced at the RWF is captured on-site and used to generate energy for the facility. In addition, as part of the RWF CIP, all biogas piping in the facility is being replaced and updated, eliminating potential leak sources and improving overall safety. The rule is expected to be adopted later this year. The effect of this rule on the RWF is expected to be limited to additional recordkeeping and reporting requirements.

BAAQMD also plans to begin development of Rule 13-4, targeting wastewater treatment facilities and anaerobic digesters for methane and nitrous oxide emission reductions. The intent of the rule would be to limit fugitive methane emissions and minimize the formation of nitrous oxide in the treatment process. Formal rulemaking for this rule is expected by the end of 2019. City staff and Bay Area Clean Water Agencies (BACWA) are working to educate BAAQMD personnel on wastewater treatment and anaerobic digester operations to help inform their rulemaking process. City staff and BACWA will monitor developments, provide comments, and participate in discussions with BAAQMD during the rule development process.

Other Wastewater-related Regulations

Implementation of SB 1383 – With the adoption of SB 1383 in 2016, CalRecycle is required to develop regulations that achieve specified targets for reducing organic waste in landfills with the goal of reducing short-lived climate pollutants, such as methane. The targets set by SB 1383 are a 50% reduction in the statewide disposal of organic waste from the 2014 level by 2020, and a

75% in the statewide disposal of organic waste from the 2014 level by 2025. SB 1383 also requires that regulations take effect on or after January 1, 2022, and that penalties not be imposed until two years after the effective date of the regulations. CalRecycle's latest draft regulatory text includes biosolids in the definition of organic waste and states that "biosolids generated at a POTW shall be transported only to a solid waste facility or operation for additional processing, composting, in-vessel digestion, or other recovery."

Implementation of the final SB 1383 regulations are expected to result in a major paradigm shift for POTWs, particularly those in the Bay Area. Based on recent data from the EPA, more than half of the biosolids from Bay Area POTWs are sent to landfills. At the RWF, biosolids are trucked during the fall each year to Newby Island Landfill to be used as ADC. Therefore, the final regulatory language will curtail the disposal of the RWF's biosolids at Newby Island Landfill (and all other California landfills) as soon as January 1, 2022.

In May 2015 and June 2015, the Treatment Plant Advisory Committee (TPAC) and City Council approved a Biosolids Transition Strategy, respectively, and as a result, the RWF is in the process of transitioning the biosolids handling process from the current open lagoon and drying bed process to a mechanical dewatering process. Construction of the new Digested Sludge Dewatering Facility will position the RWF to have diversified disposition options for its biosolids, optimizing future compliance success with the pending SB 1383 regulations. However, the RWF will not be able to fully empty and haul the biosolids from all the lagoons and drying beds until at least four years after the operational start of the new dewatering facility (estimated to be 2027). Depending on the final regulations, this could result in penalties or an increase in operational costs due to the need for interim disposition solutions. In preparation, staff is conducting a biosolids disposition market assessment and refining the phased approach for transitioning out of the current open-air lagoons and drying beds.

The RWF and partner agencies, such as California Association of Sanitation Agencies (CASA) and BACWA, are actively providing input to CalRecycle on the draft regulatory text. Staff submitted a letter with additional comments during CalRecycle's formal comment period that concluded in March 2019. Staff will continue to monitor the development and implementation of the proposed regulations and will refine the implementation plan for the biosolids transition in light of SB 1383.

EVALUATION AND FOLLOW UP

Staff will continue to track regulatory discussions and advocate for the City's interest directly with regulators and indirectly through several regional groups including BACWA, CASA, San Francisco Bay Regional Monitoring Program (RMP), SFEI, and the San Francisco Bay Nutrient Management Strategy Steering Committee. Staff will plan to return to the T&E Committee on an annual basis with an update, and will bring forward recommendations on specific items, as appropriate.

PUBLIC OUTREACH/INTEREST

This memorandum will be posted on the City's website for the May 6, 2019 Transportation & Environment Committee agenda.

COORDINATION

This report has been coordinated with the City Attorney's Office.

COMMISSION RECOMMENDATION/INPUT

This item is scheduled to be heard at the May 16, 2019 Treatment Plant Advisory Committee meeting.

CEQA

Not a Project, File No. PP10-0669 (a), Staff Reports.

/s/
KERRIE ROMANOW
Director, Environmental Services

For questions, please contact Napp Fukuda, Assistant Director of Environmental Services, at (408) 793-5353.

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: **TREATMENT PLANT ADVISORY COMMITTEE**

FROM: Kerrie Romanow

SUBJECT: **FIVE-YEAR 2020-2024 PROPOSED CAPITAL IMPROVEMENT PROGRAM**

DATE: May 9, 2019

Approved Date

This memorandum serves to transmit the San José/Santa Clara Regional Wastewater Facility (RWF) Proposed Five-Year 2020-2024 Capital Improvement Program (CIP). The RWF is jointly owned by the cities of San José and Santa Clara and is administered and operated by the City of San José Environmental Services Department. As a regional-serving facility, the RWF provides wastewater treatment services to other cities and sanitary districts in the South Bay including: City of Milpitas, Cupertino Sanitary District, West Valley Sanitation District (representing cities of Campbell, Los Gatos, Monte Sereno, and Saratoga), County Sanitation District 2-3, and Burbank Sanitary District.

The Proposed Five-Year CIP is provided to the Treatment Plant Advisory Committee's review and for a recommendation to the San José City Council for approval. As a City of San José budget document, the Proposed Five-Year CIP includes information on the establishment of interim financing (wastewater revenue notes) and future long-term bond financing to accommodate San José's share of CIP costs. The cost of securing financing and future debt service obligations outlined in the Proposed Five-Year CIP are specific to the City San José, as the CIP assumes that other cities and sanitary districts served by the RWF will fund their respective share of capital costs through cash contributions. Also included with this packet as Attachment A is a ten-year (2019-2020 through 2028-2029) forecast of CIP allocations.

If you should have any questions, please contact Napp Fukuda at 408-793-5353.

/s/
KERRIE ROMANOW
Director, Environmental Services

PROPOSED

SAN JOSE / SANTA CLARA WATER POLLUTION CONTROL PLANT

700 Los Esteros Road
San José, California 95134

Five-Year 2020-2024

Capital Improvement Program

Submitted by
Kerrie Romanow, Director
Environmental Services Department
City of San José

TO: Treatment Plant Advisory Committee

Sam Liccardo	(Chair) Mayor, City of San José
Debi Davis	(Vice-Chair) Councilmember, City of Santa Clara
Carmen Montano	Councilmember, City of Milpitas
Kathy Watanabe	Councilmember, City of Santa Clara
Steven Leonardis	Board Member, West Valley Sanitation District
John M. Gatto	Board Member, Cupertino Sanitary District
David Sykes	City Manager, City of San José
Dev Davis	Councilmember, City of San José
Lan Diep	Councilmember, City of San José

SAN JOSE / SANTA CLARA

WATER POLLUTION CONTROL PLANT

700 Los Esteros Road
San José, California 95134

Five-Year 2020-2024

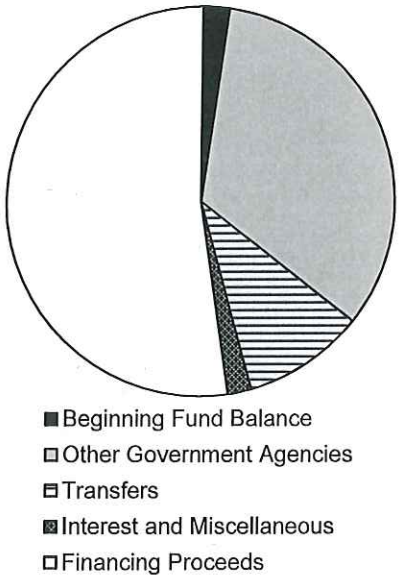
PROPOSED

Capital Improvement Program

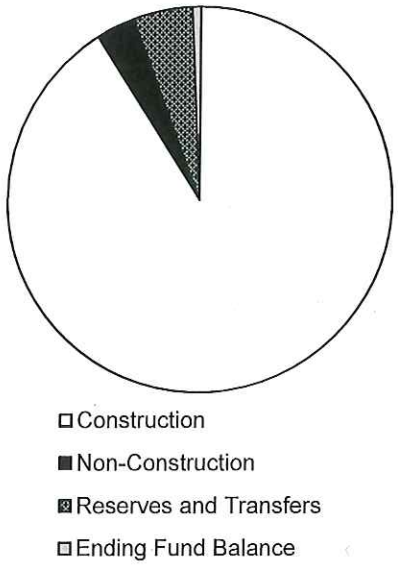
Environmental Services Department
City of San José

WATER POLLUTION CONTROL
2020-2024 Capital Improvement Program

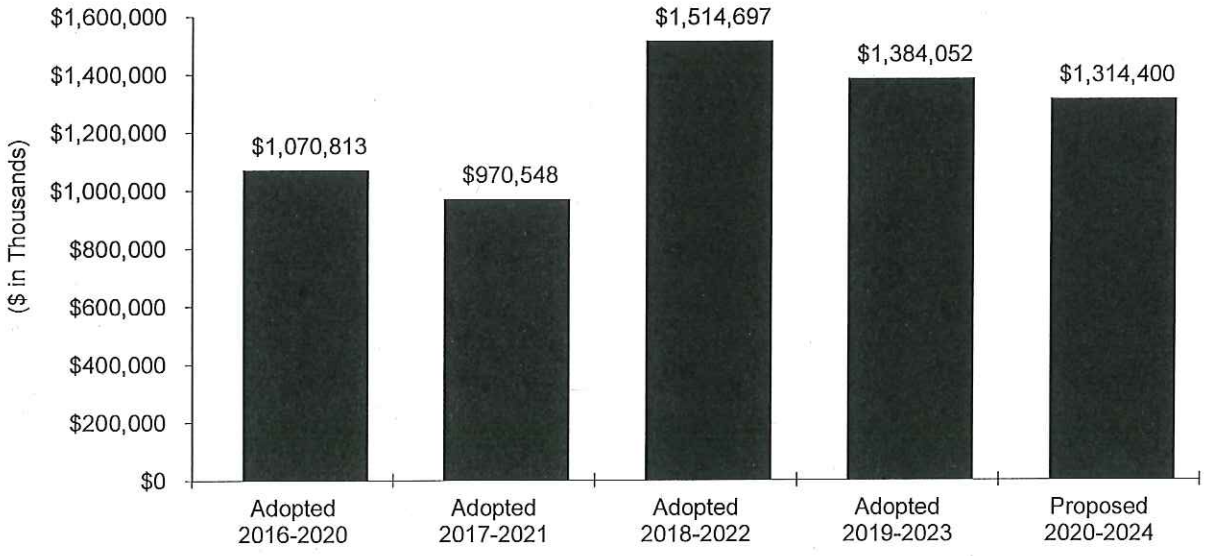
2019-2020 Proposed Source of Funds



2019-2020 Proposed Use of Funds



CIP History



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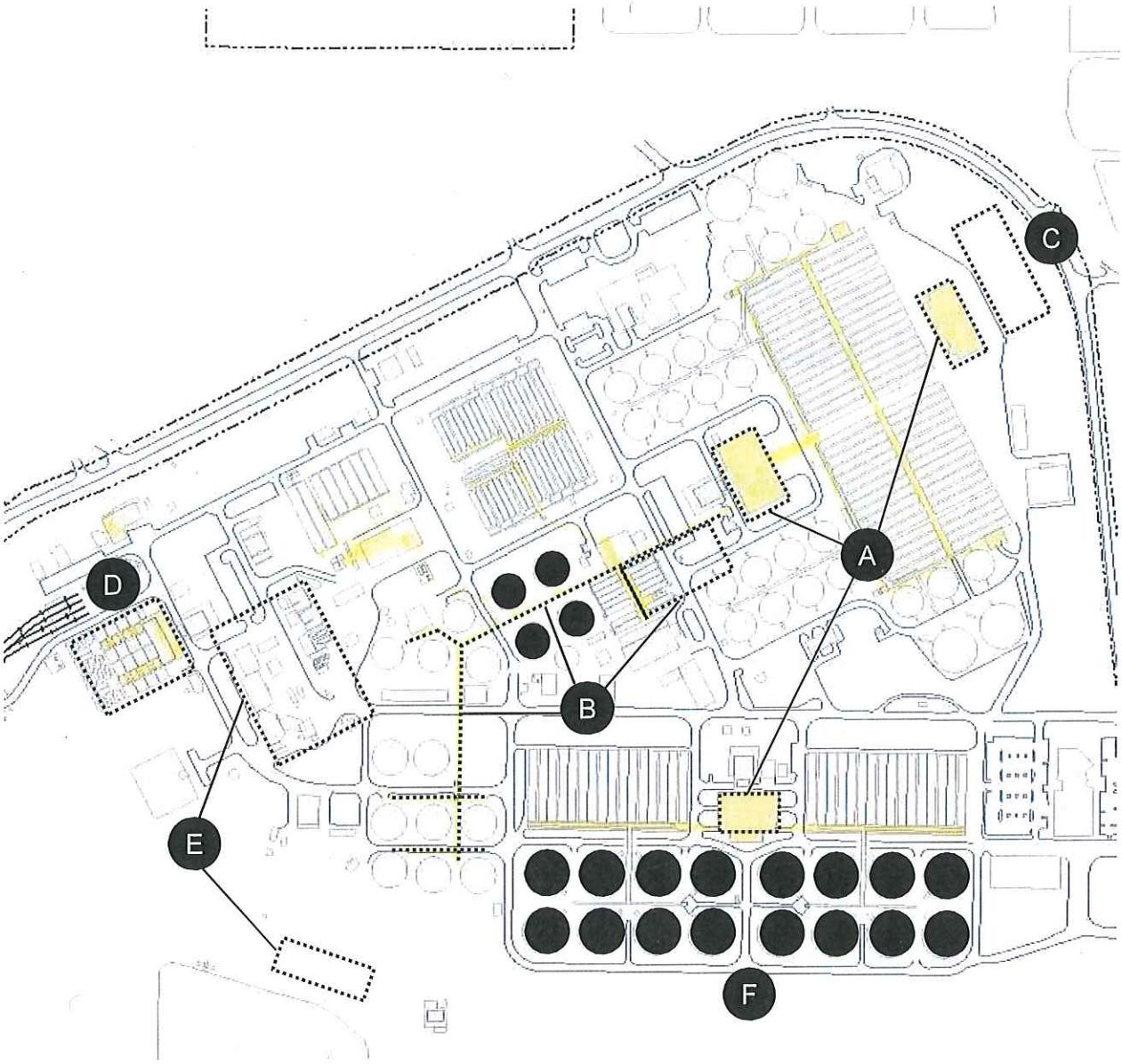
Water Pollution Control

2020-2024 Proposed Capital Improvement Program*

Major Projects

A) Aeration Tanks and Blower Rehabilitation (Blower Improvements)
B) Digester and Thickener Facilities Upgrade
C) Energy Generation Improvements (Cogeneration Facility)
D) Filter Rehabilitation
E) Headworks Improvements and New Headworks
F) Nitrification Clarifier Rehabilitation



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

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Water Pollution Control Capital Program

2020-2024 Proposed Capital Improvement Program

Overview

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)	107
DRY METRIC TONS OF BIOSOLIDS HAULED EACH YEAR	43,500
AVERAGE MEGAWATTS PRODUCED	5.6

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 26, 2013, the City Council approved to change the name of the Plant to the San José-Santa Clara Regional Wastewater Facility (RWF) for use in public communications and outreach.

The 2020-2024 Proposed Capital Improvement Program (CIP) provides funding of $1.3 billion, of which $339.2 million is allocated in 2019-2020. The five-year CIP is developed by City staff, reviewed by the Treatment Plant Advisory Committee (TPAC), and approved by the San José City Council. 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* and *Healthy Streams, Rivers, Marsh, and Bay.*

PROGRAM PRIORITIES AND OBJECTIVES

The 2020-2024 Proposed 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.

Water Pollution Control Capital Program

2020-2024 Proposed Capital Improvement Program

Overview

PROGRAM PRIORITIES AND OBJECTIVES

The development of this Proposed 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. The PMP assumed an implementation schedule of 2010 through 2040.

On September 24, 2013, the City Council approved a multi-year master services agreement with MWH Americas, Inc. for program management consultant services to assist with managing and implementing the RWF CIP[1]. By February 2014, the consultant program management team, along with City staff, completed a project validation process that included a review and prioritization of PMP projects, along with gap projects identified through discussions with Operations and Maintenance staff. The projects included with this Proposed CIP are based on the outcome of that project validation and the completion of various programmatic studies. On October 17, 2017, the City Council approved an amendment to extend the consultant program management services through 2023 to align with the implementation of the ten-year capital program.

Program priorities for the near term include: obtaining long-term financing (for San José only); continuing to build operating reserves needed for bond issuance; continuing to prioritize projects based on criticality and staffing resources; and actively managing project risks and variables to inform timing and amount of major encumbrances.

Program Funding: Since early 2014, staff has been working with representatives from the City of Santa Clara and the tributary agencies to develop a ten-year funding strategy for the CIP. On May 14, 2015, TPAC recommended approval of, and on June 2, 2015, the City Council approved the Ten-Year Funding Strategy. An update on the Ten-Year Funding Strategy was recommended for approval by TPAC on December 10, 2015 and approved by the City Council on January 12, 2016.[2] The staff reports are available online.[3]

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[1] Effective January 1, 2017, MWH Americas, Inc. was acquired and merged with Stantec Consulting Services, Inc.

[2] January 12, 2016 Memo: http://sanjose.granicus.com/MetaViewer.php?view_id=&event_id=2118&meta_id=550326

[3] June 2, 2015 Memo: http://sanjose.granicus.com/MetaViewer.php?view_id=&event_id=732&meta_id=516433

PROGRAM PRIORITIES AND OBJECTIVES

In August 2017, staff provided an update on Clean Water State Revolving Fund (SRF) funding to the City Council, which included news that the State Water Resources Control Board (SWRCB) would not be funding the Digester and Cogeneration projects. Staff will continue to monitor the issue and evaluate further SRF opportunities as appropriate. However, based on the City's recent experience with this program, unless significant changes are made to the funding level, program priorities, program resources, and loan agreement terms, SRF loans do not appear to be a potential source of funding for the RWF CIP.

In October 2017, the City Council approved the establishment of a $300 million interim financing facility to finance San José's portion of the capital costs. As the CIP progresses, the City will periodically pay off the interim financing facility with long-term bonds. This strategy provides funding for the CIP at the lowest possible cost with the least amount of risk. The 2020-2024 Proposed CIP assumes the issuance of long-term bonds in 2020-2021 and the establishment of a second interim financing facility in 2022-2023.

Program/Project Delivery and Implementation: Successful delivery of this large, multi-disciplinary CIP requires an integrated team of City staff, outside consultants, and contractors. The program continues to operate under an integrated project delivery model using a combination of City staff and consultants. The program is being delivered using a mix of City staff from the Environmental Services Department, the Public Works Department, the Planning, Building and Code Enforcement Department, the Finance Department, and the City Attorney's Office, as well as program management consultant staff and various other consultant firms.

With more than two dozen large projects moving through the feasibility/development and design development phases, the program will need to continue to draw from the professional consultant and/or contractor community for program management, project management, subject-matter technical expertise, engineering design, and construction management services. Staff has implemented an owner-controlled insurance program (OCIP), a design and construction management document system (EADOC), and a Building Official Program to support the volume of ongoing and upcoming construction activity.

Developing a construction management resourcing model and plan is a top priority for the 2020-2024 Proposed CIP, with a ramp up in large-scale construction projects expected in 2019-2020 and 2020-2021 that require additional construction management support from Public Works and/or third-party construction managers.

PROGRAM PRIORITIES AND OBJECTIVES

Program/Project Delivery Variables: The program team continues to develop and refine project schedules and budgets and implement regular reporting and centralized document management systems for consistent 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.

On the project delivery front, it is important to recognize that many projects in the Proposed CIP are in the feasibility/development or design phases. Staff will continue to develop and refine project scope, schedules, and budgets as the projects progress through scoping, preliminary engineering, detailed design, and bid award. To the extent possible, staff will continue to monitor and implement mitigation measures to minimize impacts to project delivery schedule and cost caused by various factors such as changes in project delivery staffing resources, long lead time items, external permit reviews and approvals, and construction bidding climate.

A number of program tools and resources will be used to counter potential impacts to the overall program delivery; these include employing a program risk and interface manager, program safety officer, and construction coordinator to address project interface issues during design and construction, obtaining local professional cost estimating services, scheduling regular meetings with regulatory and permitting entities, and continuing to implement the CIP Program Delivery Model (PDM) stage gate approvals.

In addition, staff will continue to apply the lessons learned from large construction projects, like the Digester and Thickener Facilities Upgrade project, to future projects. This includes proactively performing subsurface utility investigations, condition assessments, process shutdown verifications, and hazardous materials investigations.

SOURCES OF FUNDING

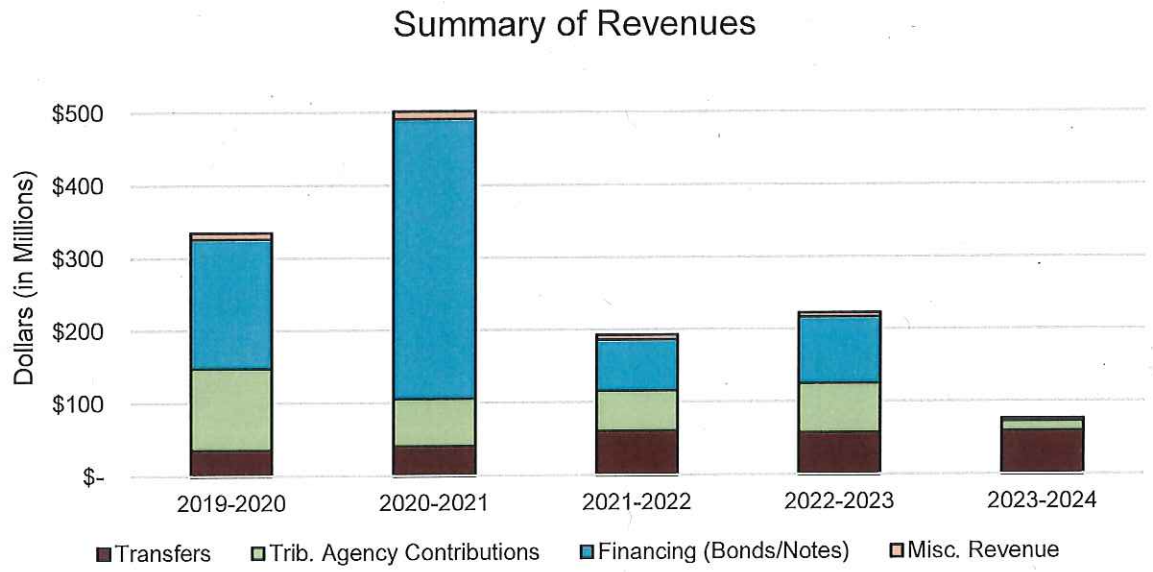
Revenues for the 2020-2024 Proposed CIP are derived from several sources: transfers from the City of San José Sewer Service and Use Charge (SSUC) Fund and Sewage Treatment Plant Connection Fee Fund; contributions from the City of Santa Clara and other tributary agencies; interest earnings; Calpine Metcalf Energy Center Facilities repayments; a federal grant from the U.S. Bureau of Reclamation; and debt-financing 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 $252.3 million, which represents a $37.4 million (17.4%) increase as compared to the 2019-2023 Adopted CIP.

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 Plant. These contributions reimburse the City for actual project expenditures. In this Proposed CIP, contributions from the City of Santa Clara and other agencies total $314.5 million, which represents a $1.8 million (0.6%) decrease compared to the 2019-2023 Adopted CIP.

To accommodate San José's portion of the project costs for the San José – Santa Clara Regional Wastewater Facility (RWF), wastewater revenue notes and bond proceeds are assumed to cover costs of the RWF improvements in the Proposed CIP for the 2019-2020 through 2023-2024 period. The establishment of an interim financing program, in the form of wastewater revenue notes, was approved in 2017-2018 and provides up to $300 million in interim financing capacity. The notes provide periodic, short-term, flexible funding to meet the cash flow needs of the RWF improvement project. Generally, the notes are repaid within a 3-year period and offer lower interest costs than fixed rate bonds. During this CIP period, bonds will be issued in the amount of $385 million to both repay the wastewater revenue notes issued since 2017-2018 and to cover other CIP project and financing costs. Associated debt service for the wastewater revenue notes and debt service for the bonds is estimated to be $2.6 million in 2019-2020, $4.3 million in 2020-2021, $29.1 million in 2021-2022, $26.0 million in 2022-2023, and $28.1 in 2023-2024. The estimated size of the debt financings and the related debt service are scheduled to cover external third-party capital costs programmed in the 2020-2024 Proposed CIP while avoiding large rate increases that would be required to fund the PMP in a "pay-as-you-go" scenario. City of San José staff costs will be cash-funded and not included in either the wastewater revenue notes program or long-term debt financing. Additional debt financing, in the form of notes and bonds, will likely be needed to fund project costs beyond the Proposed CIP period.



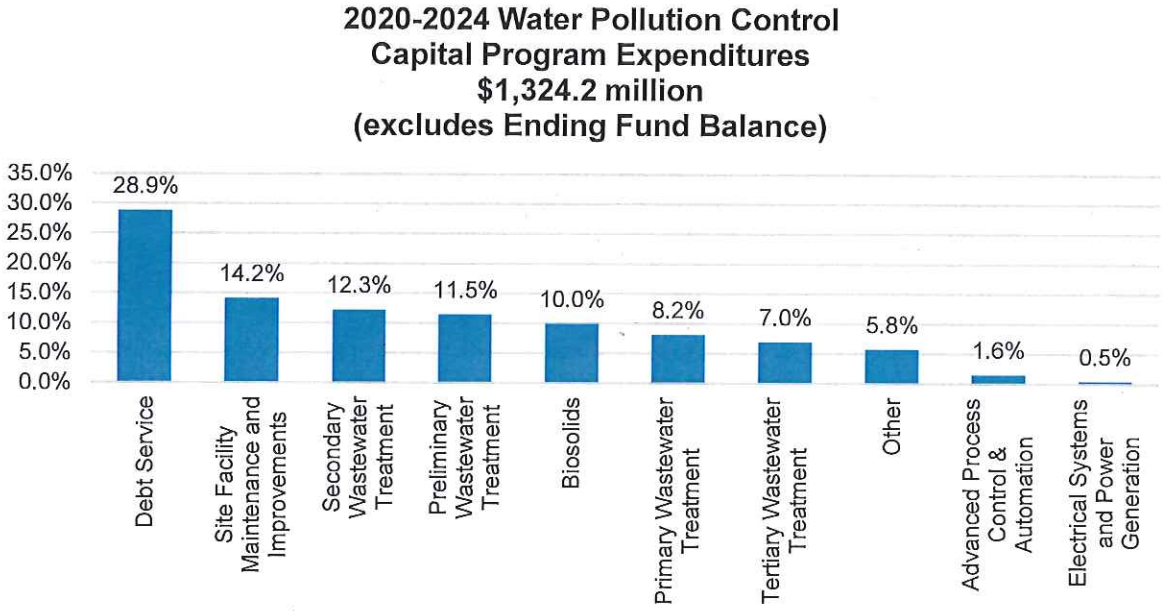
Water Pollution Control Capital Program

2020-2024 Proposed Capital Improvement Program

Overview

PROGRAM HIGHLIGHTS

The Water Pollution Control Capital Program's expenditures are organized to show the use of funds in several categories. The following highlights the major projects in the program. For further information on the program's individual projects, please refer to the Detail Pages.



Nitrification Clarifiers Rehabilitation

The Plant has 26 clarifiers associated with the secondary aeration basins (BNR1) and 16 clarifiers associated with the nitrification aeration basins (BNR2). These clarifiers, together with the aeration basins, form the biological treatment process and function to remove organics from the wastewater. The 16 BNR2 clarifiers are divided into Batteries A and B, and were constructed in the 1970s and 1980s. Each clarifier is a circular reinforced concrete tank measuring 140 feet in diameter and approximately 16 feet deep and containing major mechanical components. Two motor control centers provide power to the clarifiers.

Clarifier Interior and Mechanism

PROGRAM HIGHLIGHTS

Nitrification Clarifiers Rehabilitation (continued)

Condition assessments have shown that many components of the clarifiers are nearing the end of their useful life. The project will rehabilitate the clarifiers and supporting infrastructure to ensure continued operational reliability and efficiency, as well as regulatory compliance, for the next 30 years. The project will be completed in two phases.

The first phase will replace clarifier mechanisms and appurtenances for eight clarifiers, modify service water system and add wash water piping and hose bibs, repair concrete clarifier walls and slabs, replace drain valves and return activated sludge (RAS) valves serving A-side and B-side clarifiers, rehabilitate clarifier basin groundwater pressure relief valves for the 16 clarifiers, rehabilitate up to eight RAS pipelines, install six groundwater monitoring wells, replace two mixed liquor channel sluice gates, and replace electrical and instrumentation and control equipment for all 16 clarifiers.

The second phase will rehabilitate the remaining eight clarifiers and up to eight of the remaining RAS pipelines.

The 2020-2024 Proposed CIP allocates $91.2 million for design, construction, contingency, and project management costs. The estimated total project cost is $99.8 million, based on 60% design completion. Construction award of Phase 1 is expected in late 2019 and construction completion is anticipated in 2021-2022. Construction award of Phase 2 is expected in early 2022 and construction is anticipated to be finished in 2024-2025.

Filter Rehabilitation

The Plant currently has a tertiary filtration unit process which consists of 16 granular media filters and associated ancillary equipment. The filtration process is one of the final treatment steps at the RWF that results in the production of effluent that is in compliance with the Plant's National Pollutant Discharge Elimination System ("NPDES") regulatory permit. Much of the filtration process and infrastructure were constructed in the 1970s and 1980s and is now in need of significant refurbishment. The Filter Rehabilitation project will rehabilitate the filter influent pump station, supplemental filter influent pump station, filter building, disinfection tanks, backwash equalization tanks, and backwash treatment tanks.

Aerial of Filter Building

PROGRAM HIGHLIGHTS

Filter Rehabilitation (continued)

These improvements will enable continued regulatory compliance and long-term operational reliability. In particular, this project will rehabilitate the structural, mechanical, electrical, and instrumentation/controls components of the filtration process.

The 2020-2024 Proposed CIP allocates $38.6 million for design, construction, contingency, and project management costs. The estimated total project cost is $45.7 million, based on 30% design completion. Construction award is expected in summer 2020 and construction completion is anticipated in 2022-2023.

MAJOR CHANGES FROM THE 2019-2023 ADOPTED CIP

The overall size of the Water Pollution Control CIP has decreased by $52.6 million from $1.38 billion in the 2019-2023 Adopted CIP to $1.33 billion in the 2020-2024 Proposed CIP. The following table outlines the most significant changes to project budgets, including new/augmented allocations and reduced/eliminated allocations.

Project Name	Incr/(Decr)
East Primary Rehabilitation, Seismic Retrofit, and Odor Control	$70.4 million
Nitrification Clarifiers Rehabilitation	$43.9 million
Debt Service Repayment for Plant Capital Improvement Projects	$18.6 million
Tunnel Rehabilitation	($26.1 million)
Additional Digester Upgrades	($51.6 million)
Aeration Tanks & Blower Rehabilitation	($54.2 million)

OPERATING BUDGET IMPACT

Several projects in this Proposed CIP are expected to introduce new operating costs to the Operating Budget. These include: Energy Generation Improvements, Digester and Thickener Facilities Upgrade, and Digested Sludge Dewatering Facility. The operation and maintenance impacts are due to chemical, labor, maintenance consumables (e.g. parts, oil), electrical, and hauling & tipping costs.

OPERATING BUDGET IMPACT

A new Cogeneration Facility (part of the Energy Generation Improvements project) is expected to come online in early 2020 that will introduce a new generator building, new engine generators, a gas treatment system, boilers, chillers, and other ancillary equipment. In addition, a new chilled water system pump station may be incorporated as part of the project.

Depending on the timing of when new facilities come online and existing facilities are decommissioned, there may be a temporary increase in operating costs due to the dual operations.

The Digester and Thickener Facilities Upgrade project will include a new chemical dosing station and new sludge screening facility. It is expected to be in operation by late 2020.

A new Digested Sludge Dewatering Facility is anticipated to be in operation by late 2022, which will include new mechanical dewatering units, feed tank, sludge storage, conveyance, and chemical dosing facilities to be housed in a new building. This facility will allow for the eventual retirement of the current lagoons and sludge drying beds expected to be completed in 2027.

Net operating cost impacts will continue to be evaluated and updated based on final design and operation configurations. The table below summarizes the operating and maintenance impact to the San Jose-Santa Clara Treatment Plant Operating Fund for several projects.

Net Operating Budget Impact Summary

	2020-2021	2021-2022	2022-2023	2023-2024
Digester and Thickener Facilities Upgrade	1,194,000	$2,122,000	$2,202,000	$2,285,000
Digested Sludge Dewatering Facility			7,941,000	12,251,000
Energy Generation Improvements	$89,000	$92,000	$95,000	$97,000
	$1,283,000	$2,214,000	$10,238,000	$14,633,000

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.

Water Pollution Capital Program
2020-2024 Proposed Capital Improvement Program
Attachment A - Operating Budget Impact

	2020-2021	2021-2022	2022-2023	2023-2024
Water Pollution Capital Program				
Digested Sludge Dewatering Facility			$7,941,000	$12,251,000
Digester and Thickener Facilities Upgrade	$1,194,000	$2,122,000	$2,202,000	$2,285,000
Energy Generation Improvements	$89,000	$92,000	$95,000	$97,000
Total Water Pollution Capital Program	**$1,283,000**	**$2,214,000**	**$10,238,000**	**$14,633,000**

2019-2020 Capital Budget

2020-2024 Capital Improvement Program

Water Pollution Control

Source and Use of Funds Statements

Water Pollution Control

2020-2024 Proposed Capital Improvement Program

Source of Funds (Combined)

	Estimated 2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	5-Year Total
San José-Santa Clara Treatment Plant Capital Fund (512)							
Beginning Balance	301,152	4,590,755	7,018,755	2,355,755	4,657,755	2,021,755	4,590,755 *
Reserve for Encumbrance	213,655,411						
Transfers							
Transfer for 2009 Debt Service from the Sewer Service and Use Charge Fund (541)	5,369,000	5,372,000	5,371,000				10,743,000
Transfer for Plant CIP Debt Service from Sewer Service and Use Charge Fund (541)	1,310,000	2,625,000	4,376,000	29,144,000	25,991,000	28,096,000	90,232,000
Transfer for Capital Projects from Sewer Service and Use Charge Fund (541)	27,000,000	27,000,000	30,000,000	30,000,000	30,000,000	30,000,000	147,000,000
Transfer for Equipment Replacement from Sewer Service and Use Charge Fund (541)			1,083,000	1,083,000	1,083,000	1,083,000	4,332,000
Transfer from the Sewage Treatment Plant Connection Fee Fund (539)	1,249,000						
TOTAL Transfers	**34,928,000**	**34,997,000**	**40,830,000**	**60,227,000**	**57,074,000**	**59,179,000**	**252,307,000**
Revenue from Use of Money and Property							
Interest Income	3,949,000	8,430,000	7,856,000	6,209,000	4,831,000	2,910,000	30,236,000
TOTAL Revenue from Use of Money and Property	**3,949,000**	**8,430,000**	**7,856,000**	**6,209,000**	**4,831,000**	**2,910,000**	**30,236,000**
Revenue from Local Agencies							
2009 Bond Debt Repayment	155,000	155,000	155,000				310,000
State Revolving Fund - Loan Repayment	555,000						
WPCP Projects and Equipment Replacement	31,307,000	112,636,000	64,769,000	55,905,000	67,706,000	13,476,000	314,492,000

Water Pollution Control

2020-2024 Proposed Capital Improvement Program

Source of Funds (Combined)

	Estimated 2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	5-Year Total	
TOTAL Revenue from Local Agencies	**32,017,000**	**112,791,000**	**64,924,000**	**55,905,000**	**67,706,000**	**13,476,000**	**314,802,000**	
Revenue from the Federal Government								
U.S. Bureau of Reclamation Grant			2,545,000				2,545,000	
TOTAL Revenue from the Federal Government			**2,545,000**				**2,545,000**	
Other Revenue								
Calpine Metcalf Energy Center Facilities Repayment	389,000	389,000	389,000	389,000	389,000	389,000	1,945,000	
TOTAL Other Revenue	**389,000**	**389,000**	**389,000**	**389,000**	**389,000**	**389,000**	**1,945,000**	
Financing Proceeds								
Wastewater Revenue Notes	98,510,000	178,000,000		70,000,000	92,000,000		340,000,000	
Bond Proceeds			385,000,000				385,000,000	
TOTAL Financing Proceeds	**98,510,000**	**178,000,000**	**385,000,000**	**70,000,000**	**92,000,000**		**725,000,000**	
Total San José-Santa Clara Treatment Plant Capital Fund (512)	**383,749,563**	**339,197,755**	**508,562,755**	**195,085,755**	**226,657,755**	**77,975,755**	**1,331,425,755**	*
South Bay Water Recycling Capital Fund (571)								
Beginning Balance		3,807,000	166,000	191,000	216,000	241,000	3,807,000	*
Transfers								
Transfer from the San José-Santa Clara Treatment Plant Capital Fund	3,691,000							
TOTAL Transfers	**3,691,000**							

Water Pollution Control

2020-2024 Proposed Capital Improvement Program

Source of Funds (Combined)

	Estimated 2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	5-Year Total
Revenue from Use of Money and Property							
Interest Income	24,000	50,000	50,000	50,000	50,000	50,000	250,000
TOTAL Revenue from Use of Money and Property	**24,000**	**50,000**	**50,000**	**50,000**	**50,000**	**50,000**	**250,000**
Other Revenue							
Various Sources	92,000						
TOTAL Other Revenue	**92,000**						
Total South Bay Water Recycling Capital Fund (571)	**3,807,000**	**3,857,000**	**216,000**	**241,000**	**266,000**	**291,000**	**4,057,000 ***
TOTAL SOURCES	**387,556,563**	**343,054,755**	**508,778,755**	**195,326,755**	**226,923,755**	**78,266,755**	**1,335,482,755 ***

* The 2020-2021 through 2023-2024 Beginning Balances are excluded from the FIVE-YEAR TOTAL SOURCE OF FUNDS to avoid multiple counting of the same funds.

Water Pollution Control

2020-2024 Proposed Capital Improvement Program

Use of Funds (Combined)

	Estimated 2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	5-Year Total
Water Pollution Control							
Headworks Improvements	2,490,961	14,983,000	289,000	259,000	88,000		15,619,000
New Headworks	8,275,103	130,495,000	1,498,000	1,383,000	571,000		133,947,000
Preliminary Wastewater Treatment	**10,766,064**	**145,478,000**	**1,787,000**	**1,642,000**	**659,000**		**149,566,000**
East Primary Rehabilitation, Seismic Retrofit, and Odor Control	1,000,212		10,885,000	94,530,000	686,000	684,000	106,785,000
Iron Salt Feed Station	651,797						
Primary Wastewater Treatment	**1,652,009**		**10,885,000**	**94,530,000**	**686,000**	**684,000**	**106,785,000**
Aeration Tanks and Blower Rehabilitation	54,802,341	1,155,000	2,099,000	1,470,000	59,840,000	1,065,000	65,629,000
Nitrification Clarifier Rehabilitation	3,907,975	53,031,000	2,357,000	2,925,000	30,690,000	2,152,000	91,155,000
Secondary Clarifier Rehabilitation	565,000					2,833,000	2,833,000
Secondary Wastewater Treatment	**59,275,315**	**54,186,000**	**4,456,000**	**4,395,000**	**90,530,000**	**6,050,000**	**159,617,000**
Filter Rehabilitation	4,546,106	34,872,000	1,658,000	1,089,000	943,000		38,562,000
Final Effluent Pump Station & Stormwater Channel Improvements		902,000	5,999,000	1,104,000	37,234,000	1,925,000	47,164,000
Outfall Bridge and Levee Improvements	2,480,037	4,826,000	723,000				5,549,000
Tertiary Wastewater Treatment	**7,026,143**	**40,600,000**	**8,380,000**	**2,193,000**	**38,177,000**	**1,925,000**	**91,275,000**
Additional Digester Upgrades				1,191,000	8,031,000	1,298,000	10,520,000
Digested Sludge Dewatering Facility	13,311,155	2,002,000	105,615,000	2,174,000	1,118,000		110,909,000
Digester and Thickener Facilities Upgrade	102,900,332	6,182,000	1,875,000				8,057,000
Lagoons and Drying Beds Retirement							
Biosolids	**116,211,487**	**8,184,000**	**107,490,000**	**3,365,000**	**9,149,000**	**1,298,000**	**129,486,000**
Combined Heat and Power Equipment Repair and Rehabilitation	88,844						
Energy Generation Improvements	87,960,878	3,335,000	737,000				4,072,000
Plant Electrical Reliability	6,694,304	1,792,000	394,000	493,000			2,679,000

Water Pollution Control

2020-2024 Proposed Capital Improvement Program

Use of Funds (Combined)

	Estimated 2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	5-Year Total
Electrical Systems and Power Generation	**94,744,026**	**5,127,000**	**1,131,000**	**493,000**			**6,751,000**
Advanced Facility Control and Meter Replacement	10,850,783	13,287,000	990,000	408,000	322,000		15,007,000
Treatment Plant Distributed Control System	2,215,600	5,438,000					5,438,000
Advanced Process Control & Automation	**13,066,383**	**18,725,000**	**990,000**	**408,000**	**322,000**		**20,445,000**
Construction-Enabling Improvements	554,287						
Equipment Replacement	1,663,000	1,663,000	1,663,000	1,663,000	1,663,000	1,663,000	8,315,000
Facility Wide Water Systems Improvements	2,466,244	2,419,000	389,000	8,737,000	915,000	898,000	13,358,000
Flood Protection	2,456,732	489,000	6,441,000	1,098,000	976,000		9,004,000
Plant Infrastructure Improvements	2,349,422	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	5,000,000
Plant Instrument Air System Upgrade	677,383						
Storm Drain System Improvements	1,470,317	939,000	11,039,000	883,000	653,000		13,514,000
Support Building Improvements	8,074,408	11,325,000	1,350,000	689,000	795,000	360,000	14,519,000
Tunnel Rehabilitation	2,317,309						
Urgent and Unscheduled Treatment Plant Rehabilitation	2,500,000	500,000	500,000	500,000	500,000	500,000	2,500,000
Various Infrastructure Decommissioning	469,000			2,590,000	18,470,000	691,000	21,751,000
Yard Piping and Road Improvements	5,787,369	18,452,000	21,947,000	20,249,000	21,433,000	13,962,000	96,043,000
Site Facility Maintenance and Improvements	**30,785,471**	**36,787,000**	**44,329,000**	**37,409,000**	**46,405,000**	**19,074,000**	**184,004,000**
Hydraulic Capacity Engineering		25,000	25,000	25,000	25,000	25,000	125,000
South Bay Water Recycling		**25,000**	**25,000**	**25,000**	**25,000**	**25,000**	**125,000**
Water Pollution Control - Construction	**333,526,897**	**309,112,000**	**179,473,000**	**144,460,000**	**185,953,000**	**29,056,000**	**848,054,000**
Debt Service Repayment for Plant Capital Improvement Projects	3,828,000	2,625,000	304,274,000	29,144,000	25,991,000	28,096,000	390,130,000
Owner Controlled Insurance Program	7,771,000		3,705,000	3,705,000	1,399,000	1,264,000	10,073,000
Master Plan Updates	3,000,000						
Preliminary Engineering - Water Pollution Control	2,026,614	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	5,000,000

Water Pollution Control

2020-2024 Proposed Capital Improvement Program

Use of Funds (Combined)

	Estimated 2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	5-Year Total
Program Management - Water Pollution Control	13,039,297	8,122,000	11,738,000	11,712,000	9,794,000	7,426,000	48,792,000
Record Drawings	3,675,000						
General Non-Construction - Water Pollution Control	**33,339,911**	**11,747,000**	**320,717,000**	**45,561,000**	**38,184,000**	**37,786,000**	**453,995,000**
Water Pollution Control - Non Construction	**33,339,911**	**11,747,000**	**320,717,000**	**45,561,000**	**38,184,000**	**37,786,000**	**453,995,000**
Public Art Allocation	443,000						
Public Art Projects	**443,000**						
Capital Program and Public Works Department Support Service Costs	629,000	724,000	420,000	336,000	433,000	69,000	1,982,000
State Revolving Fund Loan Repayment	1,804,000						
Payment for Clean Water Financing Authority Trustee	5,000	5,000	5,000	5,000			15,000
Allocations	**2,438,000**	**729,000**	**425,000**	**341,000**	**433,000**	**69,000**	**1,997,000**
Transfer to the South Bay Water Recycling Capital Fund	3,691,000						
Transfers to Capital Funds	**3,691,000**						
City Hall Debt Service Fund	196,000	89,000	91,000	91,000	91,000	91,000	453,000
Clean Water Financing Authority Debt Service Payment Fund	5,524,000	5,527,000	5,526,000				11,053,000
Transfers to Special Funds	**5,720,000**	**5,616,000**	**5,617,000**	**91,000**	**91,000**	**91,000**	**11,506,000**
Transfers Expense	**9,411,000**	**5,616,000**	**5,617,000**	**91,000**	**91,000**	**91,000**	**11,506,000**
Equipment Replacement Reserve		5,000,000					5,000,000
Hydraulic Capacity Enhancements Reserve		3,666,000					3,666,000
Expense Reserves - Non Construction		**8,666,000**					**8,666,000**
Total Expenditures	**379,158,808**	**335,870,000**	**506,232,000**	**190,453,000**	**224,661,000**	**67,002,000**	**1,324,218,000**
Ending Fund Balance	8,397,755	7,184,755	2,546,755	4,873,755	2,262,755	11,264,755	11,264,755 *
TOTAL	**387,556,563**	**343,054,755**	**508,778,755**	**195,326,755**	**226,923,755**	**78,266,755**	**1,335,482,755 ***

* The 2019-2020 through 2022-2023 Ending Balances are excluded from the FIVE-YEAR TOTAL USE OF FUNDS to avoid multiple counting of the same funds.

2019-2020 Capital Budget

2020-2024 Capital Improvement Program

Water Pollution Control

Detail of Projects

Advanced Facility Control and Meter Replacement

CSA	Environmental and Utility Services	**Initial Start Date**	3rd Qtr. 2010
CSA Outcome	Reliable Utility Infrastructure	**Initial End Date**	2nd Qtr. 2014
Department	Environmental Services	**Revised Start Date**	
Location	Water Pollution Control Plant	**Revised End Date**	2nd Qtr. 2023
Council Districts	4	**Initial Project Budget**	$11,000,000
Appropriation	A7224	**FY Initiated**	2010-2011

Description This project develops and executes a Plant-wide automation master plan; replaces existing flow meters and actuators; and upgrades 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.

Notes This project corresponds to Plant Master Plan No. 90 and Validation Project PA-01.

Major Cost Changes
2012-2016 CIP through 2017-2021 CIP - increase of $16.9 million due to updated cost estimates, revised scope, addition of meter replacement scope, and project validation cost estimate.
2018-2022 CIP - decrease of $4.1 million due to reduction of scope.
2019-2023 CIP - increase of $17.9 million due to an increase in scope and updated construction cost estimate.
2020-2024 CIP - decrease of $7.4 million due to lower than expected construction bids for Phase I, resulting in a reduced expected cost estimate for Phase II.

	PRIOR YEARS	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL	BEYOND 5 YEARS	PROJECT TOTAL
Expenditure Schedule (000s)										
Project Feasibility Development	1,847	662								2,510
Design	1,314	548								1,862
Bid & Award	85	21	164					164	76	345
Construction	221	9,488	12,997	990	408	226		14,621	4,836	29,166
Post Construction	3	131	126			96		222	25	381
Total	**3,469**	**10,851**	**13,287**	**990**	**408**	**322**		**15,007**	**4,937**	**34,264**
Funding Source Schedule (000s)										
San José-Santa Clara Treatment Plant Capital Fund (512)	3,469	10,851	13,287	990	408	322		15,007	4,937	34,264
Total	**3,469**	**10,851**	**13,287**	**990**	**408**	**322**		**15,007**	**4,937**	**34,264**
Annual Operating Budget Impact (000s)										
Total										

Aeration Tanks and Blower Rehabilitation

CSA	Environmental and Utility Services	**Initial Start Date**	1st Qtr. 2015
CSA Outcome	Reliable Utility Infrastructure	**Initial End Date**	3rd Qtr. 2025
Department	Environmental Services	**Revised Start Date**	2nd Qtr. 2015
Location	Water Pollution Control Plant	**Revised End Date**	2nd Qtr. 2028
Council Districts	4	**Initial Project Budget**	$114,880,000
Appropriation	A7677	**FY Initiated**	2014-2015

Description This project rehabilitates the secondary and nitrification aeration tanks including structural, mechanical, electrical, and instrumentation upgrades. It also replaces the remaining existing coarse bubble diffusers with fine bubble diffusers; installs partition walls and reconfigures air piping to optimize process treatment capabilities; repairs concrete and applies coatings; installs Variable Frequency Drives (VFDs), new motors, new Motor Control Centers (MCC), and new controls to the electric driven blowers in Building 40 and Tertiary Blower Building; decommissions the engine driven blowers in the Secondary Blower Building; and replaces the S11 switchgear.

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 run on emergency power. Lastly, the S11 switchgear and MCCs are outdated and need to be upgraded to be compatible with the new VFDs.

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

Major Cost Changes
2016-2020 CIP - increase of $4.4 million due to escalation of construction costs.
2018-2022 CIP - increase of $4.5 million due to a revised scope and cost estimate.
2019-2023 CIP - increase of $26.5 million due to an updated construction cost estimate.
2020-2024 CIP - decrease of $16.9 million due to updated construction estimate and lower than expected construction bids.

	PRIOR YEARS	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL	BEYOND 5 YEARS	PROJECT TOTAL
Expenditure Schedule (000s)										
Project Feasibility Development	5,267	3,097								8,365
Design	4,255	7,222		878	707			1,585		13,062
Bid & Award	81	513				327		327		922
Construction		43,838	1,155	1,221	655	59,513	1,065	63,609	3,182	110,629
Post Construction		132			108			108	133	373
Total	**9,603**	**54,802**	**1,155**	**2,099**	**1,470**	**59,840**	**1,065**	**65,629**	**3,315**	**133,350**
Funding Source Schedule (000s)										
San José-Santa Clara Treatment Plant Capital Fund (512)	9,603	54,802	1,155	2,099	1,470	59,840	1,065	65,629	3,315	133,350
Total	**9,603**	**54,802**	**1,155**	**2,099**	**1,470**	**59,840**	**1,065**	**65,629**	**3,315**	**133,350**
Annual Operating Budget Impact (000s)										
Total										

Digested Sludge Dewatering Facility

CSA	Environmental and Utility Services	**Initial Start Date**	3rd Qtr. 2012
CSA Outcome	Reliable Utility Infrastructure	**Initial End Date**	2nd Qtr. 2013
Department	Environmental Services	**Revised Start Date**	3rd Qtr. 2014
Location	Water Pollution Control Plant	**Revised End Date**	2nd Qtr. 2023
Council Districts	4	**Initial Project Budget**	$1,000,000
Appropriation	A7452	**FY Initiated**	2012-2013

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. 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.

Notes This project corresponds to Plant Master Plan Project Nos. 44, 54, 57-60 and Validation Project PS-03.

Major Cost Changes
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.
2017-2021 CIP - increase of $28.1 milion due to increased scope and revised cost estimate.
2019-2023 CIP - increase of $18.3 million due to an updated construction cost estimate.
2020-2024 CIP - increase of $11.8 million due to an increase in scope and updated construction cost estimate.

	PRIOR YEARS	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL	BEYOND 5 YEARS	PROJECT TOTAL
Expenditure Schedule (000s)										
Project Feasibility Development	4,691	1,244								5,934
Design	10	10,479	1,986	518				2,504		12,993
Bid & Award	181	1,588								1,770
Construction			16	105,097	2,174	794		108,081		108,081
Post Construction						324		324		324
Total	**4,882**	**13,311**	**2,002**	**105,615**	**2,174**	**1,118**		**110,909**		**129,102**
Funding Source Schedule (000s)										
San José-Santa Clara Treatment Plant Capital Fund (512)	4,882	13,311	2,002	105,615	2,174	1,118		110,909		129,102
Total	**4,882**	**13,311**	**2,002**	**105,615**	**2,174**	**1,118**		**110,909**		**129,102**

Annual Operating Budget Impact (000s)		
Operating	7,791	12,019
Maintenance	150	232
Total	**7,941**	**12,251**

Digester and Thickener Facilities Upgrade

CSA	Environmental and Utility Services	**Initial Start Date**	3rd Qtr. 2006
CSA Outcome	Reliable Utility Infrastructure	**Initial End Date**	2nd Qtr. 2008
Department	Environmental Services	**Revised Start Date**	
Location	Water Pollution Control Plant	**Revised End Date**	2nd Qtr. 2021
Council Districts	4	**Initial Project Budget**	$1,000,000
Appropriation	A4127	**FY Initiated**	2006-2007

Description This project rehabilitates four digesters and modifies the system to operate as a two-phase Temperature Phased Anaerobic Digestion (TPAD) system. The project also rehabilitates and modifies six dissolved air flotation units for sludge co-thickening, pressure saturation tanks, pipes, pumps, and ancillary equipment. A new odor control system, primary sludge screening facility, heat exchangers, biogas flare, and polymer dosing facility will be constructed. A new rack mounted digester gas conveyance system will also be constructed above grade to replace existing piping in the digester tunnels.

Justification The Plant has 16 anaerobic digesters constructed between 1956 and 1983, of which six are permanently out of service. This project is needed to ensure safe and reliable operation of the digester facilities including the gas conveyance system. The upgrade to TPAD provides the facility with the ability to increase biogas production and produce Class A biosolids (if required by future regulations).

Notes This project corresponds to Plant Master Plan Project Nos. 45 - 53 and Validation Project PS-01. Prior to 2015-2019, this project was titled "Digester Rehabilitation".

Major Cost Changes 2008-2012 CIP through 2019-2023 CIP - increase of $168.3 million due to increased scope, realignment of project, higher than projected construction costs, inclusion of scope from other projects, and unforeseen conditions during construction, including air board regulatory requirements, major utility relocations, and a 78" SES line.
2020-2024 CIP - increase of $31.5 million due to unforeseen conditions and increased construction management costs.

	PRIOR YEARS	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL	BEYOND 5 YEARS	PROJECT TOTAL
Expenditure Schedule (000s)										
Project Feasibility Development	707	1								708
Design	14,888	2,932								17,820
Bid & Award	115									115
Construction	74,265	99,967	6,182	1,222				7,404		181,636
Post Construction				653				653		653
Total	**89,975**	**102,900**	**6,182**	**1,875**				**8,057**		**200,933**
Funding Source Schedule (000s)										
San José-Santa Clara Treatment Plant Capital Fund (512)	89,975	102,900	6,182	1,875				8,057		200,933
Total	**89,975**	**102,900**	**6,182**	**1,875**				**8,057**		**200,933**

Annual Operating Budget Impact (000s)					
Operating	1,012	1,798	1,865	1,934	
Maintenance	182	324	337	351	
Total	**1,194**	**2,122**	**2,202**	**2,285**	

East Primary Rehabilitation, Seismic Retrofit, and Odor Control

CSA	Environmental and Utility Services	**Initial Start Date**	3rd Qtr. 2009
CSA Outcome	Reliable Utility Infrastructure	**Initial End Date**	4th Qtr. 2012
Department	Environmental Services	**Revised Start Date**	3rd Qtr. 2010
Location	Water Pollution Control Plant	**Revised End Date**	3rd Qtr. 2028
Council Districts	4	**Initial Project Budget**	$3,605,000
Appropriation	A7226	**FY Initiated**	2010-2011

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.

Notes This project corresponds to Plant Master Plan Project Nos. 9, 10, and 11 and Validation Project PLP-02.

Major Cost Changes
2012-2016 CIP - increase of $80.1 million; $16.6 million due to increase of scope to incorporate master planning recommendations for seismic upgrades and odor control measures; $63.5 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.

	PRIOR YEARS	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL	BEYOND 5 YEARS	PROJECT TOTAL
Expenditure Schedule (000s)										
Project Feasibility Development	56	1,000		1,361				1,361		2,417
Design	30			9,386	1,211			10,597		10,627
Bid & Award				138	70			208		208
Construction					92,582	686	684	93,952	4,603	98,555
Post Construction					667			667	500	1,167
Total	**86**	**1,000**		**10,885**	**94,530**	**686**	**684**	**106,785**	**5,103**	**112,974**
Funding Source Schedule (000s)										
San José-Santa Clara Treatment Plant Capital Fund (512)	86	1,000		10,885	94,530	686	684	106,785	5,103	112,974
Total	**86**	**1,000**		**10,885**	**94,530**	**686**	**684**	**106,785**	**5,103**	**112,974**
Annual Operating Budget Impact (000s)										
Total										

Energy Generation Improvements

CSA	Environmental and Utility Services	**Initial Start Date**	3rd Qtr. 2012
CSA Outcome	Reliable Utility Infrastructure	**Initial End Date**	2nd Qtr. 2013
Department	Environmental Services	**Revised Start Date**	1st Qtr. 2012
Location	Water Pollution Control Pant	**Revised End Date**	2nd Qtr. 2021
Council Districts	4	**Initial Project Budget**	$1,300,000
Appropriation	A7454	**FY Initiated**	2012-2013

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.

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.

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".

Major Cost Changes
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.
2017-2021 CIP - increase of $4.9 million due to revised cost estimate.
2018-2022 CIP - increase of $7.5 million due to revised construction cost estimate.
2020-2024 CIP - increase of $2.5 million due to increased construction management costs.

	PRIOR YEARS	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL	BEYOND 5 YEARS	PROJECT TOTAL
Expenditure Schedule (000s)										
Project Feasibility Development	2,274	31								2,306
Design	9,662	1,056								10,718
Bid & Award	1,375	93								1,468
Construction	26,855	86,781	3,335	387				3,722		117,357
Post Construction	257			350				350		607
Total	**40,423**	**87,961**	**3,335**	**737**				**4,072**		**132,456**
Funding Source Schedule (000s)										
San José-Santa Clara Treatment Plant Capital Fund (512)	40,423	87,961	3,335	737				4,072		132,456
Total	**40,423**	**87,961**	**3,335**	**737**				**4,072**		**132,456**

Annual Operating Budget Impact (000s)						
Operating	45	46	48	49	50	
Maintenance	42	43	44	46	47	
Total	**87**	**89**	**92**	**95**	**97**	

Facility Wide Water Systems Improvements

CSA	Environmental and Utility Services	**Initial Start Date**	3rd Qtr. 2014
CSA Outcome	Reliable Utility Infrastructure	**Initial End Date**	1st Qtr. 2022
Department	Environmental Services	**Revised Start Date**	
Location	Water Pollution Control Plant	**Revised End Date**	2nd Qtr. 2024
Council Districts	4	**Initial Project Budget**	$14,130,000
Appropriation	A7679	**FY Initiated**	2014-2015

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, plant reliability, and code compliance requirements. In addition, changes to water uses and demands have not all 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 risk of damage to pumping equipment.

Notes This project corresponds to Plant Master Plan Project No. 105 and Validation Project PF-06.

Major Cost Changes 2016-2020 CIP - increase of $1.6 million due to escalation of construction costs.
2018-2022 CIP - increase of $2.1 million due to revised project delivery cost estimate.

	PRIOR YEARS	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL	BEYOND 5 YEARS	PROJECT TOTAL
Expenditure Schedule (000s)										
Project Feasibility Development	1,573	1,389	125					125		3,087
Design	7	1,052	1,689	322				2,011		3,070
Bid & Award	6	25	30	38	58			126		157
Construction			575	29	8,679	915	763	10,961		10,961
Post Construction							135	135		135
Total	**1,586**	**2,466**	**2,419**	**389**	**8,737**	**915**	**898**	**13,358**		**17,410**
Funding Source Schedule (000s)										
San José-Santa Clara Treatment Plant Capital Fund (512)	1,586	2,466	2,419	389	8,737	915	898	13,358		17,410
Total	**1,586**	**2,466**	**2,419**	**389**	**8,737**	**915**	**898**	**13,358**		**17,410**
Annual Operating Budget Impact (000s)										
Total										

Filter Rehabilitation

CSA	Environmental and Utility Services	**Initial Start Date**	3rd Qtr. 2011
CSA Outcome	Reliable Utility Infrastructure	**Initial End Date**	2nd Qtr. 2013
Department	Environmental Services	**Revised Start Date**	3rd Qtr. 2014
Location	Water Pollution Control Plant	**Revised End Date**	2nd Qtr. 2023
Council Districts	4	**Initial Project Budget**	$3,506,000
Appropriation	A7227	**FY Initiated**	2010-2011

Description This project will replace filter media, valves, actuators, and electrical controls for all filters. It will also replace the existing surface wash system with a new air scour system, rehabilitate electrical switchgears and related motor control consoles, upgrade pipes, and make concrete repairs.

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 critical improvements are needed to ensure continued regulatory compliance and operational reliability until a new filter complex is constructed.

Notes This project corresponds to Plant Master Plan Project Nos. 31, 32, and 33 as well as Validation Project PLF-01 and PLF-02.

Major Cost Changes
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.
2017-2021 CIP - increase of $2.5 million due to increased project scope.
2019-2023 CIP - increase of $6.9 million due to a revised construction cost estimate.
2020-2024 CIP - increase of $2.5 million due to a revised construction cost estimate.

	PRIOR YEARS	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL	BEYOND 5 YEARS	PROJECT TOTAL
Expenditure Schedule (000s)										
Project Feasibility Development	2,037	59								2,096
Design	711	4,309	370					370		5,390
Bid & Award	2	178	229					229		409
Construction	227		34,173	1,658	1,089	394		37,314		37,541
Post Construction			100			549		649		649
Total	**2,977**	**4,546**	**34,872**	**1,658**	**1,089**	**943**		**38,562**		**46,085**
Funding Source Schedule (000s)										
San José-Santa Clara Treatment Plant Capital Fund (512)	2,977	4,546	34,872	1,658	1,089	943		38,562		46,085
Total	**2,977**	**4,546**	**34,872**	**1,658**	**1,089**	**943**		**38,562**		**46,085**
Annual Operating Budget Impact (000s)										
Total										

Final Effluent Pump Station & Stormwater Channel Improvements

CSA	Environmental and Utility Services
CSA Outcome	Reliable Utility Infrastructure
Department	Environmental Services
Council Districts	4
Appropriation	TEMP_146

Initial Start Date	3rd Qtr. 2019
Initial End Date	3rd Qtr. 2025
Revised Start Date	
Revised End Date	
Initial Project Budget	$47,358,000
FY Initiated	2019-2020

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

Justification The U.S. Army Corps of Engineers (USACE) will be constructing a new shoreline levee and closure structure near the Plant's outfall channel to protect the region against future sea level rise from the San Francisco Bay. The USACE project will install a tide gate closure structure with two new flapper gates just north of the Plant's outfall bridge, which will inhibit the Plant's treated wastewater discharge into Coyote Creek. A new final effluent pump station is required to lift the treated wastewater to the projected higher water surface elevations that will be held back by the new levee and tide gate in Coyote Creek.

Notes This project corresponds to Validation Project PLD-03.

Major Cost Changes

	PRIOR YEARS	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL	BEYOND 5 YEARS	PROJECT TOTAL
Expenditure Schedule (000s)										
Project Feasibility Development			902	278				1,180		1,180
Design				3,640	1,099			4,739		4,739
Bid & Award				63	5	26		94		94
Construction				1,752		37,208	1,919	40,879		40,879
Post Construction				266			6	272	194	466
Total			**902**	**5,999**	**1,104**	**37,234**	**1,925**	**47,164**	**194**	**47,358**
Funding Source Schedule (000s)										
San José-Santa Clara Treatment Plant Capital Fund (512)			902	5,999	1,104	37,234	1,925	47,164	194	47,358
Total			**902**	**5,999**	**1,104**	**37,234**	**1,925**	**47,164**	**194**	**47,358**
Annual Operating Budget Impact (000s)										
Total										

Flood Protection

CSA	Environmental and Utility Services	**Initial Start Date**	3rd Qtr. 2017
CSA Outcome	Reliable Utility Infrastructure	**Initial End Date**	2nd Qtr. 2021
Department	Environmental Services	**Revised Start Date**	
Location	Water Pollution Control Plant	**Revised End Date**	2nd Qtr. 2023
Council Districts	4	**Initial Project Budget**	$9,136,000
Appropriation	A402M	**FY Initiated**	2017-2018

Description This project provides 100-year flood protection for the Plant by constructing engineered earthen berms on the northern and eastern sides of the Plant.

Justification The Plant is a critical facility located within a Federal Emergency Management Agency (FEMA) defined flood zone and will experience significant flooding during a 100-year flood event. Until the South Bay Shoreline Project is completed by the US Army Corps of Engineers, the Plant remains at risk of flooding. This project will provide immediate protection from a 100-year flood event.

Notes

Major Cost Changes 2020-2024 CIP - increase of $2.1 million due to an updated construction cost estimate.

	PRIOR YEARS	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL	BEYOND 5 YEARS	PROJECT TOTAL
Expenditure Schedule (000s)										
Project Feasibility Development	38	594	327					327		959
Design		1,513	162	361				523		2,036
Bid & Award		50		151	28			179		229
Construction		300		5,929	1,070	654		7,653		7,953
Post Construction						322		322		322
Total	**38**	**2,457**	**489**	**6,441**	**1,098**	**976**		**9,004**		**11,499**
Funding Source Schedule (000s)										
San José-Santa Clara Treatment Plant Capital Fund (512)	38	2,457	489	6,441	1,098	976		9,004		11,499
Total	**38**	**2,457**	**489**	**6,441**	**1,098**	**976**		**9,004**		**11,499**
Annual Operating Budget Impact (000s)										
Total										

Headworks Improvements

CSA	Environmental and Utility Services	**Initial Start Date**	3rd Qtr. 2012
CSA Outcome	Reliable Utility Infrastructure	**Initial End Date**	2nd Qtr. 2015
Department	Environmental Services	**Revised Start Date**	1st Qtr. 2013
Location	Water Pollution Control Plant	**Revised End Date**	2nd Qtr. 2023
Council Districts	4	**Initial Project Budget**	$5,975,000
Appropriation	A7448	**FY Initiated**	2012-2013

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.

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.

Notes This project corresponds to Plant Master Plan Project Nos. 1, 2, and 7 and Validation Project PLH-01.

Major Cost Changes
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.
2018-2022 CIP - decrease of $9.0 million due to reduction of scope to eliminate a condition assessment of HW1.
2020-2024 CIP - increase of $1.3 million due to revised construction cost estimate.

	PRIOR YEARS	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL	BEYOND 5 YEARS	PROJECT TOTAL
Expenditure Schedule (000s)										
Project Feasibility Development	1,440	114								1,553
Design	297	1,721	310					310		2,328
Bid & Award	412	224								636
Construction	1,815	221	14,598	289	259	70		15,216		17,252
Post Construction		211	75			18		93		304
Total	**3,964**	**2,491**	**14,983**	**289**	**259**	**88**		**15,619**		**22,074**
Funding Source Schedule (000s)										
San José-Santa Clara Treatment Plant Capital Fund (512)	3,964	2,491	14,983	289	259	88		15,619		22,074
Total	**3,964**	**2,491**	**14,983**	**289**	**259**	**88**		**15,619**		**22,074**
Annual Operating Budget Impact (000s)										
Total										

New Headworks

CSA	Environmental and Utility Services	**Initial Start Date**	3rd Qtr. 2012
CSA Outcome	Reliable Utility Infrastructure	**Initial End Date**	2nd Qtr. 2013
Department	Environmental Services	**Revised Start Date**	
Location	Water Pollution Control Plant	**Revised End Date**	2nd Qtr. 2023
Council Districts	4	**Initial Project Budget**	$79,400,000
Appropriation	A7449	**FY Initiated**	2012-2013

Description This project will construct a new headworks to serve as the Plant's duty headworks. It also involves lining the emergency overflow basin and installing spraydown systems to facilitate cleaning. The project will also be tasked with odor control over select areas, such as junction boxes and grit collection. This project will need to be coordinated with the modifications made to the Headworks 2 hydraulics and the eventual decommissioning of Headworks 1.

Justification 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, potentially piping and hydraulic simplification, addressing some of the operational issues currently experienced at the Plant, such as the deposition of grit in downstream processes.

Notes This project corresponds to Plant Master Plan Project Nos. 1, 3, 4, 5, and 8 and Validation Project PLH-02.

Major Cost Changes
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.
2018-2022 CIP - increase of $27.0 million due to revised project cost estimate.
2020-2024 CIP - increase of $19.4 million due to an updated construction cost estimate.

	PRIOR YEARS	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL	BEYOND 5 YEARS	PROJECT TOTAL
Expenditure Schedule (000s)										
Project Feasibility Development	3,447	340								3,787
Design	1	7,316	1,762					1,762		9,079
Bid & Award	1,020	618								1,638
Construction			128,308	1,498	1,383	470		131,659		131,659
Post Construction			425			101		526		526
Total	**4,468**	**8,275**	**130,495**	**1,498**	**1,383**	**571**		**133,947**		**146,690**
Funding Source Schedule (000s)										
San José-Santa Clara Treatment Plant Capital Fund (512)	4,468	8,275	130,495	1,498	1,383	571		133,947		146,690
Total	**4,468**	**8,275**	**130,495**	**1,498**	**1,383**	**571**		**133,947**		**146,690**
Annual Operating Budget Impact (000s)										
Total										

Nitrification Clarifier Rehabilitation

CSA	Environmental and Utility Services	**Initial Start Date**	3rd Qtr. 2009
CSA Outcome	Reliable Utility Infrastructure	**Initial End Date**	2nd Qtr. 2024
Department	Environmental Services	**Revised Start Date**	
Location	Water Pollution Control Plant	**Revised End Date**	4th Qtr. 2025
Council Districts	4	**Initial Project Budget**	$26,701,000
Appropriation	A7074	**FY Initiated**	2009-2010

Description This project includes phased rehabilitation of the 16 nitrification clarifiers. Structural improvements may include concrete repairs and coating, new clarifier mechanisms and baffle installations, pipe support and meter vault replacements, and walkway improvements. Mechanical improvements may include 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 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.

Notes This project corresponds to Plant Master Plan Project No. 21 and Validation Project PLS-02. This project is planned to be completed in multiple phases.

Major Cost anges
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.
2017-2021 CIP - decrease of $1.6 million due to revised cost estimate.
2020-2024 CIP - increase of $46.4 million due to an increase in the amount of rehabilitation required and updated construction cost estimate.

	PRIOR YEARS	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL	BEYOND 5 YEARS	PROJECT TOTAL
Expenditure Schedule (000s)										
Project Feasibility Development	3,788	88								3,876
Design	243	3,653		323	833			1,156		5,052
Bid & Award	4	167	132		213			345		517
Construction			52,648	2,034	1,064	30,500	2,152	88,398	1,110	89,508
Post Construction			251		815	190		1,256	764	2,020
Total	**4,036**	**3,908**	**53,031**	**2,357**	**2,925**	**30,690**	**2,152**	**91,155**	**1,874**	**100,973**
Funding Source Schedule (000s)										
San José-Santa Clara Treatment Plant Capital Fund (512)	4,036	3,908	53,031	2,357	2,925	30,690	2,152	91,155	1,874	100,973
Total	**4,036**	**3,908**	**53,031**	**2,357**	**2,925**	**30,690**	**2,152**	**91,155**	**1,874**	**100,973**

Annual Operating Budget Impact (000s)

tal

Outfall Bridge and Levee Improvements

CSA	Environmental and Utility Services	**Initial Start Date**	3rd Qtr. 2014
CSA Outcome	Reliable Utility Infrastructure	**Initial End Date**	2nd Qtr. 2019
Department	Environmental Services	**Revised Start Date**	
Location	Water Pollution Control Plant	**Revised End Date**	2nd Qtr. 2021
Council Districts	4	**Initial Project Budget**	$8,120,000
Appropriation	A7678	**FY Initiated**	2014-2015

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.

Notes This project corresponds to Validation Project PLD-02.

Major Cost Changes
2016-2020 CIP - increase of $1.7 million due to escalation of construction costs.
2018-2022 CIP - decrease of $776,000 due to reduction of project scope.
2019-2023 CIP - decrease of $764,000 due to revised cost estimates.

	PRIOR YEARS	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL	BEYOND 5 YEARS	PROJECT TOTAL
Expenditure Schedule (000s)										
Project Feasibility Development	254	1,320								1,574
Design	6	338								344
Bid & Award	1	25	113					113		138
Construction	3	797	4,713	524				5,237		6,037
Post Construction				199				199		199
Total	**263**	**2,480**	**4,826**	**723**				**5,549**		**8,292**
Funding Source Schedule (000s)										
San José-Santa Clara Treatment Plant Capital Fund (512)	263	2,480	4,826	723				5,549		8,292
Total	**263**	**2,480**	**4,826**	**723**				**5,549**		**8,292**
Annual Operating Budget Impact (000s)										
Total										

Plant Electrical Reliability

CSA	Environmental and Utility Services	**Initial Start Date**	3rd Qtr. 2003
CSA Outcome	Reliable Utility Infrastructure	**Initial End Date**	2nd Qtr. 2014
Department	Environmental Services	**Revised Start Date**	
Location	Water Pollution Control Plant	**Revised End Date**	2nd Qtr. 2022
Council Districts	4	**Initial Project Budget**	$7,671,000
Appropriation	A4341	**FY Initiated**	2003-2004

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.

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

Major Cost Changes
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.
2017-2021 CIP - decrease of $1.2 million due to revised project scope.
2020-2024 CIP - increase of $2.2 million due to revised construction cost estimate.

	PRIOR YEARS	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL	BEYOND 5 YEARS	PROJECT TOTAL
Expenditure Schedule (000s)										
Project Feasibility Development	669	25								694
Design	1,170	1,942	102					102		3,215
Bid & Award	49	41	43					43		133
Construction	20,512	4,686	1,647	394	362			2,403		27,601
Post Construction	23				131			131		154
Total	**22,424**	**6,694**	**1,792**	**394**	**493**			**2,679**		**31,797**
Funding Source Schedule (000s)										
San José-Santa Clara Treatment Plant Capital Fund (512)	22,424	6,694	1,792	394	493			2,679		31,797
Total	**22,424**	**6,694**	**1,792**	**394**	**493**			**2,679**		**31,797**

Annual Operating Budget Impact (000s)

tal

Storm Drain System Improvements

CSA	Environmental and Utility Services	**Initial Start Date**	3rd Qtr. 2017
CSA Outcome	Reliable Utility Infrastructure	**Initial End Date**	2nd Qtr. 2021
Department	Environmental Services	**Revised Start Date**	4th Qtr. 2017
Location	Water Pollution Control Plant	**Revised End Date**	2nd Qtr. 2023
Council Districts	4	**Initial Project Budget**	$10,195,000
Appropriation	A404V	**FY Initiated**	2017-2018

Description This project upgrades the existing Plant stormwater drainage system to meet current City standards. The project includes modifying existing drainage facilities and constructing new storm system facilities to meet the City's 10-year design standard.

Justification The Plant's stormwater drainage facilities do not meet the City's 10-year storm event standard. Upgrades to the existing systems are needed to prevent stormwater flooding in and around the Plant's operational area.

Notes

Major Cost Changes 2019-2023 CIP - increase of $3.7 million due to an escalation of construction costs.
2020-2024 CIP - increase of $1.2 million due to revised condition assessment and construction management estimates.

	PRIOR YEARS	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL	BEYOND 5 YEARS	PROJECT TOTAL
Expenditure Schedule (000s)										
Project Feasibility Development	126	957								1,083
Design		113	939	91				1,030		1,143
Bid & Award		100		113				113		213
Construction		250		10,835	883	487		12,205		12,455
Post Construction		50				166		166		216
Total	**126**	**1,470**	**939**	**11,039**	**883**	**653**		**13,514**		**15,110**
Funding Source Schedule (000s)										
San José-Santa Clara Treatment Plant Capital Fund (512)	126	1,470	939	11,039	883	653		13,514		15,110
Total	**126**	**1,470**	**939**	**11,039**	**883**	**653**		**13,514**		**15,110**
Annual Operating Budget Impact (000s)										
Total										

Support Building Improvements

CSA	Environmental and Utility Services	**Initial Start Date**	1st Qtr. 2015
CSA Outcome	Reliable Utility Infrastructure	**Initial End Date**	3rd Qtr. 2023
Department	Environmental Services	**Revised Start Date**	2nd Qtr. 2015
Location	Water Pollution Control Plant	**Revised End Date**	1st Qtr. 2028
Council Districts	4	**Initial Project Budget**	$55,590,000
Appropriation	A7681	**FY Initiated**	2014-2015

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.

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

Major Cost anges 2016-2020 CIP - decrease of $856,000 due to revised cost estimate.
2018-2022 CIP - increase of $2.2 million due to revised project delivery cost estimate.

	PRIOR YEARS	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL	BEYOND 5 YEARS	PROJECT TOTAL
Expenditure Schedule (000s)										
General Administration	0									0
Project Feasibility Development	1,226	3,898							1,848	6,972
Design	42	1,610	356					356	4,193	6,201
Bid & Award	6	218	152					152	493	869
Construction		2,348	10,817	1,237	689	518		13,261	25,202	40,811
Post Construction				113		277	360	750	1,141	1,891
Equipment, Materials and Supplies	346									346
Total	**1,620**	**8,074**	**11,325**	**1,350**	**689**	**795**	**360**	**14,519**	**32,877**	**57,090**
Funding Source Schedule (000s)										
San José-Santa Clara Treatment Plant Capital Fund (512)	1,620	8,074	11,325	1,350	689	795	360	14,519	32,877	57,090
Total	**1,620**	**8,074**	**11,325**	**1,350**	**689**	**795**	**360**	**14,519**	**32,877**	**57,090**
Annual Operating Budget Impact (000s)										
Total										

Treatment Plant Distributed Control System

CSA	Environmental and Utility Services	**Initial Start Date**	1st Qtr. 2012
CSA Outcome	Reliable Utility Infrastructure	**Initial End Date**	2nd Qtr. 2016
Department	Environmental Services	**Revised Start Date**	
Location	Water Pollution Control Plant	**Revised End Date**	2nd Qtr. 2020
Council Districts	4	**Initial Project Budget**	$4,065,000
Appropriation	A7394	**FY Initiated**	2012-2013

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. This project consists of three phases. Phase I is completed and ensured that the system was upgraded and will be supported by the vendor. The wiring and replacement of field communication hardware will be done in Phase II, and a new controller and programming will be added in Phase III.

Justification Upgrading this system is vital to maintaining efficient operations and improving monitoring capabilities.

Notes

Major Cost Changes
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.
2017-2021 CIP - increase of $1.6 million due to revised cost estimate.
2019-2023 CIP - increase of $2.8 million due to revised cost estimate.
2020-2024 CIP - increase of $1.9 million due to an increase in the number of components impacted and updated agreement estimate.

	PRIOR YEARS	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL	BEYOND 5 YEARS	PROJECT TOTAL
Expenditure Schedule (000s)										
Design	320									320
Construction	3,669	2,216	5,438					5,438		11,323
Total	**3,989**	**2,216**	**5,438**					**5,438**		**11,643**
Funding Source Schedule (000s)										
San José-Santa Clara Treatment Plant Capital Fund (512)	3,989	2,216	5,438					5,438		11,643
Total	**3,989**	**2,216**	**5,438**					**5,438**		**11,643**
Annual Operating Budget Impact (000s)										
Total										

Various Infrastructure Decommissioning

CSA	Environmental and Utility Services	**Initial Start Date**	3rd Qtr. 2018
CSA Outcome	Reliable Utility Infrastructure	**Initial End Date**	2nd Qtr. 2022
Department	Environmental Services	**Revised Start Date**	2nd Qtr. 2019
Location	Water Pollution Control Plant	**Revised End Date**	1st Qtr. 2025
Council Districts	4	**Initial Project Budget**	$22,220,000
Appropriation	A410S	**FY Initiated**	2018-2019

Description This project will decommission and remove equipment, structures, and piping located in Building 40, Pump and Engine Building, Sludge Control Building, digester campus, and tunnels.

Justification The decommissioning and removal of obsolete and abandoned equipment, structures, and piping will free up valuable space for future equipment or systems and improves operational and maintenance efficiencies of existing systems. The majority of the infrastructure and equipment at the Plant is more than 60 years old. It is best practice to remove obsolete facilities and equipment to avoid ongoing maintenance, comply with permit requirements, and to free up space for new equipment.

Notes

Major Cost Changes

	PRIOR YEARS	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL	BEYOND 5 YEARS	PROJECT TOTAL
Expenditure Schedule (000s)										
Design		469			2,560			2,560		3,029
Bid & Award					30			30		30
Construction						18,470	628	19,098		19,098
Post Construction							63	63		63
Total		**469**			**2,590**	**18,470**	**691**	**21,751**		**22,220**
Funding Source Schedule (000s)										
San José-Santa Clara Treatment Plant Capital Fund (512)		469			2,590	18,470	691	21,751		22,220
Total		**469**			**2,590**	**18,470**	**691**	**21,751**		**22,220**
Annual Operating Budget Impact (000s)										
Total										

Yard Piping and Road Improvements

CSA	Environmental and Utility Services	**Initial Start Date**	3rd Qtr. 2011
CSA Outcome	Reliable Utility Infrastructure	**Initial End Date**	4th Qtr. 2026
Department	Environmental Services	**Revised Start Date**	
Location	Water Pollution Control Plant	**Revised End Date**	2nd Qtr 2028
Council Districts	4	**Initial Project Budget**	N/A
Appropriation	A7396	**FY Initiated**	2011-2012

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.

Notes This project corresponds to Plant Master Plan Project Nos. 98 and 100 and Validation Project PF-04. Prior to 2018-2022, this project was ongoing in nature; it has since become a finite project.

Major Cost Changes 2019-2023 CIP - decrease of $14.3 million due to a decrease in project scope and a 78" SES pipe that will be replaced in the Digester and Thickener Facilities Upgrade project.

	PRIOR YEARS	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL	BEYOND 5 YEARS	PROJECT TOTAL
Expenditure Schedule (000s)										
Project Feasibility Development	994	1,956	286					286		3,236
Design	154	1,471	4,854	1,660	1,535	4,998	975	14,022	1,664	17,311
Bid & Award	35	141	229	130	10	10		379		555
Construction	935	2,190	12,929	19,997	18,704	16,425	12,987	81,042	15,134	99,301
Post Construction		29	154	160				314	606	949
Total	**2,118**	**5,787**	**18,452**	**21,947**	**20,249**	**21,433**	**13,962**	**96,043**	**17,404**	**121,352**
Funding Source Schedule (000s)										
San José-Santa Clara Treatment Plant Capital Fund (512)	2,118	5,787	18,452	21,947	20,249	21,433	13,962	96,043	17,404	121,352
Total	**2,118**	**5,787**	**18,452**	**21,947**	**20,249**	**21,433**	**13,962**	**96,043**	**17,404**	**121,352**
Annual Operating Budget Impact (000s)										
Total										

Equipment Replacement

CSA	Environmental and Utility Services	**Initial Start Date**	Ongoing
CSA Outcome	Reliable Utility Infrastructure	**Initial End Date**	Ongoing
Department	Environmental Services	**Revised Start Date**	
Location	Water Pollution Control Plant	**Revised End Date**	
Council Districts	4	**Initial Project Budget**	
Appropriation	A4332		

Description This allocation provides for the urgent replacement of equipment at the Plant that is not identified in any other project.

Justification The replacement and rehabilitation of Plant equipment are necessary as a result of wear or obsolescence and will ensure continued efficient operation of the Plant facilities.

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

Major Cost Changes

	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL
Expenditure Schedule (000s)							
Construction Equipment, Materials and Supplies	1,663	1,663	1,663	1,663	1,663	1,663	8,315
Total	**1,663**	**1,663**	**1,663**	**1,663**	**1,663**	**1,663**	**8,315**
Funding Source Schedule (000s)							
San José-Santa Clara Treatment Plant Capital Fund (512)	1,663	1,663	1,663	1,663	1,663	1,663	8,315
Total	**1,663**	**1,663**	**1,663**	**1,663**	**1,663**	**1,663**	**8,315**
Annual Operating Budget Impact (000s)							
Total							

Hydraulic Capacity Engineering

CSA	Environmental and Utility Services	**Initial Start Date**	Ongoing
CSA Outcome	Safe, Reliable, and Sufficient Water Supply; Reliable Utility Infrastructure	**Initial End Date**	Ongoing
Department	Environmental Services	**Revised Start Date**	
Location	Water Pollution Control Plant	**Revised End Date**	
Council Districts	4	**Initial Project Budget**	
Appropriation	A411B		

Description This allocation funds the expansion of the South Bay Water Recycling (SBWR) system through the construction of pipeline and ancillary distribution system projects. Use of these funds will be dedicated towards the design, engineering, and inspection for the connection of new developments to the recycled water utility system. SBWR's hydraulic capacity engineering is limited to extensions that are justified by projected water revenues, grant funding, or funds from developers or other government agencies (e.g. Santa Clara Valley Water District). No revenue from Plant Tributary Agencies or City Sanitary Sewer rate payers will be used to fund this project.

Justification Funding for SBWR's hydraulic capacity engineering includes extensions to the existing recycled water distribution system that will provide additional capacity. This annual allocation is necessary to accommodate development and the expenditures funded by developers or other government agencies.

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".

Major Cost Changes

	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL
Expenditure Schedule (000s)							
Construction		25	25	25	25	25	125
Total		**25**	**25**	**25**	**25**	**25**	**125**
Funding Source Schedule (000s)							
South Bay Water Recycling Capital Fund (571)		25	25	25	25	25	125
Total		**25**	**25**	**25**	**25**	**25**	**125**
Annual Operating Budget Impact (000s)							
Total							

Plant Infrastructure Improvements

CSA	Environmental and Utility Services	**Initial Start Date**	Ongoing
CSA Outcome	Reliable Utility Infrastructure	**Initial End Date**	Ongoing
Department	Environmental Services	**Revised Start Date**	
Location	Water Pollution Control Plant	**Revised End Date**	
Council Districts	4	**Initial Project Budget**	
Appropriation	A5690		

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.

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

Major Cost Changes

	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL
Expenditure Schedule (000s)							
Construction	2,349	1,000	1,000	1,000	1,000	1,000	5,000
Total	**2,349**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**5,000**
Funding Source Schedule (000s)							
San José-Santa Clara Treatment Plant Capital Fund (512)	2,349	1,000	1,000	1,000	1,000	1,000	5,000
Total	**2,349**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**5,000**
Annual Operating Budget Impact (000s)							
Total							

Urgent and Unscheduled Treatment Plant Rehabilitation

CSA	Environmental and Utility Services
CSA Outcome	Reliable Utility Infrastructure
Department	Environmental Services
Location	Water Pollution Control Plant
Council Districts	4
Appropriation	A7395

Initial Start Date	Ongoing
Initial End Date	Ongoing
Revised Start Date	
Revised End Date	
Initial Project Budget	

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.

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

Major Cost Changes

	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL
Expenditure Schedule (000s)							
Construction	2,500	500	500	500	500	500	2,500
Total	**2,500**	**500**	**500**	**500**	**500**	**500**	**2,500**
Funding Source Schedule (000s)							
San José-Santa Clara Treatment Plant Capital Fund (512)	2,500	500	500	500	500	500	2,500
Total	**2,500**	**500**	**500**	**500**	**500**	**500**	**2,500**
Annual Operating Budget Impact (000s)							
Total							

Debt Service Repayment for Plant Capital Improvement Projects

CSA Environmental and Utility Services
CSA Outcome Reliable Utility Infrastructure
Department Environmental Services
Council Districts N/A
Appropriation A402C

Description This allocation provides for the repayment of financing proceeds, including short-term wastewater revenue notes and long-term bonds, drawn for the Plant Capital Improvement Projects.

Notes The use of Wastewater Revenue Notes for funding began in October 2017.

	PRIOR YEARS	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL	BEYOND 5 YEARS	PROJECT TOTAL
Expenditure Schedule (000s)										
General Administration	845	3,828	2,625	304,274	29,144	25,991	28,096	390,130	676,221	1,071,024
Total	**845**	**3,828**	**2,625**	**304,274**	**29,144**	**25,991**	**28,096**	**390,130**	**676,221**	**1,071,024**
Funding Source Schedule (000s)										
San José-Santa Clara Treatment Plant Capital Fund (512)	845	3,828	2,625	304,274	29,144	25,991	28,096	390,130	676,221	1,071,024
Total	**845**	**3,828**	**2,625**	**304,274**	**29,144**	**25,991**	**28,096**	**390,130**	**676,221**	**1,071,024**

Owner Controlled Insurance Program

CSA	Environmental and Utility Services
CSA Outcome	Reliable Utility Infrastructure
Department	Environmental Services
Council Districts	N/A
Appropriation	A401B

Description This allocation provides funding for a centrally managed insurance and risk control program for construction projects in the Water Pollution Control CIP.

Notes Funding allocated in 2018-2019 is intended to cover expenses in 2018-2019 and possible expenses in 2019-2020 via rebudgeting.

	PRIOR YEARS	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL	BEYOND 5 YEARS	PROJECT TOTAL
Expenditure Schedule (000s)										
General Administration	2,831									2,831
Construction	273	7,771		3,705	3,705	1,399	1,264	10,073		18,117
Total	**3,104**	**7,771**		**3,705**	**3,705**	**1,399**	**1,264**	**10,073**		**20,948**
Funding Source Schedule (000s)										
San José-Santa Clara Treatment Plant Capital Fund (512)	3,104	7,771		3,705	3,705	1,399	1,264	10,073		20,948
Total	**3,104**	**7,771**		**3,705**	**3,705**	**1,399**	**1,264**	**10,073**		**20,948**

Payment for Clean Water Financing Authority Trustee

CSA Environmental and Utility Services
CSA Outcome Reliable Utility Infrastructure
Department Environmental Services
Council Districts 4
Appropriation A6584

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

Notes

	PRIOR YEARS	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL	BEYOND 5 YEARS	PROJECT TOTAL
Expenditure Schedule (000s)										
General Administration	437	5	5	5	5			15		457
Bid & Award	15									15
Total	**452**	**5**	**5**	**5**	**5**			**15**		**472**
Funding Source Schedule (000s)										
San José-Santa Clara Treatment Plant Capital Fund (512)	452	5	5	5	5			15		472
Total	**452**	**5**	**5**	**5**	**5**			**15**		**472**

Preliminary Engineering - Water Pollution Control

CSA Environmental and Utility Services
CSA Outcome Reliable Utility Infrastructure
Department Environmental Services
Council Districts 4
Appropriation A7456

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

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

	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL
Expenditure Schedule (000s)							
Project Feasibility Development	2,027	1,000	1,000	1,000	1,000	1,000	5,000
Total	**2,027**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**5,000**
Funding Source Schedule (000s)							
San José-Santa Clara Treatment Plant Capital Fund (512)	2,027	1,000	1,000	1,000	1,000	1,000	5,000
Total	**2,027**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**5,000**

Detail of Ongoing Non-Construction Projects

Program Management - Water Pollution Control

CSA Environmental and Utility Services
CSA Outcome Reliable Utility Infrastructure
Department Environmental Services
Council Districts 4
Appropriation A7481

Description This allocation funds the administration and management of the Water Pollution Control CIP.

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

	FY19 EST	FY20	FY21	FY22	FY23	FY24	5 YEAR TOTAL
Expenditure Schedule (000s)							
General Administration	12,908	8,122	11,738	11,712	9,794	7,426	48,792
Project Feasibility Development	0						
Construction	132						
Total	**13,039**	**8,122**	**11,738**	**11,712**	**9,794**	**7,426**	**48,792**
Funding Source Schedule (000s)							
San José-Santa Clara Treatment Plant Capital Fund (512)	13,039	8,122	11,738	11,712	9,794	7,426	48,792
Total	**13,039**	**8,122**	**11,738**	**11,712**	**9,794**	**7,426**	**48,792**

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2019-2020 Capital Budget

2020-2024 Capital Improvement Program

Water Pollution Control

Summary of Projects that Start After 2019-2020

Summary of Reserves

Explanation of Funds

Water Pollution Capital Program

2020-2024 Proposed Capital Improvement Program

Summary of Projects that Start After 2019-2020

Project Name	Additional Digester Upgrades	**Initial Start Date**	3rd Qtr. 2021
5-Yr CIP Budget	$ 10,520,000	**Initial End Date**	2nd Qtr. 2028
Total Budget	$ 64,475,000	**Revised Start Date**	
Council Districts	4	**Revised End Date**	
Description	This project will rehabilitate up to six existing anaerobic digesters, including installation of new covers and mixers, upgrades the existing sludge distribution piping, and upgrades the digester heat supply system. The project may also include the installation of batch tanks to produce Class A biosolids (if required by future regulations).		

Project Name	Secondary Clarifier Rehabilitation	**Initial Start Date**	1st Qtr. 2017
5-Yr CIP Budget	$ 2,833,000	**Initial End Date**	2nd Qtr. 2024
Total Budget	$ 26,455,000	**Revised Start Date**	3rd Qtr. 2022
Council Districts	4	**Revised End Date**	4th Qtr. 2028
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.		

Summary of Reserves

Project Name	Equipment Replacement Reserve	**Initial Start Date**	N/A
5-Yr CIP Budget	$ 5,000,000	**Initial End Date**	N/A
Total Budget	$ 5,000,000	**Revised Start Date**	
Council Districts	4	**Revised End Date**	
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.		

Project Name	Hydraulic Capacity Enhancements Reserve	**Initial Start Date**	Ongoing
5-Yr CIP Budget	$ 3,666,000	**Initial End Date**	Ongoing
Total Budget	$ 3,666,000	**Revised Start Date**	
Council Districts	4	**Revised End Date**	
Description	SBWR Hydraulic Capacity Enhancement Reserve. This reserve is for future design, engineering, and inspection for the connection of new developments to the recycled water utility system.		

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.

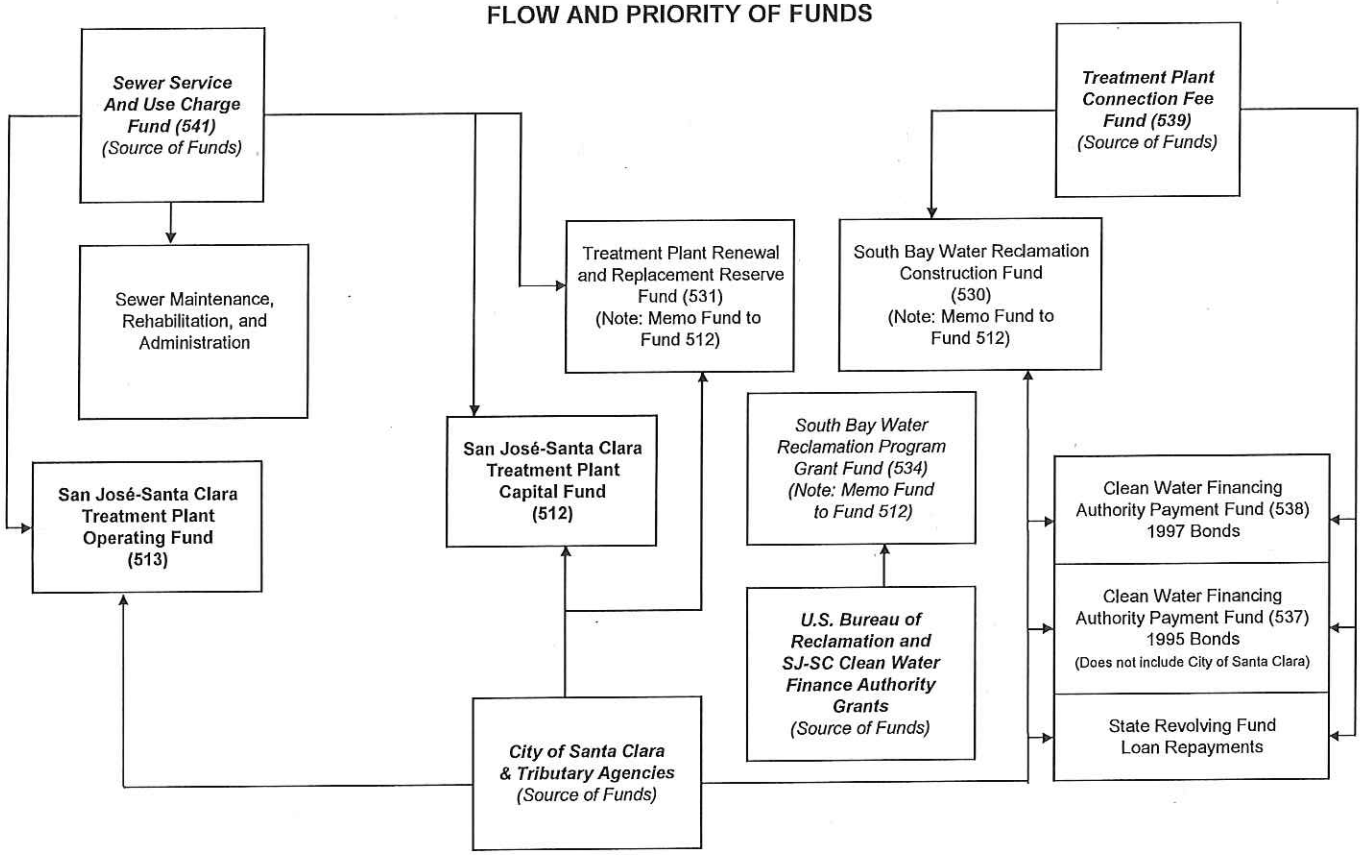
The San José Sewer Service and Use Charge Fund was established in the San José Municipal Code Section 15.12.640 in August 1959. This fund is the depository of revenues from Sewer Service and Use Charges received from residential, commercial, and industrial users of the sanitary sewer system. A portion 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.

The South Bay Water Recycling (SBWR) Capital Fund provides monies for capital improvement projects in support of SBWR system infrastructure.

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.

ATTACHMENT A
CIP AGENCY ALLOCATIONS - TEN YEAR FORCAST

	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29	5-Year Total	10-Year Total
Santa Clara												
WPCP Projects	49,831,212	31,769,400	25,374,842	31,599,037	5,900,965	15,751,414	6,139,399	1,903,898	5,099,825	15,064,910	144,475,455	188,434,901
Equipment Replacement	0	229,976	229,976	229,976	229,976	229,976	229,976	229,976	229,976	229,976	919,904	2,069,784
SRF Loan Annual Repayment	0	0	0	0	0	0	0	0	0	0	0	0
CWFA Debt Service Payment	0	0	0	0	0	0	0	0	0	0	0	0
Total	49,831,212	31,999,376	25,604,818	31,829,013	6,130,941	15,981,390	6,369,375	2,133,874	5,329,801	15,294,886	145,395,359	190,504,685
West Valley												
WPCP Projects	21,251,080	11,617,418	10,318,400	12,319,470	2,399,518	5,570,941	2,510,551	763,265	2,117,481	6,056,996	57,905,886	74,925,120
Equipment Replacement	0	144,565	144,565	144,565	144,565	144,565	144,565	144,565	144,565	144,565	578,260	1,301,085
SRF Loan Annual Repayment	0	0	0	0	0	0	0	0	0	0	0	0
CWFA Debt Service Payment	0	0	0	0	0	0	0	0	0	0	0	0
Total	21,251,080	11,761,983	10,462,965	12,464,035	2,544,083	5,715,506	2,655,116	907,830	2,262,046	6,201,561	58,484,146	76,226,205
Cupertino												
WPCP Projects	14,014,037	7,249,413	6,711,427	8,001,650	1,568,244	3,418,974	1,650,923	499,025	1,396,492	3,996,369	37,544,772	48,506,555
Equipment Replacement	0	85,262	85,262	85,262	85,262	85,262	85,262	85,262	85,262	85,262	341,048	767,358
SRF Loan Annual Repayment	0	0	0	0	0	0	0	0	0	0	0	0
CWFA Debt Service Payment	0	0	0	0	0	0	0	0	0	0	0	0
Total	14,014,037	7,334,675	6,796,689	8,086,912	1,653,506	3,504,236	1,736,185	584,287	1,481,754	4,081,631	37,885,820	49,273,913
Milpitas												
WPCP Projects	25,058,380	12,270,545	11,730,241	13,752,836	2,746,284	5,752,821	2,881,472	864,425	2,452,007	6,899,034	65,558,286	84,408,045
Equipment Replacement	0	98,882	98,882	98,882	98,882	98,882	98,882	98,882	98,882	98,882	395,528	889,938
SRF Loan Annual Repayment	0	0	0	0	0	0	0	0	0	0	0	0
CWFA Debt Service Payment	43,001	42,994	0	0	0	0	0	0	0	0	85,995	85,995
Total	25,101,380	12,412,421	11,829,123	13,851,718	2,845,166	5,851,703	2,980,354	963,307	2,550,889	6,997,916	66,039,809	85,383,978
CSD 2/3												
WPCP Projects	1,754,531	899,408	835,937	994,300	195,288	423,822	205,568	62,057	174,199	496,708	4,679,463	6,041,817
Equipment Replacement	0	15,965	15,965	15,965	15,965	15,965	15,965	15,965	15,965	15,965	63,860	143,685
SRF Loan Annual Repayment	0	0	0	0	0	0	0	0	0	0	0	0
CWFA Debt Service Payment	96,006	95,990	0	0	0	0	0	0	0	0	191,996	191,996
Total	1,850,536	1,011,363	851,902	1,010,265	211,253	439,787	221,533	78,022	190,164	512,673	4,935,319	6,377,498
Burbank												
WPCP Projects	726,560	383,290	354,157	458,756	85,392	178,674	91,799	27,984	76,776	234,635	2,008,154	2,618,023
Equipment Replacement	0	4,623	4,623	4,623	4,623	4,623	4,623	4,623	4,623	4,623	18,492	41,607
SRF Loan Annual Repayment	0	0	0	0	0	0	0	0	0	0	0	0
CWFA Debt Service Payment	15,863	15,860	0	0	0	0	0	0	0	0	31,723	31,723
Total	742,422	403,773	358,780	463,379	90,015	183,297	96,422	32,607	81,399	239,258	2,058,369	2,691,353
San Jose												
WPCP Projects	204,539,202	130,463,526	104,204,996	129,764,951	24,231,308	64,684,354	25,211,287	7,818,346	20,942,220	61,862,348	593,303,983	773,822,539
Equipment Replacement	0	1,083,727	1,083,727	1,083,727	1,083,727	1,083,727	1,083,727	1,083,727	1,083,727	1,083,727	4,334,908	9,753,543
SRF Loan Annual Repayment	0	0	0	0	0	0	0	0	0	0	0	0
City Hall Debt Service	89,000	91,000	91,000	91,000	91,000	91,000	91,000	91,000	91,000	91,000	453,000	908,000
New Debt Service 2017-18	2,625,000	304,274,000	29,144,000	25,991,000	28,096,000	28,096,000	28,096,000	28,096,000	28,096,000	28,096,000	390,130,000	530,610,000
CWFA Debt Service Payment	5,372,219	5,371,356	0	0	0	0	0	0	0	0	10,743,574	10,743,574
Total	212,725,421	441,283,609	134,523,723	156,930,678	53,502,035	93,955,081	54,482,014	37,089,073	50,212,947	91,133,075	998,965,466	1,325,837,656

ATTACHMENT A
CIP AGENCY ALLOCATIONS - TEN YEAR FORCAST

	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29	5-Year Total	10-Year Total
TOTAL												
WPCP Projects	317,275,000	194,653,000	159,530,000	196,891,000	37,127,000	95,781,000	38,691,000	11,939,000	32,259,000	94,611,000	905,476,000	1,178,757,000
Equipment Replacement	0	1,663,000	1,663,000	1,663,000	1,663,000	1,663,000	1,663,000	1,663,000	1,663,000	1,663,000	6,652,000	14,967,000
SRF Loan Annual Repmnt	0	0	0	0	0	0	0	0	0	0	0	0
City Hall Debt Service	89,000	91,000	91,000	91,000	91,000	91,000	91,000	91,000	91,000	91,000	453,000	908,000
New Debt Service 2017-18	2,625,000	304,274,000	29,144,000	25,991,000	28,096,000	28,096,000	28,096,000	28,096,000	28,096,000	28,096,000	390,130,000	530,610,000
CWFA Debt Service Repayment	5,527,000	5,526,000	0	0	0	0	0	0	0	0	11,053,000	11,053,000
	325,516,000	506,207,000	190,428,000	224,636,000	66,977,000	125,631,000	68,541,000	41,789,000	62,109,000	124,461,000	1,313,764,000	1,736,295,000

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: TREATMENT PLANT ADVISORY COMMITTEE

FROM: Kerrie Romanow

SUBJECT: 2019-2020 PROPOSED OPERATING BUDGET

DATE: May 10, 2019

Approved Date

This memorandum serves to transmit the San José/Santa Clara Regional Wastewater Facility (RWF) Proposed 2019-2020 Operating and Maintenance Budget. The RWF is jointly owned by the cities of San José and Santa Clara and is administered and operated by the City of San José Environmental Services Department. As a regional-serving facility, the RWF provides wastewater treatment services to other cities and sanitary districts in the South Bay including: City of Milpitas, Cupertino Sanitary District, West Valley Sanitation District (representing cities of Campbell, Los Gatos, Monte Sereno, and Saratoga), County Sanitation District 2-3, and Burbank Sanitary District. The Proposed Operating and Maintenance Budget is provided to the Treatment Plant Advisory Committee's review and for a recommendation to the San José City Council for approval.

If you should have any questions, please contact Napp Fukuda at 408-793-5353.

/s/ Napp Fukuda for
KERRIE ROMANOW
Director, Environmental Services

PROPOSED

SAN JOSE / SANTA CLARA WATER POLLUTION CONTROL PLANT

700 Los Esteros Road
San José, California 95134

2019-2020

Operating & Maintenance Budget

Submitted by
Kerrie Romanow, Director
Environmental Services Department
City of San José

TO: Treatment Plant Advisory Committee

Sam Liccardo	(Chair) Mayor, City of San José
Debi Davis	(Vice-Chair) Councilmember, City of Santa Clara
Carmen Montano	Councilmember, City of Milpitas
Kathy Watanabe	Councilmember, City of Santa Clara
Steven Leonardis	Board Member, West Valley Sanitation District
John M. Gatto	Board Member, Cupertino Sanitary District
David Sykes	City Manager, City of San José
Dev Davis	Councilmember, City of San José
Lan Diep	Councilmember, City of San José

SAN JOSE / SANTA CLARA

WATER POLLUTION CONTROL PLANT

700 Los Esteros Road
San José, California 95134

2019-2020

PROPOSED

Operating & Maintenance Budget

Environmental Services Department
City of San José

San José/Santa Clara Water Pollution Control Plant

Environmental Services Department

Page No.

San José/Santa Clara Water Pollution Control Plant

Environmental Services Department

BUDGET SUMMARY

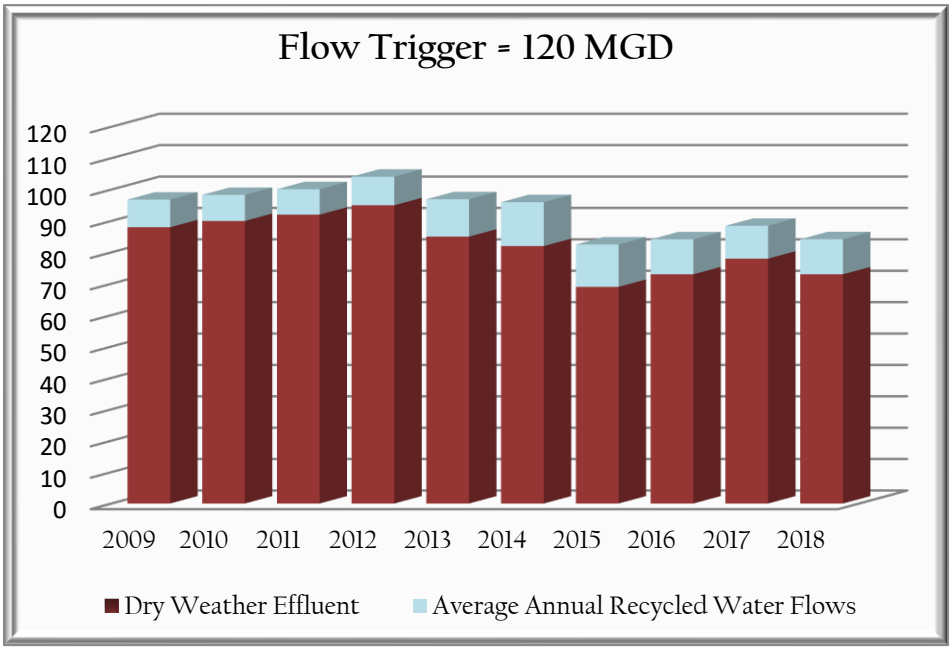
	Adopted 18-19	Proposed 19-20	% Change
Treatment Plant Operating Fund Budget	106,655,284	111,256,649	4.3%
ESD Authorized Positions	360.86	368.88	2.2%

BUDGET HIGHLIGHTS 2019-2020

- The addition of professional and technical staff will support key operations and maintenance coordination activities on a range of activity CIP projects currently underway at the Plant.
- The addition of funding to initiate a CEQA study and fund subsequent environmental permitting required by state and federal resource agencies in advance of the formal closure of the legacy lagoons at the Plant.

Budget Byte

10 year History of Average Dry Weather Flow (in millions of gallons per day)



San José/Santa Clara Water Pollution Control Plant

Environmental Services Department

TREATMENT PLANT OPERATING FUND BUDGET SUMMARY

Budget Summary	2017-2018 Actual Expenses	2018-2019 Adopted Budget	2019-2020 Base Budget	2019-2020 Proposed Budget
Personal Services	53,675,478	58,737,337	60,951,905	62,145,608
Non-personal Expenses	29,450,008	30,695,194	31,314,154	32,534,558
Equipment	503,543	906,000	906,000	906,000
Inventory	536,705	400,000	600,000	600,000
Department Expenses	**84,165,734**	**90,738,531**	**93,772,059**	**96,186,166**
Overhead	9,687,081	13,466,283	12,459,172	12,459,172
City Hall Debt Service	1,175,345	1,057,934	1,663,521	1,015,299
Workers' Compensation	536,619	607,000	605,000	605,000
City Services	983,835	785,536	991,012	991,012
City Expenses	**12,382,880**	**15,916,753**	**15,718,705**	**15,070,483**
TOTAL EXPENSES	**$ 96,548,614**	**$ 106,655,284**	**$ 109,490,764**	**$ 111,256,649**

ESTIMATED COST DISTRIBUTION

2019-2020 Estimated Total Gallons Treated (MG)	(1) Percent of Total Sewage Treated	City / District	2019-2020 Proposed
25,228.542	62.784	City of San Jose	$69,851,375
4,876.365	15.288	City of Santa Clara	$17,008,916
30,104.907	78.072	Sub-Total	$86,860,291
3,449.133	9.054	West Valley Sanitation District	$10,073,177
1,989.095	5.517	Cupertino Sanitary District	$6,138,029
2,253.310	6.196	City of Milpitas	$6,893,462
347.522	0.931	Sanitation District # 2 - 3	$1,035,799
86.180	0.230	Burbank Sanitary District	$255,890
8,125.240	21.928	Sub-Total	$24,396,358
38,230.147	**100.0**	**TOTAL**	**$111,256,649**

(1) Composite of four parameters (flow, BOD, SS, ammonia). Source: 2019-2020 Revenue Program.

OVERVIEW

This year's Water Pollution Control Plant Operating Budget recommends a 4.3% increase over the 2018-2019 Adopted Budget. This increase is largely due to increased staffing in support of the capital improvement program and increases in salary and retirement (pension) costs.

With the adoption of the Plant Master Plan (PMP) in 2013 by the San José and Santa Clara City Councils, over $2.1 billion in long-term capital improvement projects were identified to upgrade and rebuild the San José/Santa Clara Water Pollution Control Plant (Plant) over 30 years, covering an implementation schedule of 2010 through 2040. The PMP guided the development of the Proposed 2019-2020 Capital Budget and 2020-2024 Capital Improvement Program (CIP), which provides funding of $1.3 billion for critical capital improvements to address aging infrastructure, future regulations, population growth, and treatment technology improvements.

A CIP of this size and complexity requires significant resources in order to ensure successful and timely project delivery. The program continues to operate under an integrated project delivery model using a combination of City staff and consultants. Over the past several years, the program has added a range of professional and technical positions to support the implementation of capital improvement projects. The 2019-2020 Proposed Operating Budget includes the recommended addition of a variety of positions to support an anticipated ramp-up in capital implementation activities and provide for additional Operations and Maintenance (O&M) support for construction and commissioning activities for active and upcoming CIP projects. The addition of a Principal Engineer will provide the necessary managerial oversight of several liquids process capital projects while the addition of six (6) Wastewater Operator and two (2) Industrial Electrician positions will support key O&M coordination activities on a range of active CIP projects currently underway at the Plant.

For the past several years, O&M staff has played an integral part in the implementation of the CIP by ensuring the successful completion of well over 100 shutdowns per year for various wastewater treatment process areas. As the number of shutdowns is expected to rise significantly in the coming years, the addition of the Wastewater Operator and Industrial Electrician positions will provide adequate shift coverage for various process areas and free up available time from more experienced staff at the Plant to dedicate their time for the many process shutdowns and start-up/commissioning activities associated with various CIP projects.

Additional non-personal/equipment funding for preventative maintenance is included in this proposed budget, including funds to refurbish two dredges at the Residual Solids Management (RSM) area, and major service maintenance and inspection of the two electrical substations at the Plant. Refurbishing the dredges will significantly improve the equipment reliability for the RSM area and maintenance work for the substations will increase the reliability of the electrical distribution system for the Plant.

OVERVIEW (cont'd)

The Plant and the Environmental Services Department continue to focus significant efforts on attracting qualified technical and engineering professionals to fill key O&M vacancies and to support the implementation of the CIP. The Plant has seen significant improvements in the vacancy rate for several key groups. For example, the vacancy rate for the approximately 215 positions in the Wastewater O&M group has improved from 27% in September 2013 to 13% as of April 2019. Recent recruitments in the Wastewater Operator series has been particularly successful with eight (8) Operators-in-Training completing their certifications and serving as Wastewater Operators in various process areas over the past year. The Plant is currently underway with recruitment activities to fill six (6) additional Wastewater Operator vacancies and are expected complete the hiring and selection process before the end of 2018-2019.

The following sections provide the budget proposal descriptions and a breakdown by program of all associated expenditures and detail-specific budgets.

San José/Santa Clara Water Pollution Control Plant

Environmental Services Department

OVERVIEW CONTINUED

DEPARTMENT BUDGET SUMMARY

Budget Summary	2017-2018 Actual 1	2018-2019 Adopted 2	2019-2020 Base 3	2019-2020 Proposed 4	% Change (2 to 4)
Dollars by Program					
Treatment Plant O&M	55,312,250	59,622,334	60,682,878	62,478,242	4.8%
WatershedProtection	8,420,927	9,539,173	9,645,106	9,645,106	1.1%
South Bay Water Recycling	8,067,260	6,410,253	8,488,621	8,488,621	32.4%
CIP-Engineering Services	3,978,143	5,258,471	5,269,531	5,341,370	1.6%
Mgmt & Admin Svcs	5,023,696	5,756,074	5,527,993	5,574,897	(3.1%)
Envmtl Compliance & Safety	1,855,397	2,244,635	2,535,350	3,035,350	35.2%
Office of Sustainability	949,054	1,149,260	820,221	820,221	(28.6%)
Communications	559,006	758,331	802,359	802,359	5.8%
Total	**$ 84,165,734**	**$ 90,738,531**	**$ 93,772,059**	**$ 96,186,166**	**6.0%**
Dollars by Category					
Personal Services					
Salaries	28,090,784	33,722,741	35,075,010	35,733,143	6.0%
Pension	19,576,060	19,689,784	20,311,521	20,667,998	5.0%
Medical	4,001,192	4,673,145	4,913,707	5,092,800	9.0%
Overtime	2,007,442	651,667	651,667	651,667	0.0%
Subtotal	$ 53,675,478	$ 58,737,337	$ 60,951,905	$ 62,145,608	5.8%
Non-Personal/Equipment					
Energy	6,751,125	6,857,000	7,515,230	7,515,230	9.6%
Supplies & Materials	5,448,315	5,150,809	5,069,571	5,070,571	(1.6%)
Chemicals	2,319,437	2,717,000	2,717,000	2,717,000	0.0%
Contractual Services	11,373,131	11,918,318	11,892,375	13,062,375	9.6%
All Others	4,598,247	5,358,067	5,625,978	5,675,382	5.9%
Subtotal	$ 30,490,256	$ 32,001,194	$ 32,820,154	$ 34,040,558	6.4%
Total	**$ 84,165,734**	**$ 90,738,531**	**$ 93,772,059**	**$ 96,186,166**	**6.0%**
Authorized Positions	359.2	360.86	360.58	368.88	2.22%

San José/Santa Clara Water Pollution Control Plant

Environmental Services Department

Budget Proposals

Proposed Program Changes	Positions	Treatment Plant Appropriations
1. Capital Improvement Program Staffing	**8.30**	**1,197,203**

This action adds .30 Principal Engineer, 2.0 Industrial Electricians, and 6.0 Wastewater Operator positions to support the implementation of the San Jose/Santa Clara Water Pollution Control Plant (Plant) Capital Improvement Program (CIP). The Principal Engineer would provide the necessary managerial oversight of several liquids process capital projects while the Wastewater Operator and Industrial Electrician positions would support key Operations & Maintenance coordination activities on a range of active CIP projects currently underway at the facility. (Ongoing costs: $1,356,658)

2. Legacy Lagoon Closure CEQA Study and Environmental Permitting		**500,000**

This action would fund consultant services for the preparation of a CEQA study, of a scale that will be determined, and for the subsequent environmental permitting required by State and federal resource agencies in advance of a formal closure of the site that is owned by the Plant. Closure will be required under formal order from the San Francisco bay regional Water Quality Control Board and will likely result in physical movement and consolidation of the legacy biosolids to a smaller area within the existing site, where they would then be covered with clean fill material. The consultant will identify environmental impacts created by the project, as required under CEQA, and any additional environmental permitting needs. (Ongoing costs: $0)

3. Electrical Substation Maintenance		**290,000**

This action would provide one-time funding for the establishment of a multi-year maintenance contract for the two electrical substations at the Plant. The electrical substations are the electrical infrastructure that allow power to be passed from the Pacific Gas & Electric grid to the Plant. The substations are comprised of transformers, regulators, circuit switches and other associated components and are primarily utilized to safely and securely translate high-voltage power directly from the grid to the Plant. The two electrical substations have approximately 30 years of service and the proposed funding will allow staff to initiate a more robust maintenance schedule that would ensure optimum efficiency and operational reliability of both substations. (Ongoing costs: $0)

4. Residual Sludge Management Dredge Refurbishment **380,000**

This action would provide one-time funding for refurbishing/rehabilitating two of the old dredges which are located at the Residual Sludge Management process area of the Plant. The current fleet of four dredges are essential in the ongoing residual sludge management process at the Plant. Two dredges purchased in 2004 require extensive rehabilitation to replace various components (e.g., pumps, hydraulic hoses, batteries, alternators, belts, mufflers, injectors, etc.). The proposed funding would allow for the use of a vendor who specializes in repairs of this type of equipment. (Ongoing costs: $0)

5. SQL Server Upgrade **46,904**

This action would provide one-time funding for the purchase of six new virtual servers and Microsoft SQL Enterprise and Standard licenses to support the upgrade and migration of Environmental Services Department SQL databases. The City's Information Technology Department (ITD) is currently working on a project to redesign the City's central data center that will involve upgrading hardware, software, and network design. As part of this project, ITD will be moving to a different method or providing redundancy and disaster recovery of SQL databases. This requires ESD to upgrade by procuring six new virtual servers, 10 SQL Enterprise licenses and eight SQL Standard licenses. (Ongoing costs: $0)

2019-2020 Total Department Proposals	**8.30**	**2,414,107**

San José/Santa Clara Water Pollution Control Plant

Environmental Services Department

PROGRAM: TREATMENT PLANT O&M
RESPONSIBLE MANAGER: AMIT MUTSUDDY

PROGRAM PURPOSE AND DESCRIPTION

This program is responsible for the technologically advanced and cost-effective treatment of an average wastewater flow of over 100 million gallons per day. With a management focus on three primary areas: operations and maintenance; compliance with the Facility's three permits – National Pollution Discharge Elimination System (NPDES), and Air (Bay Area Air Quality Management); and equipment reliability, the Plant is able to produce an effluent that regularly meets or exceeds all NPDES permit conditions and represents the City's largest asset and critical public health service. The end results are a high quality effluent discharge to the Bay, and user rates that reflect a commitment to cost-efficient operations.

PERSONNEL SUMMARY				
Full Time Positions	**2017-2018**	**2018-2019**	**2019-2020**	**2019-2020**
	Adopted	**Adopted**	**Base**	**Proposed**
Air Conditioning Mech	3.00	3.00	3.00	3.00
Analyst II C	1.00	1.00	1.00	1.00
Assist Hvy Dsl Eq Op Mech	1.00	1.00	0.91	0.91
Assoc Engineer	1.00	1.00	1.00	1.00
Assoc Engineering Tech	3.00	3.00	3.00	3.00
Deputy Dir U	1.00	1.00	1.00	1.00
Division Manager	3.00	3.00	1.90	1.90
Engineerg Technician II	1.85	1.85	1.85	1.85
Geographic Systms Spec II	2.50	2.50	2.00	2.00
Groundsworker	0.95	0.95	0.95	0.95
Heavy Equip Oper	5.00	5.00	5.00	5.00
Industrial Electrician Supervisor	1.00	1.00	1.00	1.00
Industrial Process Cntrl Spec I-III	4.00	4.00	4.00	4.00
Industrial Process Control Supervisor		1.00	1.00	1.00
Industrial Electrician	8.60	8.55	8.55	10.55
Instrument Control Supvr	0.90	0.85	0.85	0.85
Instrument Control Technician I-IV	11.30	10.80	10.00	10.00
Maintenance Worker I	1.00	1.00	1.00	1.00
Network Engineer	1.00	1.00	1.00	1.00
Office Specialist I/II	2.00	2.00	2.00	2.00
Painter Supvr WPCP	1.00	1.00	1.00	1.00
Painter WPCP	6.00	6.00	6.00	6.00

PERSONNEL SUMMARY (continued)				
Full Time Positions	**2017-2018**	**2018-2019**	**2019-2020**	**2019-2020**
	Adopted	**Adopted**	**Base**	**Proposed**
Principal Engineer/Architect		1.00	1.00	1.00
Prin Office Specialist	1.00	1.00	1.00	1.00
Senr Air Cond Mechanic	1.00	1.00	1.00	1.00
Senr Analyst	1.00	1.00	1.00	1.00
Senr Engineer	2.00	1.00	1.00	1.00
Senr Engineering Tech	3.00	4.00	4.00	4.00
Senr Geographic Syst Spec	1.00	1.00	1.00	1.00
Senr Hvy Equipment Oper	2.00	2.00	2.00	2.00
Senr Industrial Electrician	1.90	1.90	1.90	1.90
Senr Maintenance Worker	0.95	0.95	1.00	1.00
Senr Office Specialist	1.00			
Senr Painter	1.00	1.00	1.00	1.00
Senr Warehouse Worker	0.89	0.93	0.93	0.93
Supervg Applicat Analyst	1.00			
Supply Clerk	1.00	1.00	1.00	1.00
Warehouse Supervisor	0.89	0.93	0.93	0.93
Warehouse Worker I/II	2.67	2.79	2.79	2.79
Wastewater Attendant	19.00	19.00	19.00	19.00
Wastewater Facility Ops Mgr			1.00	1.00
Wastewater Maintenance Supt	2.85	2.85	2.80	2.80
Wastewater Mechanic II	30.75	30.75	28.62	28.62
Wastewater Mechanical Supvr I-II	6.00	6.00	5.71	5.71
Wastewater Operations Supt I-II	7.00	7.00	7.00	7.00
Wastewater Operator I-III	36.00	36.00	29.32	35.32
Wastewater Ops Foreperson I/II	20.00	20.00	17.85	17.85
Wastewater Senior Mechanic I/II	11.00	11.00	10.23	10.23
Total Full-Time Positions	215.00	214.60	201.09	209.09

San José/Santa Clara Water Pollution Control Plant

Environmental Services Department

DETAILED PROGRAM BUDGET				
	2017-2018	2018-2019	2019-2020	2019-2020
Detail/Category	Actual	Adopted	Base	Proposed
Salaries-Reg-Full Time	16,356,539	18,789,860	19,607,343	20,225,057
Salaries-Reg-Part Time	77,775			
Salaries - Overtime	1,959,405	611,791	611,791	611,791
Other Personnel	705			
Benefits: Retirement Contrib	10,277,500	10,491,025	10,265,431	10,561,753
Other Fringe Benefits	2,501,541	2,877,709	2,997,627	3,170,007
OPEB (Other Post Employment Benefits)	1,597,949	747,352	1,196,376	1,235,324
Sub Total	**$ 32,771,414**	**$ 33,517,737**	**$ 34,678,568**	**$ 35,803,932**
Utilities: Gas	1,486,926	1,900,000	1,600,000	1,600,000
Utilities: Electricity	4,587,372	4,200,920	4,400,000	4,400,000
Supplies and Materials	4,661,835	4,371,406	4,202,662	4,202,662
Comm Expnse: Telephne-Telegrph	60,705	43,805	43,305	43,305
Comm Expnse: Postage	927	6,000	6,000	6,000
Print/Adv-Outside Vendors	7,922	5,750	5,750	5,750
Utilities: Other	285,762	139,000	139,000	139,000
Chemicals	2,319,437	2,717,000	2,607,000	2,607,000
Rent: Equipment & Vehicles	278,015	340,546	336,546	336,546
Trans/Travel: In County	225	14,144	14,144	14,144
Trans/Travel: Out of County	2,255	28,395	28,395	28,395
Trans/Travel: Out of State	9,036	51,069	51,069	51,069
Training	143,096	139,400	137,404	137,404
Mileage Reimbursement	575	150	150	150
Vehicle Operating Costs	653,279	539,328	825,201	825,201
Dues & Subscriptions	1,185,187	1,124,973	1,124,973	1,124,973
Computer Data Processing	385,756	354,000	354,000	354,000
Prof & Consultant Svcs	5,613,254	8,814,119	8,814,119	9,484,119
Insurance	134,552	564,592	564,592	564,592
Taxes	334,934			
Capital Outlay				
Machnry/Equipmt: Machinery	389,788	750,000	750,000	750,000
Sub Total	**$ 22,540,837**	**$ 26,104,597**	**$ 26,004,310**	**$ 26,674,310**
Combined Totals	**$ 55,312,250**	**$ 59,622,334**	**$ 60,682,878**	**$ 62,478,242**

San José/Santa Clara Water Pollution Control Plant

Environmental Services Department

PROGRAM: WATERSHED PROTECTION
RESPONSIBLE MANAGER: SHARON NEWTON

PROGRAM PURPOSE AND DESCRIPTION

Provides environmental enforcement and technical support functions to support Department programs, enforce Federal, State, and local regulations pertaining to industrial and commercial waste discharges to the sanitary system. The Source Control/Pretreatment Program provides engineering evaluation, permitting, inspection, and monitoring of industrial waste dischargers and ensures that industrial discharges to the SJ/SC Water Pollution Control Plant comply with all applicable industrial waste ordinances within San José and the tributary agencies. The Laboratory Services Program provides analytical support to monitor wastewater treatment processes and NPDES compliance and support related special projects.

PERSONNEL SUMMARY				
Full Time Positions	**2017-2018**	**2018-2019**	**2019-2020**	**2019-2020**
	Adopted	**Adopted**	**Base**	**Proposed**
Analyst II C	0.75	0.50	0.50	0.50
Assoc Engineer	1.00	1.00	1.00	1.00
Biologist	1.00	1.00	1.00	1.00
Chemist	9.00	9.00	9.00	9.00
Deputy Dir U	0.75	0.50	0.50	0.50
Environment Insp, Assistant	3.00	3.00	3.00	3.00
Environment Inspector I/II	12.00	12.00	12.00	12.00
Environment Inspector, Sr	2.00	2.00	2.00	2.00
Environment Serv Prog Mgr	1.00	1.00	1.00	1.00
Environmental Laboratory Mgr	1.00	1.00	1.00	1.00
Environmental Laboratory Supvr	3.00	3.00	3.00	3.00
Laboratory Tech I/ II	13.00	13.00	13.00	13.00
Microbiologist	1.00	1.00	1.00	1.00
Office Specialist II	2.28	2.52	2.52	2.52
Prin Office Specialist	0.85	0.85	0.85	0.85
Sanitary Engineer	3.00	3.00	3.00	3.00
Senr Office Specialist	1.52	1.52	1.52	1.52
Staff Specialist	0.76	0.76	0.76	0.76
Total Full-Time Positions	56.91	56.65	56.65	56.65

San José/Santa Clara Water Pollution Control Plant

Environmental Services Department

DETAILED PROGRAM BUDGET				
	2017-2018	2018-2019	2019-2020	2019-2020
Detail/Category	**Actual**	**Adopted**	**Base**	**Proposed**
Salaries-Reg-Full Time	4,240,763	4,754,913	4,873,113	4,873,113
Salaries - Overtime	18,019	27,733	27,733	27,733
Other Personnel				
Benefits: Retirement Contrib	2,339,971	2,541,924	2,487,483	2,487,483
Other Fringe Benefits	547,434	562,163	570,313	570,313
OPEB (Other Post Employment Benefits)	429,832	181,080	295,716	295,716
Sub Total	**$ 7,576,019**	**$ 8,067,813**	**$ 8,254,358**	**$ 8,254,358**
Supplies and Materials	416,925	540,823	501,466	501,466
Comm Expnse: Telephne-Telegrph	22,253	34,550	32,340	32,340
Comm Expnse: Postage	1,871	11,500	11,500	11,500
Print/Adv-Outside Vendors	2,291	15,000	15,000	15,000
Rent: Land & Buildings		315	315	315
Rent: Equipment & Vehicles	10,351	35,000	35,000	35,000
Trans/Travel: In County	7	10,700	9,700	9,700
Trans/Travel: Out of County	2,329	26,234	26,234	26,234
Trans/Travel: Out of State	2,595	30,200	30,200	30,200
Training	10,770	41,430	36,430	36,430
Mileage Reimbursement	509	4,825	4,825	4,825
Vehicle Operating Costs	20,739	26,000	27,545	27,545
Dues & Subscriptions	15,994	21,227	20,227	20,227
Computer Data Processing	29,437	64,375	57,375	57,375
Prof & Consultant Svcs	202,728	459,181	432,591	432,591
Machnry/Equimt: Machinery	106,107	150,000	150,000	150,000
Sub Total	**$ 844,907**	**$ 1,471,360**	**$ 1,390,748**	**$ 1,390,748**
Combined Totals	**$ 8,420,927**	**$ 9,539,173**	**$ 9,645,106**	**$ 9,645,106**

San José/Santa Clara Water Pollution Control Plant

Environmental Services Department

PROGRAM: SOUTH BAY WATER RECYCLING
RESPONSIBLE MANAGER: JEFF PROVENZANO

PROGRAM PURPOSE AND DESCRIPTION

This program is responsible for coordinating the operations, maintenance and capital improvements of the water recycling system in the three cities it serves; providing customer support and Site Supervisor training; planning and implementing SBWR system improvements; facilitating compliance with local and State regulations; coordinating with regional agencies; and implementing practices to increase water reuse in order to achieve maximum revenue with existing infrastructure and continued wastewater diversion.

PERSONNEL SUMMARY				
Full Time Positions	**2017-2018**	**2018-2019**	**2019-2020**	**2019-2020**
	Adopted	**Adopted**	**Base**	**Proposed**
Analyst II C	0.30	0.30	0.30	0.30
Assist Hvy Dsl Eq Op Mech			0.09	0.09
Assoc Construction Insp	0.70	0.70	0.70	0.70
Assoc Engineer	3.15	3.15	3.15	3.15
Assoc Engineering Tech	1.00	1.00	1.00	1.00
Cross Connection Spec	0.30	0.15	0.30	0.30
Deputy Dir	0.35	0.30	0.35	0.35
Division Manager			0.10	0.10
Engineer I/II	0.20	0.35	0.20	0.20
Engineerg Technician II	0.40	0.20	0.40	0.40
Environmental Inspector I/II	0.50	0.40	0.50	0.50
Environment Serv Prog Mgr	0.50	0.50	0.50	0.50
Environment Serv Spec	1.00	0.50	1.00	1.00
Geographic Systms Spec I		1.00	0.50	0.50
Groundsworker	0.05	0.05	0.05	0.05
Industrial Electrician	0.40	0.45	0.45	0.45
Instrument Control Supvr	0.10	0.15	0.15	0.15
Instrument Control Technician I-IV	0.70	1.20	2.00	2.00
Prin Construction Inspect	0.30	0.30	0.30	0.30
Principal Engineer/Architect		0.40	0.40	0.40
Senior Industrial Electrician		0.10	0.10	0.10
Senr Construction Insp	0.30	0.30	0.30	0.30
Senr Engineer	1.40	1.00	1.00	1.00
Senr Engineering Tech	1.00	1.00	1.00	1.00
Senr Maintenance Worker	0.05	0.05		
Wastewater Maintenance Supt	0.15	0.15	0.20	0.20
Wastewater Mechanic I/II	0.25	0.25	2.38	2.38
Wastewater Mechanical Supvr II			0.29	0.29
Wastewater Operator I-III			6.68	6.68
Wastewater Ops Foreperson I/II			2.15	2.15
Wastewater Senr Mechanic I/II			0.77	0.77
Water Syst Op Foreperson I/II	0.15	0.15	0.15	0.15
Water Systems Operator II	0.50	0.50	0.50	0.50
Water Syt Op Assistant II	0.15	0.20	0.15	0.15
Water Syt Op Superindent I	0.20	0.10	0.20	0.20
Water Syt Operations Manager	0.10		0.10	0.10
Total Full-Time Positions	14.20	14.90	28.41	28.41

San José/Santa Clara Water Pollution Control Plant

Environmental Services Department

DETAILED PROGRAM BUDGET				
	2017-2018	2018-2019	2019-2020	2019-2020
Detail/Category	Actual	Adopted	Base	Proposed
Salaries-Reg-Full Time	988,703	2,401,187	2,969,420	2,969,420
Compensated Absence	2,308			
Salaries-Reg-Part Time	21,611			
Salaries - Overtime	10,118			
Benefits: Retirement Contrib	558,257	1,293,069	1,562,587	1,562,587
Other Fringe Benefits	136,231	350,640	474,531	474,531
OPEB (Other Post Employment Benefits)	101,536	92,114	182,643	182,643
Sub Total	**$ 1,818,765**	**$ 4,137,010**	**$ 5,189,181**	**$ 5,189,181**
Utilities: Gas			160,000	160,000
Utilities: Electricity	676,827	756,080	1,355,230	1,355,230
Supplies and Materials	283,080	80,575	230,575	230,575
Comm Expnse: Telephne-Telegrph	4,352	10,700	11,200	11,200
Comm Expnse: Postage		2,000	2,000	2,000
Print/Adv-Outside Vendors	750	11,720	11,720	11,720
Utilities: Other	5,557			
Chemicals			110,000	110,000
Rent: Equipment & Vehicles		3,000	7,000	7,000
Trans/Travel: In County	30	3,500	3,500	3,500
Trans/Travel: Out of County	450	5,200	5,200	5,200
Trans/Travel: Out of State	64	7,000	7,000	7,000
Training	493	9,000	11,000	11,000
Mileage Reimbursement	2,034	2,400	2,400	2,400
Vehicle Operating Costs	2,749	40,100	40,000	40,000
Dues & Subscriptions	26,475	41,000	41,000	41,000
Computer Data Processing	45,440	16,200	16,200	16,200
Prof & Consultant Svcs	5,190,485	1,278,768	1,279,415	1,279,415
PW Capital Support Charge	789			
Taxes	1,276			
Capital Outlay				
Machnry/Equimt: Machinery	7,648	6,000	6,000	6,000
Sub Total	**$ 6,248,496**	**$ 2,273,243**	**$ 3,299,440**	**$ 3,299,440**
Combined Totals	**$ 8,067,260**	**$ 6,410,253**	**$ 8,488,621**	**$ 8,488,621**

San José/Santa Clara Water Pollution Control Plant

Environmental Services Department

PROGRAM: MGMT & ADMINISTRATIVE SERVICES
RESPONSIBLE MANAGER: LINDA CHARFAUROS

PROGRAM PURPOSE AND DESCRIPTION

Provides support services including: financial and accounting services, human resources, information technology services, contract administration, grant administration, capital improvements and operating budget management.

PERSONNEL SUMMARY				
Full Time Positions	**2017-2018**	**2018-2019**	**2019-2020**	**2019-2020**
	Adopted	**Adopted**	**Base**	**Proposed**
Account Clerk II	0.68	0.69	0.69	0.69
Accountant II	1.68	1.69	1.69	1.69
Accounting Tech	1.36	1.38	1.38	1.38
Administrative Assist C	0.68	0.69	0.69	0.69
Administrative Officer	0.68	0.69	0.69	0.69
Analyst I/ II C	2.72	2.76	2.76	2.76
Assist DirU	0.68	0.69	0.69	0.69
Dept Information Tech Mgr	0.65	0.66	0.66	0.66
Dir Environmental Serv U	0.68	0.69	0.69	0.69
Division Manger	0.83	0.82	0.82	0.82
Information Sys Analyst	1.25	1.20	1.20	1.20
Network Engineer	0.68	0.68	0.68	0.68
Network Technician II-III	1.36	1.28	1.28	1.28
Office Specialist II	1.36	1.38	1.38	1.38
Prin Accountant	0.68	0.69	0.69	0.69
Prin Office Specialist	1.36	1.37	1.38	1.38
Program Manager I	0.68	0.69	0.69	0.69
Senr Account Clerk	2.72	2.76	2.76	2.76
Senr Accountant	2.72	2.76	2.76	2.76
Senr Analyst	2.72	2.76	2.76	2.76
Staff Specialist	1.36	2.07	2.07	2.07
Staff Technician	0.68			
Systems Apps Progmr II	1.25	1.30	1.30	1.30
Total Full-Time Positions	29.46	29.70	29.71	29.71

San José/Santa Clara Water Pollution Control Plant

Environmental Services Department

DETAILED PROGRAM BUDGET				
	2017-2018	2018-2019	2019-2020	2019-2020
Detail/Category	**Actual**	**Adopted**	**Base**	**Proposed**
Salaries-Reg-Full Time	2,397,854	2,953,077	3,055,180	3,055,180
Salaries-Reg-Part Time				
Salaries - Overtime	17,256	12,143	12,143	12,143
Other Personnel	10,775	13,000	13,000	13,000
Benefits: Retirement Contrib	1,827,433	1,979,828	1,609,729	1,609,729
Other Fringe Benefits	319,166	302,986	323,283	323,283
OPEB (Other Post Employment Benefits)	248,411	141,038	187,788	187,788
Sub Total	**$ 4,820,896**	**$ 5,402,072**	**$ 5,201,123**	**$ 5,201,123**
Supplies and Materials	20,005	58,567	35,430	35,430
Comm Expnse: Telephne-Telegrph	31,793	30,722	30,722	30,722
Comm Expnse: Postage	3,959	15,640	15,640	15,640
Print/Adv-Outside Vendors	2,892	4,591	4,591	4,591
Rent: Equipment & Vehicles	14,750	23,189	21,138	21,138
Trans/Travel: In County	699	1,370	1,370	1,370
Trans/Travel: Out of County	2,587	2,720	2,720	2,720
Trans/Travel: Out of State	1,832	2,040	2,040	2,040
Training	11,014	30,915	28,971	28,971
Mileage Reimbursement	814	1,803	1,803	1,803
Vehicle Operating Costs	3,130			
Dues & Subscriptions	1,158	8,331	8,331	8,331
Computer Data Processing	32,155	81,140	81,140	128,044
Prof & Consultant Svcs	76,014	92,974	92,974	92,974
Sub Total	**$ 202,800**	**$ 354,002**	**$ 326,870**	**$ 373,774**
Combined Totals	**$ 5,023,696**	**$ 5,756,074**	**$ 5,527,993**	**$ 5,574,897**

San José/Santa Clara Water Pollution Control Plant

Environmental Services Department

PROGRAM: CIP-ENGINEERING SVCS
RESPONSIBLE MANAGER: MARIANA CHAVEZ-VAZQUEZ (ACTING)

PROGRAM PURPOSE AND DESCRIPTION

This program provides services for both capital project planning, design and construction of major projects as well as process engineering services within the Water Pollution Control Plant. With the adoption of the Plant Master Plan in 2013, which identified over $2.1 billion in long-term capital projects over the next thirty years, the group's primary responsibility is to deliver the projects to address critical aging infrastructure, future regulatory requirements, and improved performance needs. Additional responsibilities include troubleshooting and improving the treatment process, primarily through research and development projects, to ensure efficient and cost effective operations of the Plant.

PERSONNEL SUMMARY				
Full Time Positions	**2017-2018**	**2018-2019**	**2019-2020**	**2019-2020**
	Adopted	**Adopted**	**Base**	**Proposed**
Analyst II C	1.30	1.30	1.30	1.30
Assoc Engineer	5.50	5.50	5.50	5.50
Assoc Engineering Tech	1.50	1.50	1.50	1.50
Deputy DirU	1.00	1.00	1.00	1.00
Division Manager	1.00	1.00	1.00	1.00
Engineer II	0.60	0.60	0.60	0.60
Environment Serv Prog Mgr		1.00	1.00	1.00
Office Specialist II	1.00	1.00	1.00	1.00
Principal Engineer	1.80	1.80	1.80	2.10
Sanitary Engineer	3.30	3.30	3.30	3.30
Senr Engineer	4.50	4.50	4.50	4.50
Senr Engineering Tech	1.20	0.90	0.90	0.90
Senr Office Specialist		0.30	0.30	0.30
Staff Specialist	1.00	1.00	1.00	1.00
Staff Technician	0.30	0.30	0.30	0.30
Supervg Environ Serv Spe	0.30	0.30	0.30	0.30
Total Full-Time Positions	24.30	25.30	25.30	25.60

San José/Santa Clara Water Pollution Control Plant

Environmental Services Department

DETAILED PROGRAM BUDGET				
	2017-2018	2018-2019	2019-2020	2019-2020
Detail/Category	**Actual**	**Adopted**	**Base**	**Proposed**
Salaries-Reg-Full Time	2,251,785	2,762,510	2,539,406	2,579,825
Compensated Absence	13,455			
Salaries-Reg-Part Time	141			
Salaries - Overtime	1,568			
Benefits: Retirement Contrib	955,538	1,058,623	1,248,696	1,267,439
Other Fringe Benefits	272,815	334,594	299,960	306,673
OPEB (Other Post Employment Benefits)	238,843	75,413	154,138	156,602
Sub Total	**$ 3,734,144**	**$ 4,231,140**	**$ 4,242,200**	**$ 4,310,539**
Supplies and Materials	56,372	41,881	41,881	42,881
Comm Expnse: Telephne	39,076	3,500	3,500	3,500
Comm Expnse: Postage		1,000	1,000	1,000
Print/Adv-Outside Vendors	494	5,000	5,000	5,000
Rent: Land & Buildings	9,264			
Rent: Equipment & Vehicles	18,961	29,000	29,000	29,000
Trans/Travel: In County	430	3,500	3,500	3,500
Trans/Travel: Out of County	8,681	5,000	5,000	5,000
Trans/Travel: Out of State	6,061	9,000	9,000	9,000
Training	6,918	24,750	24,750	25,750
Mileage Reimbursement	530	2,000	2,000	2,000
Vehicle Operating Costs	9,350	5,700	5,700	5,700
Dues & Subscriptions	1,521	5,000	5,000	5,000
Computer Data Processing	48,453	42,000	42,000	43,500
Prof & Consultant Svcs	18,357	850,000	850,000	850,000
PW CAP Support Charge	4,597			
Machinery/ Equipment: Machinery	14,934			
Sub Total	**$ 243,999**	**$ 1,027,331**	**$ 1,027,331**	**$ 1,030,831**
Combined Totals	**$ 3,978,143**	**$ 5,258,471**	**$ 5,269,531**	**$ 5,341,370**

PROGRAM: ENVIRONMENTAL COMPLIANCE /SAFETY
RESPONSIBLE MANAGER: JENNIFER VOCCOLA-BROWN (ACTING)

PROGRAM PURPOSE AND DESCRIPTION

Provides general regulatory compliance (NPDES, Title V, OSHA, etc.) and environmental health and safety support (EH&S) to the Plant and the rest of the department, as needed, through a variety of programs as required by local, State, and Federal regulations. The desired outcome is to protect environmental and public health, create a safe working environment for employees, and maintain compliance with all local, State, and Federal regulations pertaining to environmental compliance and occupational safety.

PERSONNEL SUMMARY				
Full Time Positions	**2017-2018**	**2018-2019**	**2019-2020**	**2019-2020**
	Adopted	**Adopted**	**Base**	**Proposed**
Assoc Engineer	0.30	0.30	0.30	0.30
Assoc Environ Serv Spec	1.30	1.00	2.00	2.00
Biologist	1.82	1.82	1.82	1.82
Engineer II		1.00	1.00	1.00
Environment Compl Officer	0.63	0.63	0.63	0.63
Environment Serv Prog Mgr	0.91	0.91	0.91	0.91
Environment Serv Spec	3.82	3.12	2.12	2.12
Senr Analyst		0.10	0.10	0.10
Senr Engineer	1.00	1.00	1.00	1.00
Supervg Environ Serv Spec	0.91	0.91	0.91	0.91
Total Full-Time Positions	10.69	10.79	10.79	10.79

San José/Santa Clara Water Pollution Control Plant

Environmental Services Department

DETAILED PROGRAM BUDGET				
	2017-2018	2018-2019	2019-2020	2019-2020
Detail/Category	**Actual**	**Adopted**	**Base**	**Proposed**
Salaries-Reg-Full Time	951,143	1,124,937	1,250,098	1,250,098
Salaries-Reg-Part Time				
Salaries - Overtime	1,052			
Other Personnel				
Benefits: Retirement Contrib	475,888	618,557	629,883	629,883
Other Fringe Benefits	130,049	146,140	158,247	158,247
OPEB (Other Post Employment Benefits)	94,581	44,064	80,940	80,940
Sub Total	**$ 1,652,712**	**$ 1,933,698**	**$ 2,119,168**	**$ 2,119,168**
Supplies and Materials	7,627	25,575	25,575	25,575
Comm Expnse: Telephne-Telegrph	5,277	231	231	231
Comm Expnse: Postage	650	268	268	268
Print/Adv-Outside Vendors	128	225	225	225
Rent: Land & Buildings		210	210	210
Rent: Equipment & Vehicles		65	65	65
Trans/Travel: In County	674	518	518	518
Trans/Travel: Out of County	531	1,765	1,765	1,765
Trans/Travel: Out of State		3,685	3,685	3,685
Training	1,593	4,664	4,664	4,664
Mileage Reimbursement	2,653	939	939	939
Vehicle Operating Costs	11,842			
Dues & Subscriptions		48,618	51,318	51,318
Computer Data Processing	3,134	1,638	25,443	25,443
Prof & Consultant Svcs	125,078	219,836	301,276	801,276
Taxes	4,191	2,700		
Machnry/Equipmt: Machinery	39,308			
Sub Total	**$ 202,685**	**$ 310,937**	**$ 416,182**	**$ 916,182**
Combined Totals	**$ 1,855,397**	**$ 2,244,635**	**$ 2,535,350**	**$ 3,035,350**

San José/Santa Clara Water Pollution Control Plant

Environmental Services Department

PROGRAM: OFFICE OF SUSTAINABILITY
RESPONSIBLE MANAGER: KEN DAVIES

PROGRAM PURPOSE AND DESCRIPTION

Provides support and technical expertise to the Water Pollution Control Plant to advance efforts related to renewable energy, zero waste, and wastewater reuse. In addition, staff focuses on supporting programs related to energy and water efficiency at the Plant, renewable energy technologies, and greenhouse gas emissions.

PERSONNEL SUMMARY				
Full Time Positions	**2017-2018**	**2018-2019**	**2019-2020**	**2019-2020**
[redacted]	**Adopted**	**Adopted**	**Base**	**Proposed**
Assoc Environment Serv Spec			0.03	0.03
Environment Serv Prog Mgr	0.22	0.39	0.39	0.39
Environment Serv Spec	2.51	2.06	1.75	1.75
Environmntl Sustainability Mgr	0.39	0.39	0.39	0.39
Planner III	1.00	1.00	1.00	1.00
Supervg Environ Serv Spec	1.46	1.66	1.66	1.66
Total Full-Time Positions	5.58	5.50	5.22	5.22

DETAILED PROGRAM BUDGET				
	2017-2018	**2018-2019**	**2019-2020**	**2019-2020**
Detail/Category	**Actual**	**Adopted**	**Base**	**Proposed**
Salaries-Reg-Full Time	488,821	609,469	472,211	472,211
Salaries-Reg-Part Time	19,430			
Salaries - Overtime	4			
Benefits: Retirement Contrib	277,411	308,958	225,098	225,098
Other Fringe Benefits	52,762	44,595	35,089	35,089
OPEB (Other Post Employment Benefits)	53,330	22,009	28,045	28,045
Sub Total	**$ 891,759**	**$ 985,031**	**$ 760,443**	**$ 760,443**
[redacted]				
Supplies and Materials	1,028	7,187	7,187	7,187
Comm Expnse: Telephne-Telegrph	773	300	300	300
Comm Expnse: Postage	3	325	325	325
Print/Adv-Outside Vendors	39,178	17,149	17,149	17,149
Rent: Land & Buildings		935	935	935
Rent: Equipment & Vehicles				
Trans/Travel: In County	282	2,499	2,499	2,499
Trans/Travel: Out of County	779	4,057	4,057	4,057
Trans/Travel: Out of State	89	3,000	3,000	3,000
Training	1,151	6,099	6,099	6,099
Mileage Reimbursement	216	1,064	1,064	1,064
Vehicle Operating Costs		2,000	2,794	2,794
Dues & Subscriptions	562	13,716	13,716	13,716
Computer Data Processing	3,270	24,458	653	653
Prof & Consultant Svcs	9,966	81,440		
Sub Total	**$ 57,295**	**$ 164,229**	**$ 59,778**	**$ 59,778**
Combined Totals	**$ 949,054**	**$ 1,149,260**	**$ 820,221**	**$ 820,221**

San José/Santa Clara Water Pollution Control Plant

Environmental Services Department

PROGRAM: COMMUNICATIONS
RESPONSIBLE MANAGER: JENNIE LOFT

PROGRAM PURPOSE AND DESCRIPTION

This program manages the media relations and public outreach needs for the San Jose/Santa Clara Water Pollution Control Plant, the wastewater pre-treatment, pollution prevention, and recycled water programs. This includes responding to media inquiries and seeking media coverage; sharing utility and capital improvement information to neighbors and the public, representing the Department at community meetings; developing and maintaining best management practice materials including information to regulated businesses; publicizing and conducting community events to collect pharmaceuticals; supporting outreach efforts; providing information to recycled water customers; and emergency preparedness communications support

PERSONNEL SUMMARY				
Full Time Positions	**2017-2018**	**2018-2019**	**2019-2020**	**2019-2020**
	Adopted	**Adopted**	**Base**	**Proposed**
Analyst II C	0.34	0.38		
Division Manager			0.37	0.37
Public Information Rep I-II	1.36	1.52	1.90	1.90
Public Information Mgr	0.34	0.38	0.00	0.00
Senr Public Information Rep	0.68	0.76	0.76	0.76
Staff Specialist	0.34	0.38	0.38	0.38
Total Full-Time Positions	3.06	3.42	3.41	3.41

DETAILED PROGRAM BUDGET				
	2017-2018	**2018-2019**	**2019-2020**	**2019-2020**
Detail/Category	**Actual**	**Adopted**	**Base**	**Proposed**
Salaries-Reg-Full Time	258,321	313,788	295,239	295,239
Salaries-Reg-Part Time	10,655			
Salaries - Overtime	20			
Other Personnel				
Benefits: Retirement Contrib	69,911	88,430	139,097	139,097
Other Fringe Benefits	41,194	54,318	54,657	54,657
OPEB (Other Post Employment Benefits)	29,669	6,300	17,871	17,871
Sub Total	**$ 409,770**	**$ 462,836**	**$ 506,864**	**$ 506,864**
Supplies and Materials	1,444	24,795	24,795	24,795
Comm Expnse: Telephne-Telegrph	853	222	222	222
Comm Expnse: Postage	451	14,000	14,000	14,000
Print/Adv-Outside Vendors	1,396	129,700	129,700	129,700
Trans/Travel: In County	16	463	463	463
Trans/Travel: Out of County	1,170	105	105	105
Trans/Travel: Out of State	1,805			
Training	379	2,349	2,349	2,349
Mileage Reibursement	150			
Dues & Subscriptions	867	467	467	467
Computer Data Processing	3,456	1,394	1,394	1,394
Prof & Consultant Svcs	137,251	122,000	122,000	122,000
Sub Total	**$ 149,236**	**$ 295,495**	**$ 295,495**	**$ 295,495**
Combined Totals	**$ 559,006**	**$ 758,331**	**$ 802,359**	**$ 802,359**

Performance Measures- Conservation

Performance Measures

	2017-2018 Actual	2018-2019 Target	2018-2019 Estimated	2019-2020 Target
(Energy) % of energy used at the Water Pollution Control Plant that is renewable	39%	41%	40%	41%

Activity and Workload Highlights

	2017-2018 Actual	2018-2019 Forecast	2018-2019 Estimated	2019-2020 Forecast
City-Wide Renewable Energy Generation	33%	35%	43%	45%

Performance Measures-Recycled Water

Performance Measures

	2017-2018 Actual	2018-2019 Target	2018-2019 Estimated	2019-2020 Target
Millions of gallons of recycled water delivered annually	3,833	3,321	3,838	3,915
% of time recycled water quality standards are met or surpassed	100%	100%	100%	100%
% of wastewater influent recycled for beneficial purposes during the dry weather period[1]	16%	17%	18%	18%
Cost per million gallons of recycled water Delivered	$3,034	$2,486	$2,031	$2,276
% of recycled water customers rating service as good or excellent based on reliability, water quality, and responsiveness***	88%	N/A [2]	N/A [2]	90%

[1] Dry weather period is defined as the lowest continuous three-month average rainfall between May and October, which during the fiscal year reporting period is July-September.

[2] Data for this measure is collected on a biennial basis via survey. The next survey is scheduled for 2019-2020. No survey will be conducted in 2018-2019.

Activity and Workload Highlights

	2017-2018 Actual	2018-2019 Forecast	2018-2019 Estimated	2019-2020 Forecast
Total number of South Bay Water Recycling customers	880	900	930	950

San José/Santa Clara Water Pollution Control Plant

Environmental Services Department

Performance Measures-Treatment Plant

Performance Measures

	2017-2018 Actual	2018-2019 Target	2018-2019 Estimated	2019-2020 Target
Millions of gallons per day discharged to the Bay during average dry weather season State order: 120 mgd or less[1]	78 mgd	<120 mgd	80 mgd	<120 mgd
% of time pollutant discharge requirements are met or surpassed	100%	100%	100%	100%
# of requirement violations				
-Pollutant discharge	0	0	0	0
-Air emissions	1	0	0	0
% of significant industrial facilities in consistent compliance with federal pretreatment requirements	95.08%	90.00%	93.30%	90.00%
Cost per million gallons treated	$1,372	$1,427	$1,448	$1,512

[1] Average dry weather season is defined as the lowest three-month continuous average between May and October, which during the fiscal year reporting period is July-September.

Activity and Workload Highlights

	2017-2018 Actual	2018-2019 Forecast	2018-2019 Estimated	2019-2020 Forecast
Average millions of gallons per day treated	105	105	107	106
Total population in service area[1]	1,469,314	1,482,721	1,481,101	1,489,848

[1] The San José/Santa Clara Water Pollution Control Plant (Plant) is a regional wastewater treatment facility serving eight South Bay cities and four sanitation districts including: San José, Santa Clara, Milpitas, Cupertino Sanitation District (Cupertino), West Valley Sanitation District (Campbell, Los Gatos, Monte Sereno and Saratoga), County Sanitation Districts 2-3 (unincorporated), and Burbank Sanitary District (unincorporated).

SAN JOSE / SANTA CLARA

WATER POLLUTION CONTROL PLANT

2019-2020

PROPOSED

South Bay Water Recycling Operating Fund
Fund 570

Environmental Services Department
City of San José

San José/Santa Clara Water Pollution Control Plant

Environmental Services Department

PROGRAM: SOUTH BAY WATER RECYCLING
RESPONSIBLE MANAGER: JEFF PROVENZANO

PROGRAM PURPOSE AND DESCRIPTION

The SBWR Operating Fund is the depository of revenues form the sale of wholesale water produced by the SBWR program. This fund provides monies for the operations and maintenance of the SBWR system. The personnel summary and detailed program budget shown below reflect the department costs in this fund to effectively operate and maintain the SBWR program.

PERSONNEL SUMMARY				
Full Time Positions	**2017-2018**	**2018-2019**	**2019-2020**	**2019-2020**
	Adopted	**Adopted**	**Base**	**Proposed**
Account Clerk II		0.05	0.05	0.05
Accountant II		0.05	0.05	0.05
Accounting Tech		0.10	0.10	0.10
Administrative Assist C		0.05	0.05	0.05
Administrative Officer		0.05	0.05	0.05
Analyst II C		0.50	0.50	0.50
Assist Dir U		0.05	0.05	0.05
Assist Hvy Dsl Eq Op Mech		0.09	0.09	0.09
Assoc Construction Insp		0.70	0.70	0.70
Assoc Engineer		3.15	3.15	3.15
Assoc Engineering Tech		1.00	1.00	1.00
Cross Connection Spec		0.30	0.30	0.30
Dept Information Tech Manager		0.02	0.02	0.02
Deputy Dir U		0.35	0.35	0.35
Dir Environmental Serv U		0.05	0.05	0.05
Division Manager		0.15	0.16	0.16
Engineer I-II		0.20	0.20	0.20
Engineerg Technician II		0.40	0.40	0.40
Environment Inspector I-II		0.50	0.50	0.50
Environment Serv Prog Mgr		0.55	0.55	0.55
Environment Serv Spec		1.00	1.00	1.00
Geographic Systms Spec I		0.50	0.50	0.50
Groundsworker		0.05	0.05	0.05

PERSONNEL SUMMARY (continued)				
Industrial Electrician		0.40	0.45	0.45
Instrument Control Supvr II		0.15	0.15	0.15
Instrument Control Tech I-IV		1.00	2.00	2.00
Instrument Control Technician		0.75		
Network Engineer		0.02	0.02	0.02
Network Technician II		0.04	0.04	0.04
Office Specialist II		0.10	0.10	0.10
Prin Accountant		0.05	0.05	0.05
Prin Construction Inspect		0.30	0.30	0.30
Prin Office Specialist		0.10	0.10	0.10
Principal Engineer/Architect		0.40	0.40	0.40
Program Manager I		0.05	0.05	0.05
Senr Account Clerk		0.20	0.20	0.20
Senr Accountant		0.20	0.20	0.20
Senr Analyst		0.20	0.20	0.20
Senr Construction Insp		0.30	0.30	0.30
Senr Engineer		1.00	1.00	1.00
Senr Engineering Tech		1.00	1.00	1.00
Senr Industrial Electrician		0.10	0.10	0.10
Senr Maintenance Worker		0.05	0.00	0.00
Staff Specialist		0.15	0.15	0.15
Supervg Environ Serv Spec		0.05	0.05	0.05
Wastewater Maintenance Supt		0.15	0.20	0.20
Wastewater Mechanic I-II		2.38	2.43	2.43
Wastewater Mechanical Supvr II		0.29	0.29	0.29
Wastewater Operator I-III		2.16	5.68	5.68
Wastewater Ops Foreperson I_II		2.15	2.15	2.15
Wastewater Senr Mechanic I-II		0.67	0.67	0.67
Water Syt Op Assistant II		0.15	0.15	0.15
Water Systems Operator III		0.50	0.50	0.50
Water Syst Op Foreperson I		0.15	0.15	0.15
Water Syt Op Superindent II		0.20	0.20	0.20
Water Syt Operations Manager		0.10	0.10	0.10
Total Full-Time Positions	0.00	25.37	29.25	29.25

San José/Santa Clara Water Pollution Control Plant

Environmental Services Department

DETAILED PROGRAM BUDGET				
	2017-2018	2018-2019	2019-2020	2019-2020
Detail/Category	**Actual**	**Adopted**	**Base**	**Proposed**
Salaries-Reg-Full Time		2,426,420	3,019,556	3,019,556
Compensated Absence				
Salaries-Reg-Part Time				
Salaries - Overtime				
Benefits: Retirement Contrib		1,554,504	1,582,596	1,582,596
Other Fringe Benefits		354,363	475,542	475,542
OPEB (Other Post Employment Benefits)		105,819	185,206	185,206
Sub Total	**$ -**	**$ 4,441,106**	**$ 5,262,900**	**$ 5,262,900**
Utilities: Gas		125,000	160,000	160,000
Utilities: Electricity		1,206,080	1,366,310	1,366,310
Supplies and Materials		231,915	231,915	231,915
Comm Expnse: Telephne-Telegrph		11,395	11,395	11,395
Comm Expnse: Postage		2,177	2,177	2,177
Print/Adv-Outside Vendors		29,730	29,730	29,730
Utilities: Other				
Chemicals		110,000	110,000	110,000
Rent: Equipment & Vehicles		8,268	8,268	8,268
Trans/Travel: In County		3,521	3,521	3,521
Trans/Travel: Out of County		5,414	5,414	5,414
Trans/Travel: Out of State		7,179	7,179	7,179
Training		11,321	11,321	11,321
Mileage Reimbursement		2,449	2,449	2,449
Vehicle Operating Costs		40,215	40,000	40,000
Dues & Subscriptions		41,202	41,202	41,202
Computer Data Processing		17,113	17,113	17,113
Prof & Consultant Svcs		1,299,264	1,299,264	1,299,264
PW Capital Support Charge				
Taxes		2,700	2,700	2,700
Capital Outlay				
Machnry/Equimt: Machinery		6,000	6,000	6,000
Sub Total	**$ -**	**3,160,943**	**3,355,958**	**3,355,958**
Combined Totals	**$ -**	**$ 7,602,049**	**$ 8,618,858**	**$ 8,618,858**

San José/Santa Clara Water Pollution Control Plant

Environmental Services Department

Below is Source and Use of Funds Statement for the South Bay Water Recycling Operating Fund from the City's 2019-2020 Proposed Operating Budget.

South Bay Water Recycling Operating Fund (570)*
STATEMENT OF SOURCE AND USE OF FUNDS

	2018-2019 Adopted	2018-2019 Modified	2018-2019 Estimates	2019-2020 Proposed
SOURCE OF FUNDS				
Beginning Fund Balance				
Reserve for Encumbrances				0
Reserve for O&M				1,287,815
Unrestricted				785,996
Total Beginning Fund Balance				2,073,811
Revenue				
San Jose Muni Water	4,707,100	4,707,100	4,682,862	5,421,186
San Jose Water Co.	2,460,000	2,460,000	2,767,906	3,009,911
City of Milpitas	1,100,000	1,100,000	1,511,307	1,642,706
City of Santa Clara	4,272,900	4,272,900	4,985,868	5,091,615
Interest	-	0	10,000	49,185
Total Revenue	12,540,000	12,540,000	13,957,943	15,214,602
TOTAL SOURCE OF FUNDS	**12,540,000**	**12,540,000**	**13,957,943**	**17,288,414**
USE OF FUNDS				
Expenditures				
Operating Expenses:				
Gen'l Fd Overhead	854,424	861,331	861,331	696,612
IT Department				11,579
Personal Services - ESD	4,441,106	4,437,140	4,227,324	5,262,900
Non-personal - ESD	3,160,943	4,260,943	3,931,644	3,355,958
Total Expenditures	8,456,473	9,559,414	9,020,299	9,327,049
Non-Operating Expenditures:				
SCVWD-AWT	500,000	500,000	2,863,833	1,000,000
Total Non-Operating Expenses	500,000	500,000	2,863,833	1,000,000
Transfers				
City Hall Debt Svc Fd				48,390
SBWR CIP Fd				-
SSUC Fund				2,266,575
Total Interfund Transfer	0	0	0	2,314,965
Ending Fund Balance				
Reserve for Encumbrances			0	
Reserve for CIP				
Reserve for O & M	1,287,815	1,287,815	1,287,815	1,533,214
Unrestricted	2,295,712	1,192,771	785,996	3,113,186
Total Ending Fund Balance	3,583,527	2,480,586	2,073,811	4,646,400
TOTAL USE OF FUNDS	**12,540,000**	**12,540,000**	**13,957,943**	**17,288,414**

*This Enterprise Fund accounts for the monies received from the sale of wholesale recycled water produced by the South Bay Water Recycling (SBWR) program for the operations and maintenance of the SWR system.

City Manager's Contract Approval Summary

For Procurement and Contract Activity between $100,000 and $1.17 Million for Goods and $100,000 and $290,000 for Services

APRIL 1, 2019 - APRIL 30, 2019

	Description of Contract Activity [1]	Fiscal Year	Req#/ RFP#	PO#	Vendor/Consultant	Original Amount	Start Date	End Date	Additional Amount	Total Amount	Comments
1	SERVICES PROVIDED TO CLEAN THREE (3) DIGESTERS AT RWF	18-19	25981	55944	PIPE AND PLANT SOLUTIONS INC	$389,067	08/21/18	08/20/19	$35,933	$425,000	CLEANING OF AN ADDITIONAL DIGESTER CRITICAL TO FACILITY'S CONTINUED & UNINTERRUPTED ACTIVITIES
2	SANDPLASTING & PAINTING SERVICES	18-19	26026	57091	JEFFCO PAINTING & COATING	$400,000	05/01/19	04/30/20			
3	COATING REHABILITATION SERVICES FOR CLARIFIER TANKS AT RWF	18-19	26930	57070	EURO STYLE MGMT	$652,000	5/1/19	4/30/20			
4	DIGESTER DOME COATING REHABILITATION SERVICES	18-19	26969	57023	SOCAL PACIFIC CONSTRUCTION	$215,688	04/15/19	04/14/19			
5	CONTRACTOR SHALL PROVIDE FILTER MEDIA, MATERIAL, LABOR, TOOLS AND EQUIPMENT NECESSARY FOR FILTER REHABILITATION	18-19	27401	56968	ERS INDUSTRIAL SERVICES	$146,720	01/11/19	01/10/20			
6	MOTOR AND GENERATOR REPAIR SERVICES	18-19	27577	56791	VINCENT ELECTRIC	$172,000	04/01/19	03/31/20			
7	ANNUAL REPLACEMENT OF DIFFUSERS IN BNR AERATION TANKS AT RWF	18-19	28020	57122	ENVIRONMENTAL DYNAMIC	$254,388	4/29/2019	4/28/2020			
8	(11) NEW TAYLOR DUNN 48 VOLT BIGFOOT MODEL B5-540-48 XL VEHICLE	18-19	27597	81038	TOYOTA MATERIAL HANDLING	$325,542	3/19/2019	12/18/2019			
9	CONSTRUCTION MANAGEMENT AND INSPECTION SERVICES FOR COGENERATION	19-20		AC25508	MNS ENGINEERS, INC	$238,000	04/29/19	06/30/20		$238,000	SERVICE ORDER #04 (MASTER AGREEMENT TERM 6/14/16-6/30/24, $8M)
10	GENERAL ENGINEERING SERVICES PCB SAMPLING AND MANAGEMENT SERVICES DURING DIGESTER THICKENER FACILITIES UPGRADE CONSTRUCTION	19-20		AC27586	BROWN AND CALDWELL	$525,013	04/09/18	12/31/19	$21,617	$546,030	SERVICE ORDER #01 FIRST AMENDMENT (MASTER AGREEMENT 5/20/16-6/30/21, $5M)
11	GENERAL ENGINEERING SERVICES ADVANCED FACILITY CONTROL AND METER REPLACEMENT	19-20		AC27587	BLACK & VEATCH	$1,892,064	04/25/19	06/30/21	$81,045	$1,973,109	SERVICE ORDER #01 THIRD AMENDMENT (MASTER AGREEMENT 5/25/16-6/30/21, $5M)