

City Service Area Environmental and Utility Services



**New Water Main Pipe
Installation at Gumdrop Drive**



Water Pollution Control Plant

Mission: Delivering world class utility services and programs to improve our health, environment, and economy.

The Sanitary Sewer System Capital Improvement Program (CIP) constructs sewer improvement projects that enhance sewer capacity to meet economic development goals and rehabilitates existing sewers to minimize sanitary sewer overflows.

The Storm Sewer System CIP continues to replace or rehabilitate pump stations to reduce the risk of local flooding during storm events and storm water quality improvements for regulatory compliance. The program addresses the drainage needs in residential neighborhoods, business districts, and walking routes to schools and public facilities.

The Water Pollution Control Plant (Plant) is a regional advanced wastewater treatment facility that serves the cities of San José, Santa Clara, and Milpitas, as well as the Cupertino Sanitary District, West Valley Sanitation District, County Sanitation Districts 2-3, and Burbank Sanitary District. The Plant is one of the largest tertiary wastewater treatment works in the western United States, serving more than 1.4 million residents and approximately 17,000 businesses. A major master planning effort was completed in late 2013, resulting in Environmental Impact Report certification and formal adoption of a 30-year master plan. The master plan provides the framework for over \$1.0 billion in new construction at the Plant over the next 10 to 15 years, and responds to aging infrastructure, future regulations, population growth, and treatment technology improvements.

The Water Utility System CIP ensures reliable utility infrastructure for the San José Municipal Water System and includes the construction of new facilities, maintenance of existing infrastructure, and improvements to existing facilities.

CSA CAPITAL PROGRAMS

- Sanitary Sewer System
- Storm Sewer System
- Water Pollution Control Plant
- Water Utility System

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Recent Accomplishments

- Gumdrop Drive Main Replacement – Replaced and relocated approximately 2,050 feet of an 8-inch steel water main on Gumdrop Drive, Almond Drive, and Coconut Drive (completed in Dec. 2018)
- Cast Iron Pipe Replacement 2017-2018 Phase III – Removed and replaced aging or corroded cast iron sewer pipes at several City locations (completed in Dec. 2018)
- Sanitary Sewer Repairs 2017-2018 Package II – Rehabilitated approximately 14,000 linear feet of sanitary sewer mains that have severe structural issues at various City locations (completed in Sept. 2018)
- Horace Mann and Washington Neighborhood Green Alleyways Improvements – Replaced 22,000 square feet of pavement and dirt roadway with new asphalt and installed 1,000 linear feet of infiltration trenches for stormwater treatment at two downtown locations (completed in April 2019)
- Willow Street Sanitary Pump Station Rehabilitation – Installed upgraded mechanical, structural and electrical components, along with other improvements at the sanitary pump station located at Willow Street and Minnesota Avenue (completed in April 2019)

Program Highlights

Sanitary Sewer System Capital Program

2020-2024 Proposed CIP: \$189.1 million

Sanitary Sewer Rehabilitation Projects:

- Cast Iron Pipe – Remove and Replace
- Condition Assessment Sewer Repairs

Sanitary Sewer Interceptor/Capacity Improvement Projects:

- Immediate Replacement and Diversion Projects
- Miscellaneous Capacity Improvements

Storm Sewer System Capital Program

2020-2024 Proposed CIP: \$121.0 million

- Measure T – Charcot Avenue Pump Station
- Measure T – Clean Water Projects
- Stockton-Cinnabar and Stockton-Taylor Storm Drains

Water Pollution Control Capital Program

2020-2024 Proposed CIP: \$1.3 billion

Preliminary Wastewater Treatment:

- Headworks Improvements
- New Headworks

Secondary Wastewater Treatment:

- Nitrification Clarifier Rehabilitation

Tertiary Wastewater Treatment

- Filter Rehabilitation

Biosolids:

- Digested Sludge Dewatering Facility

Advanced Process Control & Automation:

- Advanced Facility Control and Meter Replacement

Site Facility Maintenance and Improvements:

- Yard Piping and Road Improvements

Water Utility System Capital Program

2020-2024 Proposed CIP: \$33.2 million

- Annual Water Main Replacement
- Infrastructure Improvements
- North San José Reliability Well #6 Construction

CSA OUTCOMES

(Supported by the Capital Programs)

- ✓ Reliable Utility Infrastructure
- ✓ Healthy Streams, Rivers, Marsh and Bay
- ✓ Safe, Reliable and Sufficient Water Supply

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Performance Measures

A set of consistent and comprehensive performance measurements along with targets and goals has been established for the entire capital program and adopted for each individual CSA. Measures focus on schedule (cycle time) and project delivery cost. Please see the Budget Guide section narrative for additional information on capital performance measurements.

Outcome: Quality CIP Projects Delivered On-Time and On-Budget

Strategic Goals	CSA Performance Measures	2017-2018 Actual ¹	2018-2019 Target	2018-2019 Estimate	2019-2020 Target	5-Year Goal
Environmental and Utility Services CSA delivers quality Capital Improvement Program (CIP) projects on-time and on-budget	1. % of CIP projects delivered within 2 months of approved baseline schedule ²	83% (25/30)	85%	67% (18/27)	85%	85%
	2. % of CIP projects that are completed within the approved baseline budget ³	100% (33/33)	90%	92% (33/36)	90%	90%

¹ The 2017-2018 Actual number of projects may vary from the 2017-2018 Adopted Budget Estimate as documented in the 2018-2019 Adopted Budget as a result of the date of the estimated beneficial use of the project being revised and the projects expected to be delivered in the following fiscal year. Also, the number of projects may change with the inclusion of projects in the 2017-2018 Actual not originally included in the 2017-2018 Adopted Budget Estimate due to incomplete project information at that time.

² Projects are considered to be “delivered” when they are available for their intended use and are considered “on schedule” if delivered within two months of baseline schedule.

³ Projects are considered “completed” when final cost accounting has occurred and the project has been accepted. Projects are considered “on budget” when the total expenditures do not exceed 101% of the baseline budget.

In 2018-2019, the Environmental and Utility Services CSA delivered an estimated 18 of 27 (67%) projects within two months of the approved baseline schedule, which is below the performance target of 85%. Significant weather-related construction delays contributed to several projects being delivered beyond two months of baseline schedule. Some of the notable capital projects delivered in 2018-2019 include sanitary sewer improvements (Horace Mann and Washington Neighborhood Green Alleyways, Trimble Road and Amberwood Lane), sanitary sewer condition assessments at various locations, and the Willow Street Sanitary Pump Station Rehabilitation.

In 2018-2019, an estimated 33 of 36 (92%) of the projects were completed within their baseline budgets, which is above the one-year performance target of 90%. A few of the notable capital projects completed in 2018-2019 include the Horace Mann and Washington Neighborhood Green Alleyways Improvements, the Downer Canoas Injection Station Tank Replacement, the Willow Street Sanitary Pump Station Rehabilitation project, and Headworks Critical Improvements at the San José-Santa Clara Regional Wastewater Facility. The CSA continues to work to strengthen the alignment of project scopes, schedules, and budgets, while also accounting for external market conditions that may affect the delivery of capital projects. Staff relies heavily on the cost estimating and tracking tools that are available through the City’s Capital Project Management System (CPMS). These tools allow project management staff to effectively track project costs on an ongoing basis and assist in ensuring that expenditures remain within budgeted levels.

Capital Program Summary by City Service Area

Environmental and Utility Services

	<u>2019-2020 Budget</u>	<u>2020-2024 CIP Budget</u>	<u>Total Budget (All Years)</u>	<u>Start Date</u>	<u>End Date</u>
<u>Sanitary Sewer System</u>					
60 inch Brick Interceptor, Phase VIA and VIB	600,000	1,000,000	83,205,552	3rd Qtr. 2009	2nd Qtr. 2021
Almaden Supplement Sewer Rehabilitation (North)		3,130,000	3,130,000	3rd Qtr. 2020	2nd Qtr. 2022
Bollinger Road - Moorpark Avenue - Williams Road Sanitary Sewer Improv	506,000	506,000	12,652,395	3rd Qtr. 2012	2nd Qtr. 2021
Capital Program and Public Works Department Support Service Costs	1,899,000	9,308,000	*	Ongoing	Ongoing
Cast Iron Pipe - Remove and Replace	5,000,000	25,000,000	*	Ongoing	Ongoing
City Hall Debt Service Fund	336,000	1,700,000	*	Ongoing	Ongoing
Condition Assessment Sewer Repairs	6,000,000	30,000,000	*	Ongoing	Ongoing
Fee Administration - Sanitary Sewer	85,000	425,000	*	Ongoing	Ongoing
Flow Monitoring Program (Master Planning)	900,000	4,500,000	*	Ongoing	Ongoing
Fourth Major Interceptor, Phase VIIA		5,500,000	5,500,000	3rd Qtr. 2021	2nd Qtr. 2023
Immediate Replacement and Diversion Projects	5,900,000	28,350,000	*	Ongoing	Ongoing
Inflow and Infiltration Reduction	200,000	1,000,000	*	Ongoing	Ongoing
Infrastructure - Sanitary Sewer Condition Assessment	3,000,000	15,000,000	*	Ongoing	Ongoing
Infrastructure Management System	49,000	271,000	*	Ongoing	Ongoing
Master Planning Updates	2,000,000	8,900,000	*	Ongoing	Ongoing
McKee Avenue Sanitary Sewer Improvement		1,500,000	1,500,000	3rd Qtr. 2022	2nd Qtr. 2023
Miscellaneous Capacity Improvements	1,500,000	1,500,000	1,500,000	3rd Qtr. 2019	2nd Qtr. 2020
Montague Sanitary Sewer Pump Station Reserve	2,400,000	2,400,000	2,400,000	N/A	N/A
Payments to West Valley Sanitation District	10,000	50,000	*	Ongoing	Ongoing
Permit Review and Inspection for Outside Agencies - Sanitary Sewer	25,000	125,000	*	Ongoing	Ongoing
Preliminary Engineering - Sanitary Sewer	950,000	4,750,000	*	Ongoing	Ongoing
Program Management - Sanitary Sewer	300,000	1,500,000	*	Ongoing	Ongoing
Public Art Allocation	48,000	522,000	*	Ongoing	Ongoing
Public Works Engineering Services Equipment (Materials Lab)	40,000	200,000	*	Ongoing	Ongoing
Rehabilitation of Sanitary Sewer Pump Stations	320,000	340,000	11,846,441	Ongoing	Ongoing
Reinforced Concrete Pipe Rehabilitation Program	500,000	2,500,000	*	Ongoing	Ongoing
Rincon Avenue - Virginia Avenue Sanitary Sewer Improvements	200,000	200,000	5,316,717	3rd Qtr. 2017	4th Qtr. 2019
Sierra Road Sanitary Sewer Improvement		1,200,000	1,200,000	3rd Qtr. 2020	2nd Qtr. 2021
Technology Drive Sanitary Sewer Improvement		2,500,000	2,500,000	3rd Qtr. 2021	2nd Qtr. 2022

Capital Program Summary by City Service Area

Environmental and Utility Services

	2019-2020 Budget	2020-2024 CIP Budget	Total Budget (All Years)	Start Date	End Date
Urgent Rehabilitation and Repair Projects	7,000,000	33,000,000	*	Ongoing	Ongoing
Westmont Avenue and Harriet Avenue Sanitary Sewer Improvements	516,000	516,000	5,547,660	3rd Qtr. 2017	2nd Qtr. 2020
Total: Construction/Non-Construction	40,284,000	187,393,000			
Ending Fund Balance	8,667,205	1,694,205	**		
Total: Sanitary Sewer System	48,951,205	189,087,205	**		

Storm Sewer System

Alviso Storm Pump Station	100,000	100,000	18,596,957	3rd Qtr. 2013	3rd Qtr. 2019
Capital Program and Public Works Department Support Service Costs	807,000	3,980,000	*	Ongoing	Ongoing
Charcot Storm Pump Rental	300,000	1,500,000	*	Ongoing	Ongoing
City Hall Debt Service Fund	216,000	1,092,000	*	Ongoing	Ongoing
Citywide Outfall Improvements	1,830,000	4,870,000	*	Ongoing	Ongoing
Condition Assessment Storm Sewer Repairs	150,000	750,000	*	Ongoing	Ongoing
Fee Administration - Storm Sewer	25,000	125,000	*	Ongoing	Ongoing
Flow Monitoring Program	370,000	1,930,000	*	Ongoing	Ongoing
General Fund - Interest Income	11,000	55,000	*	Ongoing	Ongoing
Green Infrastructure Improvements	450,000	2,250,000	*	Ongoing	Ongoing
Infrastructure Management System	10,000	60,000	*	Ongoing	Ongoing
Large Trash Capture Devices	1,135,000	1,135,000	27,313,992	3rd Qtr. 2014	4th Qtr. 2019
Measure T - Charcot Avenue Pump Station	1,600,000	35,000,000	35,000,000	3rd Qtr. 2019	2nd Qtr. 2024
Measure T - Clean Water Projects	1,300,000	25,000,000	25,000,000	3rd Qtr. 2019	2nd Qtr. 2024
Permit Review and Inspection for Outside Agencies - Storm Sewer	50,000	250,000	*	Ongoing	Ongoing
Preliminary Engineering - Storm Sewer	180,000	900,000	*	Ongoing	Ongoing
Program Management - Storm Sewer	150,000	750,000	*	Ongoing	Ongoing
Public Art Allocation	34,000	92,000	*	Ongoing	Ongoing
San Jose Watershed Invasive Species Removal and Engagement	200,000	1,000,000	*	Ongoing	Ongoing
Stockton-Cinnabar and Stockton-Taylor Storm Drain System Improvement	500,000	15,000,000	15,000,000	3rd Qtr. 2019	2nd Qtr. 2024
Storm Pump Station Rehabilitation and Replacement	1,500,000	7,500,000	*	Ongoing	Ongoing
Storm Sewer Improvements	500,000	2,500,000	*	Ongoing	Ongoing
Storm Sewer Master Plan - City-wide	1,370,000	6,590,000	*	Ongoing	Ongoing

Capital Program Summary by City Service Area

Environmental and Utility Services

	<u>2019-2020 Budget</u>	<u>2020-2024 CIP Budget</u>	<u>Total Budget (All Years)</u>	<u>Start Date</u>	<u>End Date</u>
Urgent Storm Drain Repair Projects	250,000	1,250,000	*	Ongoing	Ongoing
Total: Construction/Non-Construction	13,038,000	113,679,000			
Ending Fund Balance	21,646,848	7,313,848	**		
Total: Storm Sewer System	34,684,848	120,992,848	**		

Water Pollution Control

Additional Digester Upgrades		10,520,000	64,475,000	3rd Qtr. 2021	2nd Qtr. 2028
Advanced Facility Control and Meter Replacement	13,287,000	15,007,000	35,452,521	3rd Qtr. 2010	2nd Qtr. 2023
Aeration Tanks and Blower Rehabilitation	1,155,000	65,629,000	139,065,235	2nd Qtr. 2015	2nd Qtr. 2028
Capital Program and Public Works Department Support Service Costs	724,000	1,982,000	*	Ongoing	Ongoing
City Hall Debt Service Fund	89,000	453,000	*	Ongoing	Ongoing
Clean Water Financing Authority Debt Service Payment Fund	5,527,000	11,053,000	*	Ongoing	Ongoing
Debt Service Repayment for Plant Capital Improvement Projects	2,625,000	390,130,000	*	Ongoing	Ongoing
Digested Sludge Dewatering Facility	2,002,000	110,909,000	130,963,372	3rd Qtr. 2014	2nd Qtr. 2023
Digester and Thickener Facilities Upgrade	6,182,000	8,057,000	303,455,986	3rd Qtr. 2006	2nd Qtr. 2021
East Primary Rehabilitation, Seismic Retrofit, and Odor Control		106,785,000	113,014,207	3rd Qtr. 2010	3rd Qtr. 2028
Energy Generation Improvements	3,335,000	4,072,000	160,936,059	1st Qtr. 2012	2nd Qtr. 2021
Equipment Replacement	1,663,000	8,315,000	*	Ongoing	Ongoing
Equipment Replacement Reserve	5,000,000	5,000,000	5,000,000	N/A	N/A
Facility Wide Water Systems Improvements	2,419,000	13,358,000	17,898,545	3rd Qtr. 2014	2nd Qtr. 2024
Filter Rehabilitation	34,872,000	38,562,000	46,126,134	3rd Qtr. 2014	2nd Qtr. 2023
Final Effluent Pump Station & Stormwater Channel Improvements	902,000	47,164,000	47,358,000	3rd Qtr. 2019	3rd Qtr. 2025
Flood Protection	489,000	9,004,000	11,498,562	3rd Qtr. 2017	2nd Qtr. 2023
Headworks Improvements	14,983,000	15,619,000	24,202,294	1st Qtr. 2013	2nd Qtr. 2023
Hydraulic Capacity Engineering	25,000	125,000	*	Ongoing	Ongoing
Hydraulic Capacity Enhancements Reserve	3,666,000	3,666,000	*	Ongoing	Ongoing
New Headworks	130,495,000	133,947,000	147,620,915	3rd Qtr. 2012	2nd Qtr. 2023
Nitrification Clarifier Rehabilitation	53,031,000	91,155,000	100,994,151	3rd Qtr. 2009	4th Qtr. 2025
Outfall Bridge and Levee Improvements	4,826,000	5,549,000	8,374,783	3rd Qtr. 2014	2nd Qtr. 2021
Owner Controlled Insurance Program		10,073,000	20,948,239	2nd Qtr. 2017	2nd Qtr. 2023

Capital Program Summary by City Service Area

Environmental and Utility Services

	<u>2019-2020 Budget</u>	<u>2020-2024 CIP Budget</u>	<u>Total Budget (All Years)</u>	<u>Start Date</u>	<u>End Date</u>
Payment for Clean Water Financing Authority Trustee	5,000	15,000	*	Ongoing	Ongoing
Plant Electrical Reliability	1,792,000	2,679,000	31,850,094	3rd Qtr. 2003	2nd Qtr. 2022
Plant Infrastructure Improvements	1,000,000	5,000,000	*	Ongoing	Ongoing
Preliminary Engineering - Water Pollution Control	1,000,000	5,000,000	*	Ongoing	Ongoing
Program Management - Water Pollution Control	8,122,000	48,792,000	*	Ongoing	Ongoing
Secondary Clarifier Rehabilitation		2,833,000	26,455,000	3rd Qtr. 2022	4th Qtr. 2028
Storm Drain System Improvements	939,000	13,514,000	15,109,921	4th Qtr. 2017	2nd Qtr. 2023
Support Building Improvements	11,325,000	14,519,000	57,175,553	2nd Qtr. 2015	1st Qtr. 2028
Treatment Plant Distributed Control System	5,438,000	5,438,000	11,722,999	1st Qtr. 2012	2nd Qtr. 2020
Urgent and Unscheduled Treatment Plant Rehabilitation	500,000	2,500,000	*	Ongoing	Ongoing
Various Infrastructure Decommissioning		21,751,000	22,220,000	2nd Qtr. 2019	1st Qtr. 2025
Yard Piping and Road Improvements	18,452,000	96,043,000	121,390,683	3rd Qtr. 2011	2nd Qtr. 2028
Total: Construction/Non-Construction	335,870,000	1,324,218,000			
Ending Fund Balance	7,184,755	11,264,755	**		
Total: Water Pollution Control	343,054,755	1,335,482,755	**		

Water Utility System

Advance System Design	200,000	1,000,000	*	Ongoing	Ongoing
Annual Water Main Replacement	1,900,000	9,300,000	*	Ongoing	Ongoing
Capital Program and Public Works Department Support Service Costs	22,000	99,000	*	Ongoing	Ongoing
City Hall Debt Service Fund	6,000	30,000	*	Ongoing	Ongoing
Fowler Pump Station Replacement	250,000	250,000	2,806,816	3rd Qtr. 2017	2nd Qtr. 2020
GIS Support	65,000	325,000	*	Ongoing	Ongoing
Infrastructure Improvements	810,000	4,150,000	*	Ongoing	Ongoing
Major Facilities Fee Administration	15,000	75,000	*	Ongoing	Ongoing
Master Plan Engineering	160,000	850,000	*	Ongoing	Ongoing
Meter Installations	50,000	250,000	*	Ongoing	Ongoing
Network System Flow Improvements	6,000	30,000	*	Ongoing	Ongoing
North Coyote Valley Water System Reserve	168,000	168,000	168,000	N/A	N/A
North San José Reliability Well #6 Construction	360,000	1,460,000	1,460,000	3rd Qtr. 2019	2nd Qtr. 2022

Capital Program Summary by City Service Area

Environmental and Utility Services

	<u>2019-2020</u> <u>Budget</u>	<u>2020-2024</u> <u>CIP Budget</u>	<u>Total</u> <u>Budget</u> <u>(All Years)</u>	<u>Start Date</u>	<u>End Date</u>
Preliminary Engineering - Water	145,000	775,000	*	Ongoing	Ongoing
Public Art Funding	16,000	24,000	*	Ongoing	Ongoing
Safety and Security Improvements	100,000	500,000	*	Ongoing	Ongoing
Service Installations	200,000	1,000,000	*	Ongoing	Ongoing
System Growth Related Projects Reserve	1,600,000	1,600,000	1,600,000	N/A	N/A
System Maintenance/Repairs	740,000	3,820,000	*	Ongoing	Ongoing
System Rehabilitation/Replacement Reserve	<u>3,100,000</u>	<u>4,338,000</u>	4,338,000	N/A	N/A
Total: Construction/Non-Construction	9,913,000	30,044,000	10,372,816	161,987	166,079
Ending Fund Balance	<u>2,852,168</u>	<u>3,202,168</u>	**		
Total: Water Utility System	12,765,168	33,246,168	**		
CSA Total: Construction/Non-Construction	399,105,000	1,655,334,000	**		
Ending Fund Balance	<u>40,350,976</u>	<u>23,474,976</u>	**		
CSA Total:	<u><u>439,455,976</u></u>	<u><u>1,678,808,976</u></u>	**		

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* Total Budget information is not provided due to the ongoing nature of this project.

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