



EB EAST BAY
MUNICIPAL UTILITY DISTRICT

Biennial Budget Fiscal Years 2020 & 2021

District Overview
Water System
Wastewater System



East Bay Municipal Utility District
Biennial Budget
Fiscal Years 2020 and 2021

Volume 1 **District Overview**
Water System
Wastewater System

Volume 2 Supplemental Material:
Capital Project Summaries

Adopted by the Board of Directors
June 11, 2019

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**EAST BAY MUNICIPAL UTILITY DISTRICT
BIENNIAL BUDGET FY20 & FY21
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BIENNIAL BUDGET FY20 & FY21
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SUPPLEMENTAL VOLUME

Capital Project Summaries

Note: Totals for charts and tables throughout the document may not sum due to rounding.

July 1, 2019

Honorable Members of the Board of Directors:

I am pleased to present the water and wastewater budgets for Fiscal Years 2020 (FY20) and 2021 (FY21). This budget supports our mission to provide reliable, high quality water and wastewater services at fair and reasonable rates for the people of the East Bay.

The District has risen to a variety of challenges in our 96 years of operation. Over the last decade, we have weathered a nation-wide economic recession and recovery, and a severe drought followed closely by above average rainfall. In addition, customers have dramatically changed their water use habits with consumption decreasing by nearly 30 percent from approximately 200 million gallons per day (MGD) in 2004 to a projected 141 MGD this year. Challenges such as these require near-term response and long-term planning to safeguard financial stability and maintain a high level of customer service and water quality.

Our strategic plan guided the development of this biennial budget and the five-year capital improvement program. The priorities set in this budget are to continue investments in and maintenance of aging infrastructure, and provide for long-term financial stability. As we look forward, it is important to first reflect on major achievements.

- We continue to pilot new technologies and construction methods to increase the miles of distribution pipeline replaced to reduce leaks and increase reliability. In FY21, we plan to replace 20 miles of pipe which is double the annual amount replaced five years ago.
- Our efforts to protect the Mokelumne River salmon fishery through habitat enhancement and effective hatchery operations resulted in the best fish returns on record.
- We have completed 19 years of perfect permit compliance at the Main Wastewater Treatment Plant.
- We enhanced our training and operation practices to better manage wet weather flows, resulting in no violations from the wastewater Wet Weather Facilities.

Over the next two years, we will invest more than \$800 million to improve our aging water and wastewater infrastructure. Investments are also being made in our IT infrastructure to upgrade outdated financial and human resource systems. Essential to these investments is maintaining and attracting a robust workforce to ensure we can provide service 24/7. We will continue to implement partnerships to create a pipeline of diverse and qualified candidates for jobs that are difficult to fill. In 2019, we launched a Technical Trades Apprenticeship Program for machinists and mechanics. The next phase of the Program will be expanded to other hard to fill classifications.

The FY20 and FY21 water rates and customer bill impacts are lower than those projected two years ago. Customers continue to consume on average 8 centum cubic feet (CCF) per month (about 200 gallons per day) as compared to 10 CCF historically. The 8 CCF user will see an increase in their water bill of \$3.62 per month in FY20 and an increase of \$3.73 per month in FY21, based on the adopted rate increases of 6.5 percent in FY20 and 6.25 percent in FY21.

Almost half of our customers also receive wastewater services. The adopted wastewater rate increases to support the budget are 4 percent each year, exactly as projected, as the Wastewater System is less affected by reduced water consumption. In FY19, the District completed a cost of service study for the wastewater treatment rates and wet weather charges that resulted in slight adjustments to the charges. The average single family residential bill for wastewater treatment based on the average of 6 CCF will increase by \$0.20 per month in FY20 and \$0.87 per month in FY21. This reflects wastewater rate changes adopted for FY20 including adjustments recommended from the cost of service study that resulted in some charges decreasing and others increasing. For FY21, wastewater rates were increased an additional 4.0 percent. Wastewater customers also pay an annual Wet Weather Facilities Charge collected on the property tax bill. The annual charge is based on lot size and will increase 7.2 percent in FY20 by \$7.50 for the smallest lots to \$26.76 for the largest lots as a result of the cost of service study. In FY21, the charge will increase an additional 4.0 percent ranging from \$4.46 to \$15.90 per year.

BUDGET HIGHLIGHTS

The budget priorities for FY20 and FY21 emerged from a planning process that began with the adoption of the District's updated July 2018 Strategic Plan. The Strategic Plan outlines the goals, strategies, and objectives we will pursue to meet future challenges and fulfill the District's mission.

Increase Investments in and Maintenance of Aging Infrastructure

The District operates and maintains a vast network of pipelines, storage and treatment facilities to deliver water to customers and provide wastewater service. Reaching from the Sierra Nevada foothills to the San Francisco Bay, this network has an estimated replacement cost exceeding \$15 billion. Maintaining high-quality service requires ongoing reinvestment in reservoirs, aqueducts, pump stations, pipelines, sewer interceptors, digesters and treatment plants. The budget was developed after analyzing a portfolio of investments and determining the highest priority projects based on regulatory compliance, safety, cost-effectiveness and improving service to our customers.

This budget reflects a significant commitment in capital investments as we continue to replace aging infrastructure.

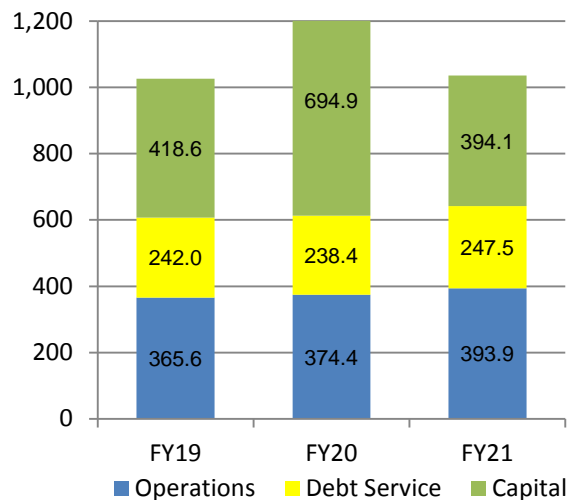
- In FY20-24, projected Water System capital cash flow spending totals \$1.90 billion, an increase of \$394.3 million or 26 percent from the prior total.
- The projected Wastewater System capital cash flow spending totals \$234.5 million, an increase of \$46.8 million or 25 percent from the prior five-year total.

BUDGET OVERVIEW

The following charts summarize the budget for FY20 and FY21. The District-wide total appropriation is \$2.34 billion for Water System and Wastewater System operations, debt service and capital appropriations.

FY19, FY20 AND FY21 APPROPRIATIONS (\$ Millions)					
	FY19 Budget	FY20 Budget	% Chg	FY21 Budget	% Chg
Water System					
Operations	292.5	299.3	2.3%	315.4	5.4%
Debt Service	210.0	208.2	-0.9%	217.7	4.6%
Capital Appropriation	<u>367.5</u>	<u>622.6</u>	69.4%	<u>352.3</u>	-43.4%
Total	869.9	1,130.1	29.9%	885.4	-21.7%
Wastewater System					
Operations	73.1	75.1	2.7%	78.6	4.6%
Debt Service	31.9	30.2	-5.3%	29.8	-1.3%
Capital Appropriation	<u>51.1</u>	<u>72.3</u>	41.4%	<u>41.8</u>	-42.2%
Total	156.2	177.6	13.7%	150.2	-15.4%
Total District					
Operations	365.6	374.4	2.4%	393.9	5.2%
Debt Service	242.0	238.4	-1.5%	247.5	3.8%
Capital Appropriation	<u>418.6</u>	<u>694.8</u>	66.0%	<u>394.1</u>	-43.3%
Total	1,026.1	1,307.6	27.4%	1,035.6	-20.8%

FY19 - FY21 Water and Wastewater Budgets
(\$ Millions)



Water System In FY20, the operations budget is increasing \$6.8 million, or 2.3 percent. Additional positions are being funded and salaries will increase based on a local Consumer Price Index (CPI). The additional positions will support capital projects and operations work such as infrastructure maintenance, ramp-up of pipeline replacement, and support functions to replace aging financial and human resources information systems. Overall, non-labor costs are essentially flat compared to the prior fiscal year. Budgeted increases for energy due to new tariffs and increased water production, software and license fees are offset by reductions in new additional funding for ongoing replacement of computer hardware and equipment, and the completion of the school Lead Sampling Program. The FY20 capital appropriation increase of \$255.1 million will fund work

such as water treatment plant upgrades, reservoir rehabilitation, pressure zone improvements, and pipeline replacements.

In FY21, the operations budget increases \$16.1 million, or 5.4 percent. The budget includes additional positions and overall salaries will increase based on a local CPI. In addition, cost increases are expected in areas such as fees and licenses, energy, computer hardware and software, and vehicle operating and maintenance costs. The FY21 decrease in capital appropriation of \$270.3 million is the result of several large multi-year projects being fully appropriated in FY20.

Wastewater System In FY20, the operations budget is increasing \$2.0 million, or 2.7 percent. Additional positions are being funded and salaries will increase based on a local CPI. These additional positions focus on meeting more stringent laboratory standards, recruitment outreach programs such as trades apprenticeships and college engineering intern, and administrative support. Overall, non-labor costs are decreasing. Budgeted increases for spoils/sludge disposal, reimbursable costs to the Water System, fees and licenses, and equipment rentals are more than offset by the lower use of chemicals due to process optimization. The FY20 capital appropriation increase of \$21.2 million will fund rehabilitation projects at the Main Wastewater Treatment Plant (MWWTP), remote facilities and interceptors.

In FY21, the operations budget increases \$3.5 million, or 4.6 percent. Salaries will increase based on a local CPI. Cost increases are expected in such areas as chemicals, reimbursable expense to the Water System, spoils/sludge disposal, facility parts and materials, energy, vehicle usage, insurance premiums and license fees. The FY21 decrease in capital appropriation of \$30.5 million is the result of several large multi-year projects being fully appropriated in FY20.

FIVE-YEAR CAPITAL IMPROVEMENT PROGRAM

The FY20-24 combined Water and Wastewater System CIP includes \$2.53 billion of appropriations. Of this total, the Board of Directors approves the first two years or \$1.09 billion.

The following discussion focuses on the CIP cash flows as they establish the fiscal years' project spending and are a significant component of the rates. Over the span of the five-year CIP, the combined Water and Wastewater System planned cash flow spending will increase 13 percent from \$386.2 million in FY20 to \$436.5 million in FY24.

Water System Top Programs The following table shows the major Water System capital programs and the projected five-year cash flow spending as we continue to invest in infrastructure:

- Largest program spending is for Pipelines and Regulators which include plans to replace initially 17.5 growing to 25 miles of distribution pipelines per year, and to replace large diameter transmission pipelines.
- Water Treatment Plant Upgrades program is the next largest area of spending and includes operational and water quality improvements involving the filter, chemical, control and safety systems.

- Pressure Zone Improvements program includes upgrading or replacing reservoirs, pumping plants and transmission systems throughout the District to optimize storage capacity and improve water quality.
- Other programs will make improvements to the Mokelumne and other raw water aqueducts and storage reservoirs, install services and fire hydrants for new customers, and replace polybutylene and copper service laterals.

Water System Major Capital Programs	
Five-Year CIP	
(\$ Millions)	
Programs	FY20-FY24 Cash Flow
Pipelines and Regulators	548
Water Treatment Plant Upgrades	262
Pressure Zone Improvements	182
Reservoir Rehabilitation	147
Pipelines/Appurtenances	142
Raw Water Aqueducts	127
Polybutylene Lateral Replacements	76

Wastewater System Top Projects The following table shows the major Wastewater System capital projects and the projected five-year cash flow spending as we continue to make improvements to the Main Wastewater Treatment Plant to maintain our strong record of regulatory compliance:

- Treatment plant infrastructure work involves various aspects of the plant including drains, reactor piping, clarifiers, digesters, grit handling, concrete structures, and building systems.
- Rehabilitation work will continue on the 3rd Street sewer interceptor, and pre-screening and odor control improvements made at the resource recovery trucked waste facility.
- Improvements to the power generation station and flares will be made to improve reliability.

Wastewater System Major Capital Projects	
Five-Year CIP	
(\$ Millions)	
Projects	FY20-FY24 Cash Flow
Treatment Plant Infrastructure	92
Digester Upgrades	18
3 rd Street Sewer Interceptor Rehabilitation	17
Resource Recovery	16
Concrete Rehabilitation	15
Capital Equipment Replacement	14
Power Generation System	12

CUSTOMER BILL IMPACTS

As a community, our quality of life depends on reliable, environmentally-sound water and wastewater services. A summary of bill impacts for the average single family residential user is shown below. The attachment provides detailed information for a wide range of use levels.

Customer bill impacts for FY20 and FY21 reflect the revenue necessary to meet the budget needs and lower projected water sales than planned. The adopted rates and charges are consistent with the District's 2015 Water and 2019 Wastewater Cost of Service studies that allocate costs among customer classes based on usage characteristics. State law requires basing rates and charges on cost of service.

- An average single family residential customer now uses 8 CCF per month or approximately 200 gallons per day. Their monthly water charges would increase \$3.62 in FY20 and an additional \$3.73 in FY21.
- An average single family residential customer discharges 6 CCF per month of their total water use to the sewer system. Their monthly wastewater treatment charges collected on the water bill would increase \$0.20 in FY20 and an additional \$0.87 in FY21.
- The wastewater Wet Weather Facilities Charge, collected on the property tax bill for customers in our SD-1 service area, is based on a customer's lot size. For most single family residential customers the annual wastewater Wet Weather Facilities Charge will increase by \$7.50 in FY20 and an additional \$4.46 in FY21. For single family residential customers with the largest lot size, over 10,000 square feet, the annual increase would be \$26.76 in FY20 and an additional \$15.90 in FY21.

USING THE BUDGET DOCUMENT

The District's FY20 and FY21 biennial budget document is comprised of two volumes. This volume contains all of the key biennial budget information for both the Water and Wastewater Systems, including a District overview, detailed operating and capital budgets, and five-year financial forecasts. The supplemental

volume provides summaries for all projects in the Capital Improvement Program. Since 1996, the District's budget documents have consistently received the Government Finance Officers Association's coveted Distinguished Budget Presentation Award. In addition, the California Society of Municipal Finance Officers has given awards for the District's biennial budget documents.



CONCLUSION

As we approach 100 years of operation, it is an exciting time for the District as we pursue new technologies and methods to make every dollar work harder for our ratepayers. The District is well positioned to meet these challenges head-on with the same commitment, passion and innovation that have grown this utility into an agency that is inseparable from the vitality of the San Francisco Bay Area. With the ongoing support of the Board and staff, I am confident that we will meet our challenges well into the future.

In closing, this budget document serves as a policy document, a financial plan and an operations guide for the next two fiscal years. I want to thank the staff whose collaborative efforts resulted in a budgetary plan that is based on fair and reasonable water and wastewater rates.

Respectfully submitted,



ALEXANDER R. COATE
General Manager

ARC:SDS

Attachment

WHAT IS THE RATE IMPACT?

As part of our efforts to enhance transparency, we are providing this attachment to the General Manager's message to demonstrate the impact of rate changes. The tables show bill impacts of the FY20 and FY21 water and wastewater rates and charges for a range of customer classes and use levels.

Water Charge Bill: Monthly Impacts

The table titled **Single Family Residential Water Charges on Water Bill** addresses a broad cross-section of single family residential users which represent the majority of District accounts. The impact of rate increases is illustrated for users ranging from 4 CCF (25th percentile) to 24 CCF (95th percentile) per month. The impact is also provided for both the median single family user of 6 CCF and the recent average of 8 CCF. The tables present monthly impacts for ease of use, although residential single family customers receive bills covering two month periods.

Single Family Residential Water Charges on Water Bill								
	Use (CCF)	FY19 Bill	FY20 Bill	Increase from FY19	Percent Change	FY21 Bill	Increase from FY20	Percent Change
25 th Percentile	4	\$39.67	\$42.23	\$2.56	6.5%	\$44.87	\$2.64	6.3%
50 th Percentile (median use)	6	\$47.19	\$50.23	\$3.04	6.4%	\$53.37	\$3.14	6.3%
75 th Percentile	10	\$66.46	\$70.76	\$4.30	6.5%	\$75.17	\$4.41	6.2%
95 th Percentile	24	\$152.12	\$161.98	\$9.86	6.5%	\$172.03	\$10.05	6.2%
Average Single Family Residential Use*	8	\$56.12	\$59.74	\$3.62	6.5%	\$63.47	\$3.73	6.2%

*8 CCF/month represents recent average single-family residential use. Previous comparisons used 10 CCF/month, which represented historic average single-family residential use prior to recent drought conditions.

Multi-Family Residential and Non-Residential Water Charges on Water Bill demonstrates the impact on adopted rate increases for two multi-family residential users: one with 4 units at 25 CCF monthly use, and one with 5+ units at 50 CCF monthly use. Information is also included for sample commercial users at 50 CCF per month and industrial users at 500 CCF per month.

Multi-Family Residential and Non-Residential Water Charges on Water Bill									
	Meter (Inches)	Use (CCF)	FY19 Bill	FY20 Bill	Increase from FY19	Percent Change	FY21 Bill	Increase from FY20	Percent Change
Multi-Family Residential 4 units	1	25	\$169.95	\$181.12	\$11.17	6.6%	\$192.35	\$11.23	6.2%
Multi-Family Residential 5+ units	1	50	\$302.70	\$322.62	\$19.92	6.6%	\$342.60	\$19.98	6.2%
Commercial	1	50	\$301.70	\$321.12	\$19.42	6.4%	\$341.10	\$19.98	6.2%
Industrial	2	500	\$2,751.36	\$2,928.27	\$176.91	6.4%	\$3,110.35	\$182.08	6.2%

Wastewater Treatment Charge Bill: Monthly Impacts

Wastewater customer charges appear in two separate places for our SD-1 customers, on the water bill and the property tax bill. The two tables presented in this section, **Wastewater Charges on Water Bill** and **Wet Weather Facilities Charge on Property Tax Bill**, address each of these bills.

Wastewater charges are based on volume of water purchased, but are capped at a maximum of 9 CCF per month per single family residential user as only indoor water use is discounted. The table titled **Wastewater Charges on Water Bill** shows bill impacts for both an average single family residential user discharging 6 CCF per month and a single family residential user discharging at the maximum, capped amount. In addition, impacts are shown for two multi-family residential users: one with 4 units at 25 CCF per month, and one with 5+ units at 50 CCF per month. Information is also included for sample commercial users at 50 CCF per month and industrial users at 500 CCF per month.

Wastewater Charges on Water Bill									
	Meter (Inches)	Use (CCF)	FY19 Bill	FY20 Bill	Increase from FY19	Percent Change	FY21 Bill	Increase from FY20	Percent Change
Average Single Family Residential	5/8	6	\$21.95	\$22.15	\$0.20	0.9%	\$23.02	\$0.87	3.9%
Single Family Residential	5/8	9	\$25.55	\$25.96	\$0.41	1.6%	\$26.98	\$1.02	3.9%
Multi-Family Residential 4 units	1	25	\$70.64	\$68.81	(\$1.83)	-2.6%	\$71.50	\$2.69	3.9%
Multi-Family Residential 5+ units	1	50	\$143.62	\$149.52	\$5.90	4.1%	\$155.30	\$5.78	3.9%
Commercial	1	50	\$148.10	\$154.00	\$5.90	4.0%	\$159.78	\$5.78	3.8%
Industrial	2	500	\$8,006.60	\$9,037.50	\$1,030.90	12.9%	\$9,387.78	\$350.28	3.9%

Wastewater Wet Weather Facilities Charge: Annual Impacts

The table titled **Wet Weather Facilities Charge on Property Tax Bill** shows updated annual Wet Weather Facilities Charges based on lot size.

Wet Weather Facilities Charge on Property Tax Bill							
	FY19 Bill	FY20 Bill	Increase from FY19	Percent Change	FY21 Bill	Increase from FY20	Percent Change
Small Lot 0-5,000 sq. ft.	\$103.74	\$111.24	\$7.50	7.2%	\$115.70	\$4.46	4.0%
Medium Lot 5,001 - 10,000 sq.ft.	\$162.06	\$173.78	\$11.72	7.2%	\$180.74	\$6.96	4.0%
Large Lot >10,000 sq. ft.	\$370.44	\$397.20	\$26.76	7.2%	\$413.10	\$15.90	4.0%

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INTRODUCTION: DISTRICT OVERVIEW

East Bay Municipal Utility District (EBMUD) supplies water and wastewater treatment for East Bay communities located within Alameda and Contra Costa Counties in California. It is a publicly owned utility formed under the Municipal Utility District (MUD) Act passed by the state legislature in 1921. The Act permits the formation of multi-purpose government agencies to provide needed public services on a regional basis.



Pardee Reservoir

In 1923, voters in the eastern San Francisco Bay Area created EBMUD to provide water service. Ninety percent of the water used by EBMUD comes from rain and melted snow within the 627-square mile protected watershed of the Mokelumne River and captured behind Pardee and Camanche Reservoirs located on the western slope of the Sierra Nevada. Raw or untreated water is transported more than 90 miles west via three parallel aqueducts to East Bay water treatment plants or terminal reservoirs, and from there to 170 local reservoirs and 4,200 miles of distribution pipeline. To protect EBMUD's customers from the effects of a severe drought, in 2002 the District created the Freeport Regional Water Project to convey up to 100 million gallons per day of supplemental Sacramento River water. The first water deliveries to the East Bay were in 2014 due to the drought that was being experienced at that time.

In 1944, voters in six of the East Bay cities served by EBMUD elected to form Special District No. 1 to treat wastewater before being released into San Francisco Bay. In 1951, EBMUD began providing wastewater treatment.

EBMUD is a California special district and has a seven-member Board of Directors publically elected from wards within the service area. The Board is committed to governing through an open, public process, guided by the District's Mission Statement. Policies are then implemented under the direction of the General Manager. The General Manager and General Counsel are appointed by and report directly to the Board. The Senior Management Team is responsible for managing the operations of the District. EBMUD employs over 2,000 people in service to its mission. The Water and Wastewater Systems are legally distinct entities managed by the same Board.

The mission of the District is:

"To manage the natural resources with which the District is entrusted; to provide reliable, high quality water and wastewater services at fair and reasonable rates for the people of the East Bay; and to preserve and protect the environment for future generations."

For a complete history of the East Bay Municipal Utility District, please visit the history page at www.ebmud.com/about-us/who-we-are/mission-and-history/.

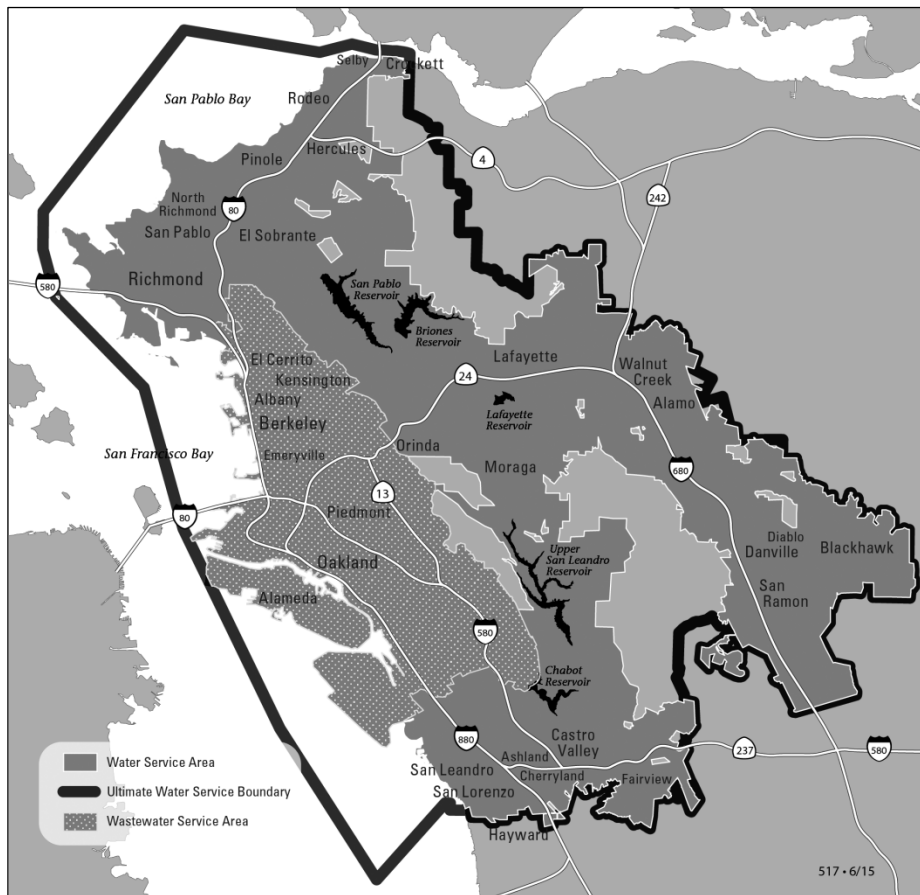
COMMUNITY

Service Area Description

Since 1929, when EBMUD first delivered water from the Sierra Mountains to the East Bay, the population served has grown from approximately 0.5 million to 1.4 million. Today the EBMUD service area includes many of the Bay Area's largest employers. The District's vitality is inseparable from the \$776 billion Bay Area regional economy which is essential to the economic health of California and the nation. The gross domestic product (GDP) of the Bay Area is one of the highest in the United States. The District's infrastructure is diverse and extensive, with a replacement cost conservatively estimated at more than \$15 billion.

The EBMUD water service area includes a large part of urban and suburban development in Alameda and Contra Costa Counties. The service area includes 20 cities and 15 unincorporated communities located on the eastern shore of San Francisco Bay (the "East Bay"). It is a 332-square mile area extending from Crockett in the north to San Lorenzo in the south, and eastward from San Francisco Bay through the Oakland-Berkeley hills to Walnut Creek and south through the San Ramon Valley. The wastewater service area is an 88-square mile area along the east shore of the bay extending from Richmond in the north to Oakland in the south.

This map shows the EBMUD water and wastewater service area.



Population

Approximately 1.4 million people are served by the Water System, 685,000 of whom are also served by the Wastewater System. Oakland, the largest city in Alameda County, is the eighth largest in the state. The following table includes population data for the largest cities in the District's service area.

Population Trends*
Seven Largest Cities in Service Area
Alameda and Contra Costa Counties, and California

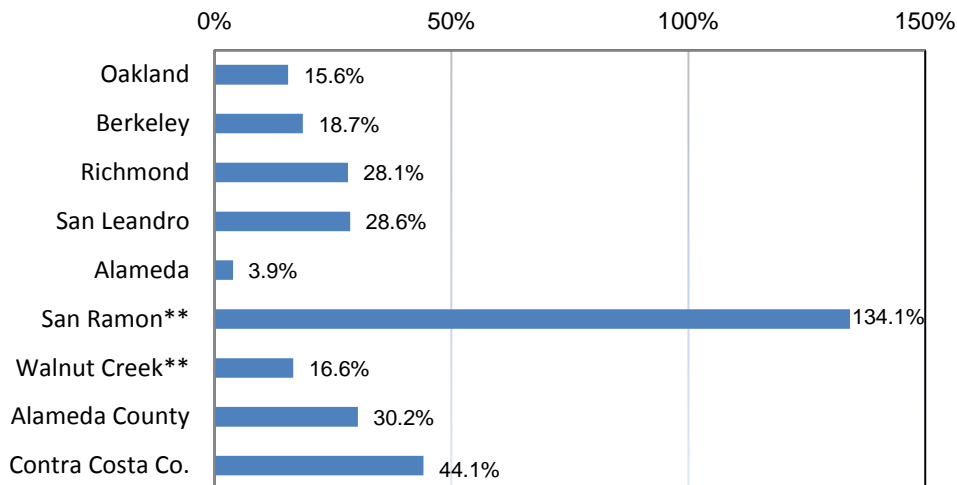
City/County	1/1/1980	1/1/1990	1/1/2000	1/1/2010	1/1/2018
Oakland	339,300	371,100	399,500	390,757	428,827
Berkeley	103,300	102,700	102,700	112,621	121,874
Richmond	74,300	86,600	99,200	103,661	110,967
San Leandro	64,200	68,100	79,500	84,977	87,598
Alameda	63,900	75,900	72,300	73,835	78,863
San Ramon**	***	35,300	44,800	72,148	82,643
Walnut Creek**	53,300	60,600	64,300	64,140	70,667
Alameda County	1,105,380	1,274,700	1,443,700	1,509,240	1,660,202
Contra Costa Co.	657,250	797,600	948,800	1,047,948	1,149,363
California	23,669,000	29,558,000	33,872,000	37,223,900	39,809,693

* Released May 1, 2018, by California Department of Finance, Demographic Research Unit, Population Estimates for California Cities.

** EBMUD does not serve all of San Ramon or Walnut Creek, but total population is shown for each.

*** San Ramon was unincorporated at the time, data not available.

Population Growth Since 1990
Seven Largest Cities in Service Area and Both Counties



** Total population shown even though EBMUD does not serve the entire community.

WATER AND WASTEWATER SYSTEMS

Water Supply

This section describes how EBMUD delivers water from the Sierra Nevada foothills to the Bay Area and how the wastewater plant treats municipal wastewater. During its 96 years, the population has grown and the system has expanded to meet increasing needs.

Ensuring a reliable, high quality water supply for today and the future is one of the District's highest priorities. Significant capital investments have been made to ensure a reliable water supply such as securing supplemental water supplies and expanding recycled water supply programs.



Mokelumne River

One of the most important factors in water quality is the source: the purer the source the better the water. Ninety percent of EBMUD's water comes from the 627-square mile watershed of the Mokelumne River located on the western slope of the Sierra Nevada. This area is mostly national forest, EBMUD-owned lands and other undeveloped lands little affected by human activity. The Mokelumne watershed collects snowmelt which flows into Pardee Reservoir near the town of Valley Springs.

Three large aqueducts carry this water more than 90 miles from Pardee Reservoir to the East Bay and protect it from pesticides, agricultural and urban runoff, municipal sewage and

industrial discharges. When water demand is high or during times of operational need, EBMUD also draws water from protected local watersheds.

Before water reaches the tap, EBMUD takes many steps to ensure its quality. This includes carefully managing watershed lands and reservoirs; treating the water; maintaining water quality through a complex system of distribution pipes, pumping plants and reservoirs; testing water samples in our lab and in the field; and addressing consumer concerns. These efforts ensure that all customers receive high-quality drinking water that meets or surpasses all state and federal regulatory requirements.



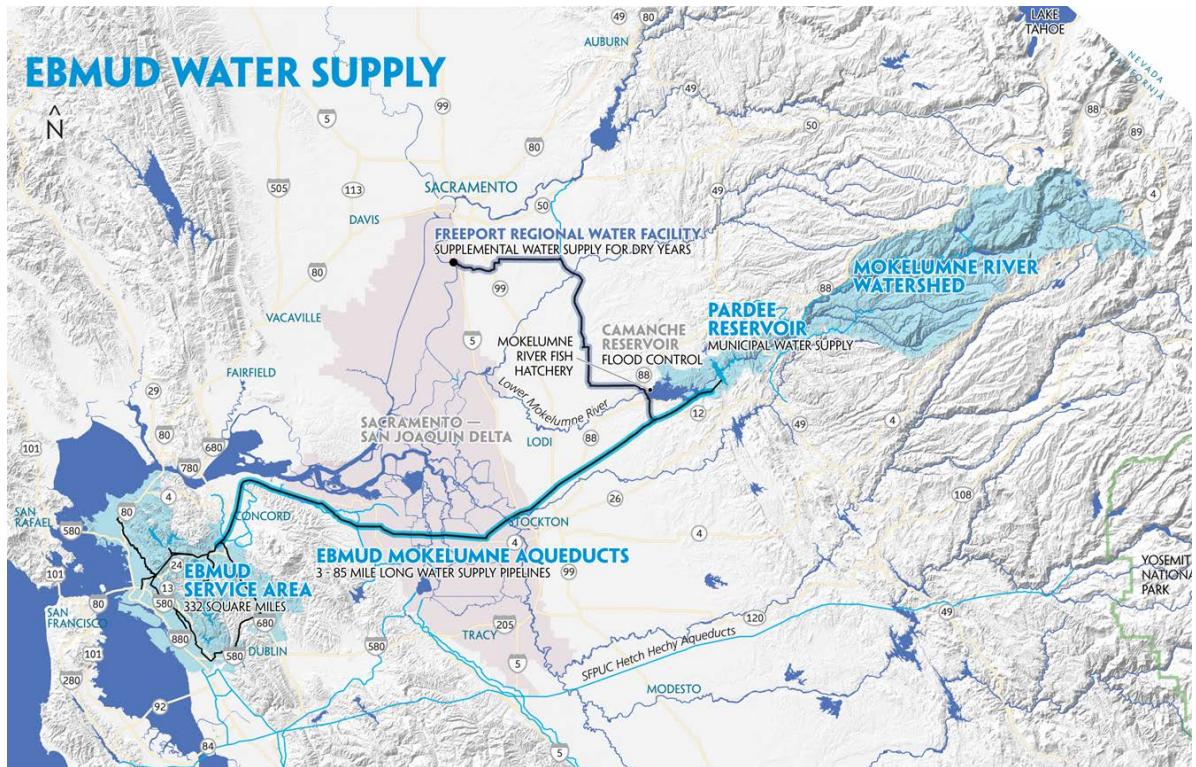
Pardee Dam

Every five years, EBMUD updates its Urban Water Management Plan to ensure a reliable water supply for the next generation. This includes making the best use of limited supplies through water conservation and recycling and developing long-term projects to augment the water supply.

The map below shows how the water travels from the Mokelumne River Watershed into Pardee Reservoir, across the Central Valley in EBMUD's Mokelumne Aqueducts, and to the EBMUD Service Area. Customers discharge wastewater into the sewer system and makes its way to the Wastewater Treatment Plant for treatment, and finally to the San Francisco Bay.



Freeport Water Project



Wastewater Treatment

EBMUD's wastewater treatment plant provides service for 685,000 people along the eastern shore of the San Francisco Bay, and treats approximately 56 million gallons of municipal wastewater per day. Wastewater is collected from homes and businesses through privately owned sewer laterals that feed into a network of city and other regional sewers, which eventually join the EBMUD's sewer interceptors and pump stations. These facilities carry the wastewater to its treatment plant located in Oakland. Stormwater is collected through separate community-owned systems. The plant treats sewage to meet stringent state and federal standards before recycling it or releasing it to the Bay. Prior to its construction, raw sewage was discharged directly into the Bay. As a partner in the stewardship of the Bay, EBMUD works with residents and businesses to help them keep contaminants out of the sewer system.



Wastewater Treatment Plant

EBMUD has been recycling and producing renewable energy at its wastewater plant since the mid-1980s. EBMUD's plant transforms sewage and other organic wastes into green energy, nutrient-rich soil conditioner and recycled water. EBMUD produces sufficient renewable energy to meet its onsite power demands. Excess energy is sold to the neighboring Port of Oakland. On average, EBMUD produces 130 percent of the power it needs to run its wastewater operations.



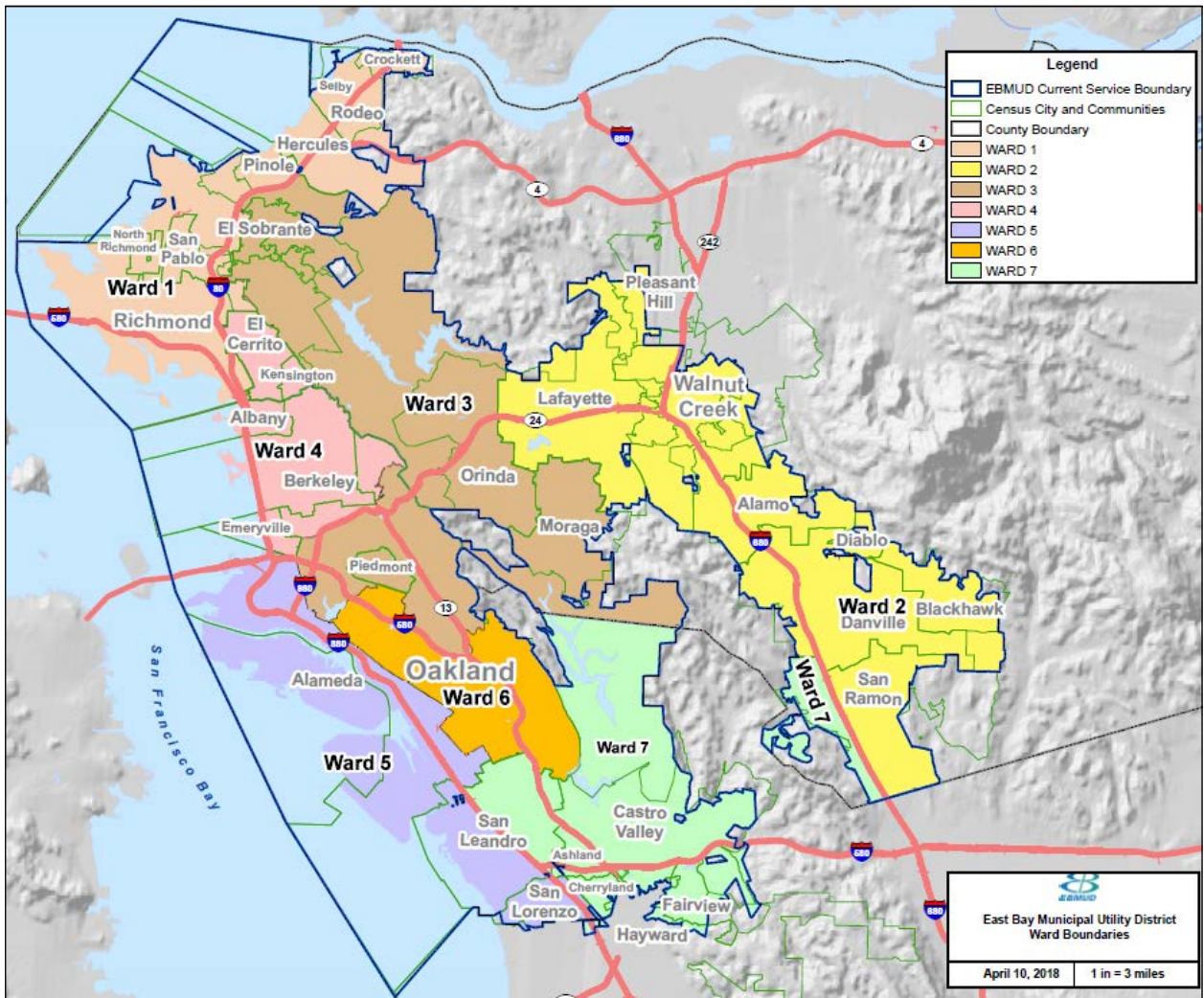
Power Generation Station

DISTRICT ORGANIZATION

BOARD OF DIRECTORS

EBMUD has a seven-member elected Board of Directors who determines overall policies, which are then implemented under the direction of the General Manager. The Board of Directors believes that EBMUD has a public responsibility to preserve the region's resources and set industry standards for water and wastewater utilities.

Directors are publicly elected to four-year terms from seven wards within the service area. The following map shows the areas included in each ward.



The current Board of Directors is shown below. More information on the Board of Directors can be found at: www.ebmud.com/about-us/board-directors/your-board-members/.

WARD 1 Lesa R. McIntosh Term expires 12/31/2020

CONTRA COSTA COUNTY: Cities of Crockett, Hercules, Rodeo, and San Pablo; portions of Richmond and Pinole; and communities of North Richmond and Selby.

WARD 2 John A. Coleman Term expires 12/31/2022

CONTRA COSTA COUNTY: Cities of Alamo, Lafayette, Walnut Creek, Town of Danville; portions of San Ramon and Pleasant Hill and communities of Blackhawk and Diablo.

WARD 3 Marguerite Young - President Term expires 12/31/2022

ALAMEDA COUNTY: City of Piedmont, and a substantial portion of Oakland.
CONTRA COSTA COUNTY: Cities of Orinda and El Sobrante; Town of Moraga, and portions of Pinole and Richmond.

WARD 4 Andy Katz Term expires 12/31/2022

ALAMEDA COUNTY: Cities of Albany, Berkeley, and Emeryville; and a portion of Oakland.
CONTRA COSTA COUNTY: Cities of El Cerrito and Kensington.

WARD 5 Doug Linney - Vice-President Term expires 12/31/2020

ALAMEDA COUNTY: Cities of Alameda and San Lorenzo; West Oakland and Oakland Airport Area, and a portion of San Leandro.

WARD 6 William B. Patterson Term expires 12/31/2020

ALAMEDA COUNTY: Portions of Oakland (East Oakland and south of Park Boulevard/5th Avenue) to the San Leandro City boundary.

WARD 7 Frank Mellon Term expires 12/31/2022

ALAMEDA COUNTY: Castro Valley; portions of San Leandro and Hayward; communities of Cherryland and Fairview.
CONTRA COSTA COUNTY: Portion of San Ramon.

Board meetings are open to the public and are held twice monthly on the second and fourth Tuesday of each month. The Board may also meet at other times as needed. The Board is committed to governing through an open, public process, guided by the EBMUD Mission Statement.

SENIOR MANAGEMENT

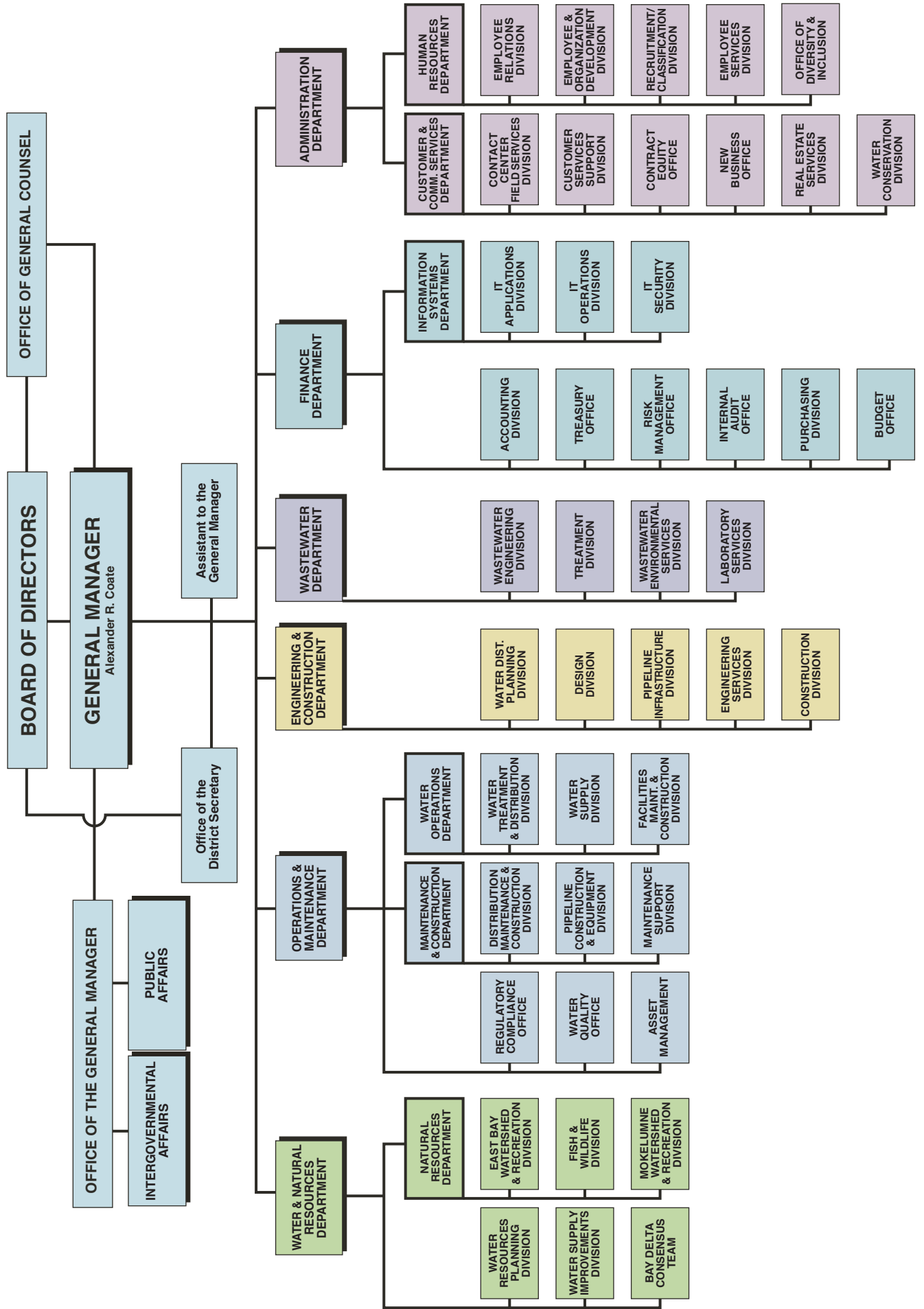
The General Manager and General Counsel are appointed by and report directly to the Board of Directors.

Alexander R. Coate	General Manager
Craig S. Spencer	General Counsel

The Senior Management Team listed below is responsible for managing the operations of the District.

Laura A. Acosta	Manager of Human Resources
Michael R. Ambrose	Operations and Maintenance Department Manager
David A. Briggs	Operations and Maintenance Department Manager
Clifford C. Chan	Director of Operations and Maintenance
Rischa S. Cole	Secretary of the District
Marlaine K. Dumaine	Special Assistant to the General Manager – Governmental Affairs
Xavier J. Irias	Director of Engineering and Construction
Andrew L. Lee	Manager of Customer and Community Services
Andrew J. Levine	Manager of Information Systems
Sophia D. Skoda	Director of Finance
Michael T. Tognolini	Director of Water and Natural Resources
Eileen M. White	Director of Wastewater
Kelly Zito	Special Assistant to the General Manager – Communications

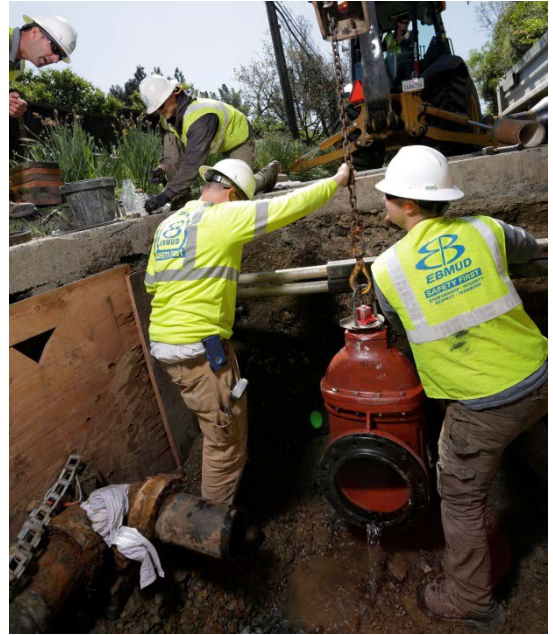
The chart on the following page provides an overview of the organization and shows the relationships between different departments and divisions within the District. It can also be found at www.ebmud.com/about-us/board-directors/management/.



WORKFORCE

EBMUD has over 2,000 employees. Most are represented by the American Federation of State, County and Municipal Employees, Locals 444 and 2019; the International Federation of Professional and Technical Engineers, Local 21; and the International Union of Operating Engineers, Local 39. The majority of employees work in the East Bay, but employees also work in the Central Valley and Mokelumne watershed area.

EBMUD is an equal employment opportunity (EEO) employer, and a proud leader in taking legal, proactive steps that support a diverse, inclusive workforce. From Board policies that ensure equal employment opportunities for all persons based on job-related merit, the District uses inclusive and creative recruitment, professional development and placement methods to enhance the District's efforts to achieve a workforce reflective of the labor market in the communities we serve.



Field Crew



Administration Building



Wastewater Treatment Plant

STRATEGIC PLAN SUMMARY

The District's Strategic Plan incorporates its mission and principles, and identifies its goals, strategies, objectives, and key performance indicators. The plan guides staff in the management and allocation of resources and assets. The Strategic Plan precedes and guides the development of the biennial budget and the five-year capital improvement program to ensure that necessary resources are provided to implement the strategies and objectives.

The District's current Strategic Plan was adopted by the Board of Directors in July 2018. It is a blueprint for how EBMUD will respond to and prioritize challenges and evolving priorities. The plan incorporates the principles of fiscal responsibility, sustainability and effective use of resources that minimize the District's environmental footprint.

The Strategic Plan includes the following elements:

- **Goals** that define what the District wants to achieve;
- **Strategies** that define which actions to take to reach each goal;
- **Objectives** that reflect what needs to be accomplished in the near term; and
- **Key Performance Indicators (KPIs)** that measure how well the District is doing in achieving its goals.

Strategic Plan Goals

The District has established the following comprehensive set of goals integrating sustainability principles:

- **Long-Term Water Supply**
We ensure a reliable high-quality water supply for the future.
- **Water Quality and Environmental Protection**
We meet or surpass environmental and public health standards and protect public trust values.
- **Long-Term Infrastructure Investment**
We maintain and improve the District's infrastructure in a cost-effective manner to ensure sustainable delivery of reliable, high quality service now and in the future, addressing economic, environmental, and social concerns.
- **Long-Term Financial Stability**
We manage the District's finances to meet funding needs and maintain fair and reasonable water and wastewater rates.
- **Customer and Community Services**
We build stakeholder trust and long-term relationships through service excellence, proactive communication and education.
- **Workforce Planning and Development**
We create an environment that attracts, retains, and engages a high performing diverse workforce in support of the District's mission and core values.

Implementing the Plan

The fundamental purpose of the strategic planning process is to define the actions in the next three to five years which are necessary to meet the District's mission now and well into the future. The General Manager and the Senior Management Team lead the implementation of the Strategic Plan, with input from various sources such as master plans and long-range plans, new initiatives, and employee and customer feedback.

The Strategic Plan is adopted by the Board of Directors. Upon adoption, development of actions to implement the Strategic Plan can begin. The Strategic Plan provides an overall high-level direction to prioritize resources to achieve future success, but it does not describe all of the specific actions. By developing actions that are linked to the Strategic Plan, the District can ensure that it focuses its resources on the District's highest priorities.

Strategic Plan Process



Annual individual employee performance plans are prepared to establish and communicate responsibilities, accountabilities, and performance expectations for priorities contained in the Strategic Plan.

The plan includes a series of KPIs that are measurable, comprehensive, and reflect the various strategies contained within the six Strategic Plan goals. KPIs are measured against targets annually to enable the District to evaluate its progress. The latest KPI report was presented to the Finance Committee in October 2018.

Strategic Plan 2018 goals, strategies, objectives, and KPIs are contained in the Appendix to this volume.

For an online copy of the 2018 Strategic Plan, go to www.ebmud.com/about-us/who-we-are/.

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CHAPTER 1: FINANCIAL ORGANIZATION & BUDGET PROCESS

The Introduction discussed the District's Strategic Plan which guides the development of the biennial budget and the five-year capital improvement program. This chapter describes the District's financial structure and organization, and budget development process. It provides the parameters under which the budget is created and a comprehensive financial overview.

FINANCIAL ORGANIZATION

Fund Structure and Descriptions

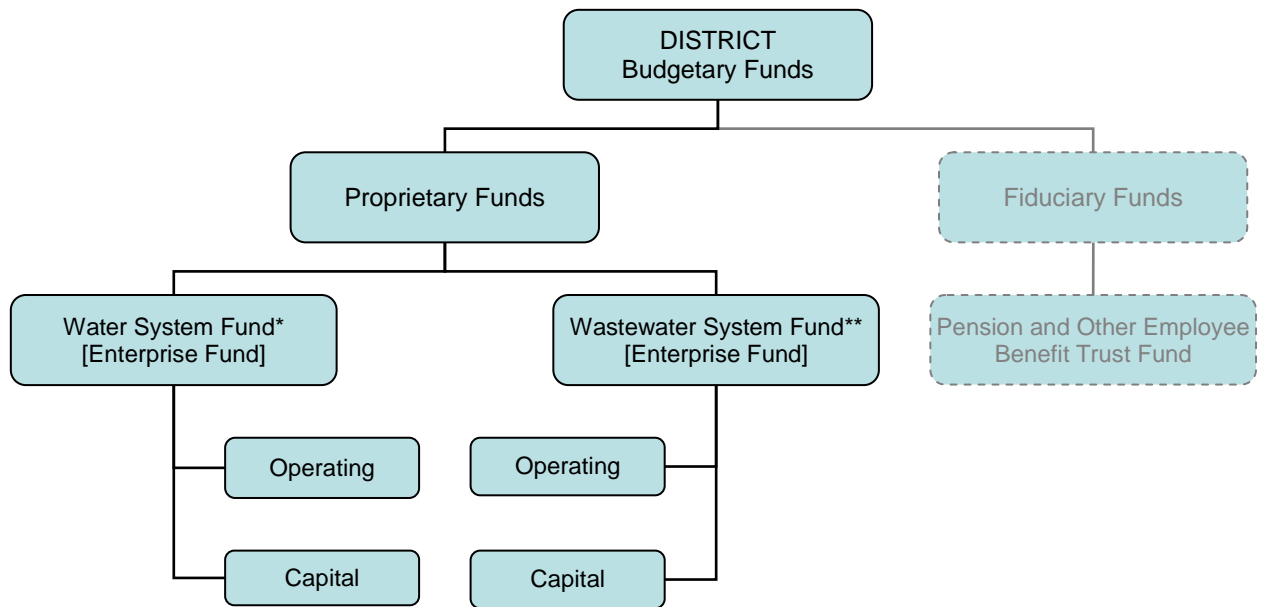
As illustrated in the graphic on the following page, the District's financial structure is composed of proprietary and fiduciary funds (see glossary for definitions of terms). The proprietary funds include two legally distinct and financially independent enterprise funds: the Water System and the Wastewater System. The two separate funds preserve the unique expenditure and revenue distinction between the two entities. When services are provided by one system for the benefit of the other, the appropriate fund is billed and cash transfers are made to the other.

- The Water System is engaged in the collection, transmission, and distribution of water to communities within Alameda and Contra Costa Counties of California. In addition, the Water System provides administrative, financial, and other support services to the Wastewater System. These costs are charged to the Wastewater System. The Water System consists of fourteen staffed departments.
- The Wastewater System is engaged in the treatment of wastewater from residences and industries in the California communities of Alameda, Albany, Berkeley, Emeryville, Oakland, Piedmont, and the Stege Sanitary District. The Wastewater System consists of one staffed department.

Both systems are proprietary, enterprise funds. Enterprise funds are used to account for operations that are financed and operated in a manner similar to private business enterprises where the intent of the governing body is that the expense of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges.

The Water System performs many support functions for the Wastewater System. These functions include but are not limited to financial services such as accounting, human resources services such as recruitment, information technology, customer services, legal services, and general oversight and governance. The Wastewater System reimburses the Water System directly for these services through a joint administrative and general annual expense.

Both systems are governed by the same elected Board of Directors, and share policies and procedures. Throughout this book, the 'District' refers to the East Bay Municipal Utility District and is understood to encompass both the Water and Wastewater Funds.



***Departments**

Operations and Maintenance Support
 Maintenance & Construction
 Water Operations
 Water Resources
 Natural Resources
 Engineering & Construction
 Office of the General Manager
 Finance
 Information Systems
 Customer & Community Services
 Human Resources
 Office of the General Counsel
 Water Recycling Program
 Administration

****Department**

Wastewater

These funds are organized according to the Uniform System of Accounts for Water Utilities, as established by the California Public Utilities Commission, and adhere to the Government Finance Officers Association (GFOA) requirements for enterprise funds.

In addition to the District's proprietary funds, the District maintains a fiduciary fund used to account for resources held for the benefit of parties outside the government. The District's fiduciary fund consists of the Pension and Other Employee Benefit Trust fund, which is maintained to account for assets held by the Employees' Retirement System in a trustee capacity for vested and retired employees. This book does not address the District's fiduciary funds.

Financial Reporting

The District prepares its financial reports in conformity with generally accepted accounting principles used in the United States of America. At the conclusion of each fiscal year, the Finance Department prepares the Comprehensive Annual Financial Report (CAFR) in compliance with principles and standards for financial reporting set forth by the Governmental Accounting Standards Board (GASB), and the guidelines recommended by the Government Finance Officers Association (GFOA) of the United States and Canada. An application has been submitted to GFOA for the Certificate of Achievement for Excellence in Financial Reporting for the Comprehensive Annual Financial Report for the fiscal year ending June 30, 2018. The Certificate of Achievement is a prestigious national award recognizing conformance with the highest standards for preparation of a state and local government financial report. To be awarded a Certificate of Achievement, a government unit must publish an easily readable and efficiently organized CAFR that satisfies both generally accepted accounting principles and applicable legal requirements. This would be the fourteenth consecutive year that EBMUD has received this award.

Budgetary and Accounting Basis

The basis of budgeting and accounting refers to the method of recognition of revenue and expenses in financial and budgetary reporting.

EBMUD's budgets are prepared on a modified cash flow basis which projects the District's cash inflows and outflows over the course of a fiscal year (July 1 through June 30) excluding physical and intangible assets such as depreciation. Revenues are recognized as they are received and accounted for while obligations for expenditures are recognized when a commitment is made through an encumbered purchase order or actual expense.

EBMUD's accounts and transactions are tracked on an accrual basis, which is the basis of accounting under generally accepted accounting principles. Under this method, all assets and liabilities associated with operations are included on the balance sheet; and revenues are recorded when earned and expenses are recorded at the time commitments are incurred.

Depreciation and amortization are handled differently in budgetary reporting and in financial reporting. In budgetary reporting, depreciation and amortization are excluded, and the repayment of the principal on debt as expense is included. In financial reporting, depreciation and amortization are included, and the repayment of the principal on debt as expense is excluded.

This table illustrates the differences between the budget and accounting basis described above.

	BUDGETARY Modified Cash Flow Basis	ACCOUNTING Accrual Basis
Revenue	Recognized when received and accounted for	Recorded when earned
Obligations	Recognized when a commitment is made through encumbrance or expense	Recorded at the time commitments are incurred
Depreciation and amortization	Excluded	Included
Repayment of principal on debt	Included	Excluded

Financial Planning

The District prepares a biennial strategic plan and annual financial forecasts that provide the basis for developing the budget. Long-term financial stability is a goal in the District's Strategic Plan, which includes managing the District's finances to support its needs and maintain reasonable water and wastewater rates.

Revenue requirements over a five-year planning horizon are evaluated to determine the level of rate adjustments required for the upcoming budget years. To the extent possible, increases in water and wastewater rates are adjusted to avoid large fluctuations.

Financial Policies

The District establishes policies and resolutions to comply with the stipulations set forth in the MUD Act. The majority of District policies are reviewed biennially; some policies, such as the Investment Policy shown below, are reviewed annually. The adoption date changes only if revisions are made to the policy. The policies described below set forth key objectives for long-range financial planning and control.

The following policies are included in the Appendices as a reference:

Policy 4.02	Cash Reserves and Debt Management	Adopted April 2017
Policy 4.04	Financial Planning and Budgetary Control	Adopted June 2018
Policy 4.07	Investment Policy	Adopted April 2019
Policy 4.13	Establishing Water and Wastewater Rates	Adopted April 2016

Policy 4.02: Cash Reserves and Debt Management: identifies specific financial metric targets.

The District strives to maintain operating reserves at a level sufficient to meet working capital and unanticipated needs, specifically:

- Maintaining Working Capital Reserve of at least 3.0 times monthly net operating and maintenance expenses.
- Maintaining Self-Insured Liability Program Reserve based on the Actuarial Self-Insured Retention (SIR) funding recommendation.
- Maintaining Workers' Compensation Program Reserve based on the Actuarial SIR funding recommendation.
- Maintaining Rate Stabilization Reserve:
 - For Water System – a minimum of 20 percent of projected annual water volume revenues.
 - For Wastewater System – a minimum of 5 percent of operating and maintenance expenses.

The District strives to maintain a reasonably conservative ratio between current funding sources and debt financing:

- Maintaining an annual revenue bond debt service coverage ratio of at least 1.6 times.
- Limiting debt-funded capital to no more than 65 percent of the total capital program over each five-year planning period.
- Limiting commercial paper/variable rate debt to 25 percent of outstanding long-term debt.

Policy 4.04: Financial Planning and Budgetary Control: provides for the efficient use of District resources through financial planning and cost control; keeps total annual expenditures to the level of total annual revenue; provides periodic status reports on revenues, expenditures, and investments; and establishes the authority of the General Manager to transfer up to 5 percent of each fiscal years' budget between the capital and operating budgets within each System's funds, provided that the total budget for each System fund remains unchanged. Budget transfers between the Water and Wastewater Systems are prohibited.

Policy 4.07: Investment Policy: guides the investment of District funds. The policy ensures that all investments are compliant with the District's Conflict of Interest Code and state law, and protects investments (safety), ensures availability of funds when needed (liquidity), provides earnings on the investment portfolio (yield) while reducing risk by investing in a variety of instruments (diversification). Among the key guidelines included in the policy are the types and characteristics of permitted investments, parameters for investment decisions, reporting requirements, and internal controls.

Policy 4.13: Establishing Water and Wastewater Rates: sets forth the rate methodology, rate design, and rate distribution that provide adequate revenues while keeping rates affordable, encouraging conservation and efficient use of water, and reflecting the cost of providing service to customers. Rates should provide sufficient revenue to support a safe, reliable, and sufficient water supply and wastewater treatment services to its customers over the long term.

BUDGET PROCESS

During the budget process, the District makes decisions on the efficient use of its resources using the Strategic Plan for guidance. A financial plan and biennial budget are established for the Water and the Wastewater Systems that includes the operations and capital programs and sets levels of related operations, capital and debt service expenditures that may be made.

The budget reflects the costs necessary to provide customers with safe, reliable water and wastewater service over the long term while keeping rates fair and reasonable. The budget is also used to develop rates and charges that provide adequate revenues to meet the District's needs, and encourages the efficient use of water.

Decisions on allocating resources and addressing budget needs do not end when the Board adopts the budget. Throughout the year, departments are responsible for implementing the budget and monitoring budget performance, responding to unforeseen or emergency circumstances, and participating in long-range financial planning.

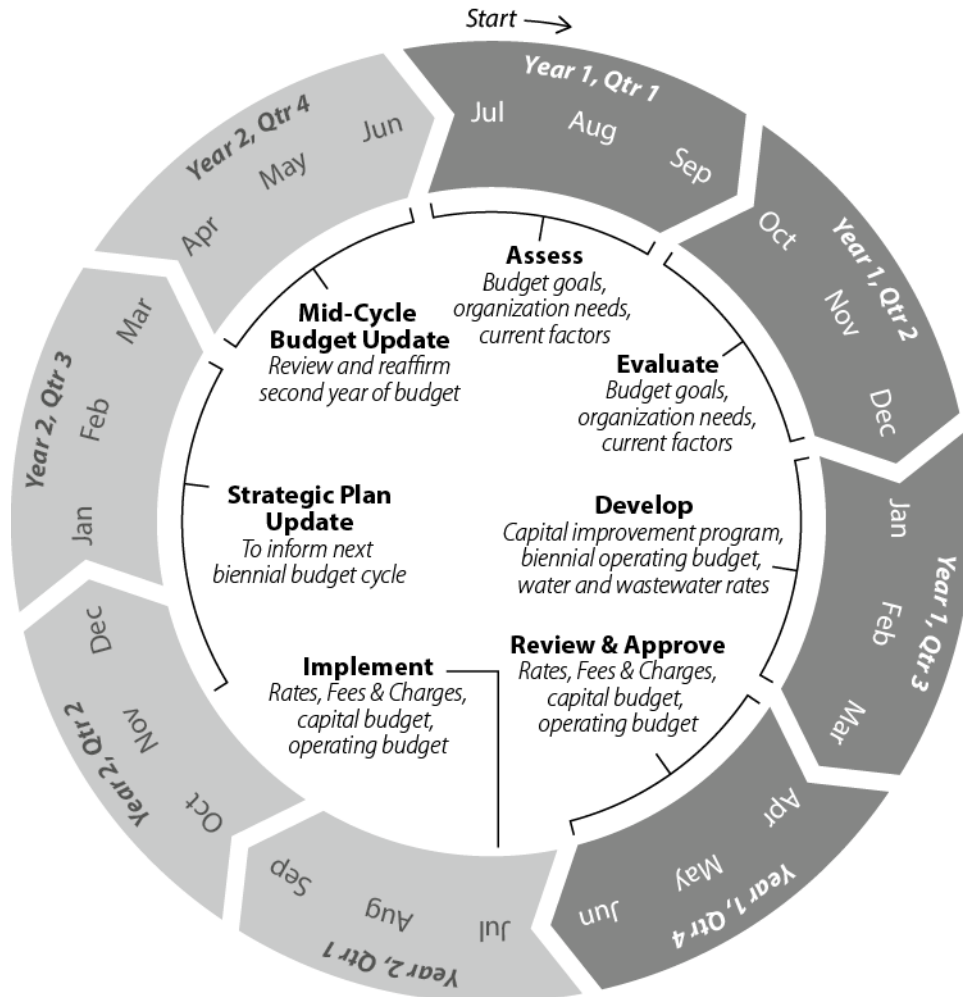
The District received the GFOA's Distinguished Budget Presentation Award for its FY18 and FY19 biennial budget document. This is the fifteenth consecutive budget document for which the District has received the GFOA award. For the fourth time, the California Society of Municipal Finance Officers (CSMFO) has presented the Excellence in Budgeting Award to the District. To qualify for these awards, the budget document had to meet stringent guidelines and criteria.

Balanced Budget

The District budget is balanced when operating revenues are equal to or greater than operating expenditures including debt service, and ending fund balances meet minimum policy levels. The District establishes its budget on the principle of overall revenue neutrality, as outlined in the American Water Works Association (AWWA) Principles of Water Rates, Fees and Charges recommendations for government-owned utilities. The District's rates and charges are set to ensure that revenues are sufficient to recover the total cash needs in a given fiscal year.

Budget Development Calendar

The District has a biennial budget process which is represented in the graphic below and described more fully in the following text.



Assess:

Budget goals, organization needs, and current factors

July
August
September

Strategic Plan adopted.
Budget guidelines and assumptions prepared.
Capital budget development starts.

Evaluate:

Budget goals, organization needs, and current factors

October
November
December

Operating budget development starts.
Review of capital budget requests begins.
Review of operating budget requests begins.

Develop: Biennial operating budget, capital improvement program, water and wastewater rates

January / February Operating budget and capital improvement program recommendations are developed by Senior Management with input from the Board of Directors.

Water and Wastewater rates to fund budget needs are proposed.

March Documents prepared to present proposed budget and rates to the Board and the public.
The General Manager presents the proposed operating and capital budgets, and proposed rates, fees and charges to the Board at budget workshops.

Review & Approve: Rates, fees & charges, capital budget, operating budget

April Another budget workshop occurs if needed to address any direction given by the Board at previous budget workshops.
California Proposition 218 notices are distributed to property owners.

May The General Manager’s recommendations on the proposed rates, charges, and fees are filed with the Board of Directors.

June Public hearing on rates is held.
Board adopts operating and capital budgets; rates, fees and charges schedules; and positions authorization.

Implement: Adopted rates, fees & charges, capital and operating budgets

July Adopted rates and budget implementation begins.

Adopted Budget, and rates and charges schedules, published.

Strategic Plan Update

The Strategic Plan is updated every other year. This plan provides the District with overall direction for the next three to five years, sets priorities, and guides the development of the operating and capital budgets with those priorities.

Mid-Cycle Budget Update

The Board of Directors approves the budget covering a two-year period. The Board reviews and reaffirms the second year of the two-year budget prior to the start of a new fiscal year in July. A Mid-Cycle Budget Update workshop given to the Board of Directors provides a budget status and any projected changes to revenues, expenditures and staffing.

Annual and Semi-Annual Budget Performance Reports

At the mid-point and conclusion of each fiscal year, the Board of Directors is provided with a comparative analysis of expenditures to budget.

Budget Responsibilities

Budget decisions are made through a process that involves the Board of Directors, District staff and the public. The responsibilities for financial management planning and budget control are as follows:

Departmental Responsibilities

- Prepare capital improvement program and biennial budget requests;
- Monitor financial performance and take prompt corrective action, as needed;
- Monitor key performance indicators and take corrective action, as appropriate; and
- Inform the General Manager when unforeseen circumstances indicate that budget amounts may be exceeded or that expected revenues may be less than planned.

Finance Department Responsibilities

Treasury Operations

- Monitor District's liquidity and ensure funds are available as needed, invest funds in accordance with Board policy, wire funds to pay approved demands, and take other actions associated with the prudent management of the District's financial resources;
- Provide for the issuance of debt to fund the capital improvement program; and
- Prepare financial projections, schedules of rates and charges, tax rate proposals and other financial materials.

Accounting

- Produce monthly and annual expenditure and revenue reports;
- Prepare and present information on financial trends to facilitate evaluation of the District's financial position and identify conditions requiring management attention; and
- Prepare periodic reports on the status of expenditures, revenues, investments and actions taken to ensure the financial stability of the District.

Budget Office

- Facilitate the development of the Strategic Plan;
- Project short-range and long-range financial needs, and recommend methods for meeting those needs;
- Prepare the District's biennial operations and capital improvement program budgets;
- Prepare budget performance reports on a monthly, quarterly, semi-annual and annual basis;
- Prepare the mid-cycle budget update;
- Develop procedures and controls to monitor and ensure compliance with the budget; and
- Assist departments throughout the year with their budgets and financial issues.

General Manager's Responsibilities

- Review and present to the Board of Directors long range plans, budgets and revisions, schedules of rates and charges, payments of financial demands and other financial transactions, as necessary;
- Authorize budget transfers up to 5 percent of the fiscal years' budget between the operations and capital budgets in each of the Water and Wastewater System's budgets, provided that the total budget for each of the two systems remains unchanged;
- Authorize the allocation of budgeted funds from contingency; and
- Implement emergency financial procedures within approved limits, when necessary.

Budgetary Controls

Automated District-wide budgetary controls track spending to the amounts set in the budget. Budgetary controls function differently for operations and capital budget expenditures.

For the operations budget, each department is controlled within each expenditure category: personnel costs, contract services, and operations and maintenance. Departments are not allowed to exceed their authorized operations budget for each fiscal year.

For the capital budget, each capital project is controlled based on its appropriation. A project may not exceed its total appropriation. Unlike the operations budget, which expires on June 30 of each fiscal year, capital appropriations are multi-year and will last the life of the project.

Budget Adjustments

Adjustments to the operations budget are reallocations of funds between organizational units, categories, and/or line items, which allow departments to have financial flexibility within established budgetary controls. Budget adjustments to the capital budget are reallocations of funds within or between projects. Approval from the affected department(s) and the Budget Office is required for all budget adjustments.

General Manager approval is required for the reallocation of funds from contingency, and the reallocation of funds between the operations and capital budgets in both the Water and Wastewater Systems. Approval from the Board of Directors is required for increases to the total adopted budget of the Water or Wastewater System.

Capital Improvement Program Preparation

The Capital Improvement Program (CIP) budget communicates the capital priorities of the District for the next five years to enable the District to identify and prioritize its infrastructure needs and plan for infrastructure investments.

The CIP consists of three primary levels:

The highest level of the CIP is a strategy, which groups several programs representing key capital objectives as identified in the EBMUD's Strategic Plan. The Water System and Wastewater System strategies are summarized in the Capital Expenditures sections of the Water System and Wastewater System chapters.

The second level in the CIP is a program, which represents a group of related projects combined to facilitate planning and decision-making. A discussion of the significant programs included in the CIP can be found in the CIP program highlights sections of the Water System and Wastewater System chapters.

The third level in the CIP is a project, which is a discrete set of capital improvement tasks, coordinated by a project manager. Appropriation requests and projected spending (cash flow) are authorized at the project level. A discussion of each project included in the CIP can be found in the supplemental volume of the budget document.

CIP Budget Preparation

The CIP is prepared as part of the District's biennial budget process. The responsibilities for preparing and managing the CIP are shared among District staff as follows:

Project Management

Project managers work together to meet the requirements of the biennial CIP budget process and to implement a specific program or project. During the budget process, the project managers update project appropriations and cash flows, and modify project descriptions and justifications to identify recent and anticipated major accomplishments. Managers also work together to identify the most effective ways to schedule, staff, and coordinate projects.

The steps used to budget for the CIP are:

- Propose and justify new capital projects needed to carry out the goals of the District;
- Identify how resources will be allocated to accomplish the work;
- Identify the required appropriation and estimated cash flow for each project; and
- Include direct costs (without overhead), contingency and an inflation factor in the recommended appropriations and cash flows for projects.

Capital Steering Committee (CSC)

The CSC consists of Department Directors and Managers responsible for the overall management of the CIP during the budget preparation process.

Responsibilities include:

- Serve as an advisory group to the General Manager and the Budget Office;
- Review projects for opportunities to combine programs and projects, streamline costs, and determine the necessity for proposed new projects;
- Confirm the adequacy of District resources to complete proposed projects;
- Scrutinize proposed project cash flow amounts;
- Establish priorities and finalize the list of individual projects to be presented to the General Manager and Board of Directors based on available resources and project justification;
- Review the status of the CIP regularly;
- Work with project management staff to resolve administrative issues; and
- Authorize necessary changes to project scope, schedule and budget that are within staff's administrative authority.

Budget Office

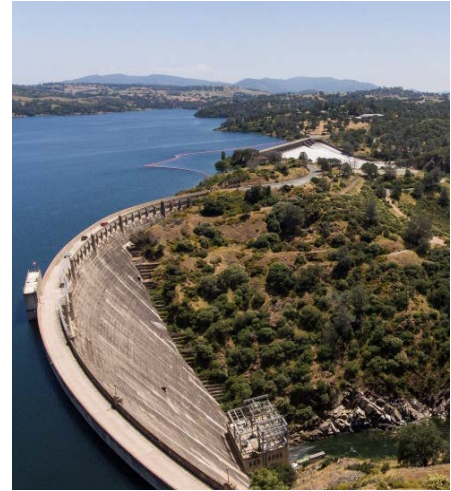
The office is responsible for the overall management of the budget process which includes:

- Manage the CIP budget preparation and planning process;
- Provide staff support to the CSC;
- Ensure that the decisions of the CSC and General Manager are reflected in the budget;
- Determine types and levels of funding necessary for the CIP;
- Report to the General Manager and CSC the status of capital project appropriations and cash flow spending; and
- Report CSC recommendations regarding adjustments to the CIP that require either General Manager or Board approval.

CHAPTER 2: DISTRICT BUDGET SUMMARY

This chapter provides a District-wide summary of the biennial budget including discussions of the following topics:

- Budget Appropriations
- Operations
- Debt Service
- Capital Improvement Program
- Staffing
- Labor and Benefits
- Sources of Funds
- Fund Summaries



Pardee Dam

Subsequent chapters describe in greater detail the budgets for each of the two distinct funds: Water and Wastewater.

BUDGET APPROPRIATIONS

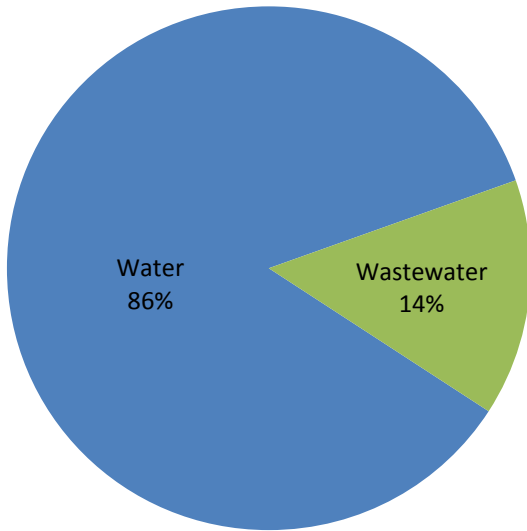
The FY20 District-wide total appropriation is \$1.31 billion for the water and wastewater systems, and \$1.04 billion in FY21. The appropriations are divided into three major categories:

- **Operations** associated with the annual cost of providing all water and wastewater services, labor and benefits;
- **Debt Service** on bonds issued to pay for the investments in infrastructure in the capital improvement program. Debt service is only incurred to support the capital program; and
- **Capital Appropriation** associated with projects to upgrade aging infrastructure, make seismic improvements, protect natural resources, and ensure a future water supply.

The following table shows the appropriations by major categories.

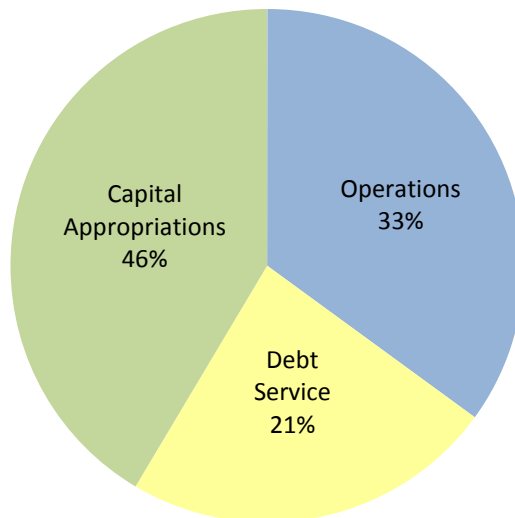
FY20 & FY21 APPROPRIATIONS (\$ Millions)							
	FY20			FY21			Grand Total
	Water	Wastewater	Total	Water	Wastewater	Total	
Operations	299.3	75.1	374.4	315.4	78.6	393.9	768.3
Debt Service	208.2	30.2	238.4	217.7	29.8	247.5	486.0
Capital Appropriation	622.6	72.3	694.9	352.3	41.8	394.1	1,089.0
Total	1,130.1	177.6	1,307.7	885.4	150.2	1,035.6	2,343.3

Appropriations by System



Although the Water System serves 1.4 million customers, more than twice the 685,000 customers served by the Wastewater System, Water System appropriations are over six times those of Wastewater because of the overall scope and complexity of the Water System. Unlike many California water agencies, EBMUD owns its own water source and buys water only during a drought.

Appropriations by Category



Capital investment activities, debt service and capital appropriations, represent two-thirds of the budget in FY20 and FY21.

Budget Allocated By Services Provided

EBMUD's services include operating and maintaining an extensive infrastructure spanning more than 4,200 miles of pipeline, aqueducts, reservoirs, water treatment plants, protecting public health, and producing renewable energy at its wastewater plant. Other services include recreation, fishery restoration, water conservation, pollution prevention, and sustainability education programs for youth. The following table summarizes the FY20 and FY21 biennial budget by services provided.



Lafayette Reservoir

FY20 & FY21 APPROPRIATIONS BY SERVICES PROVIDED (\$ Millions)		
SERVICES	FY20	FY21
Capital Improvement Program Projects to upgrade aging infrastructure, protect natural resources, and provide high quality water and wastewater services. Projects typically result in the construction of new facilities, or the rehabilitation or upgrade of existing facilities.	694.9	394.1
Debt Service Expenditures for interest and principal repayment of bonds sold to pay for capital investments in infrastructure.	238.4	247.5
Water Service Operation and maintenance of facilities to store, treat and deliver high-quality water to 1.4 million customers including reservoirs, pipelines, and treatment plants; planning for future water supply; recycled water; and reading meters.	185.5	195.3
Wastewater Service Operation and maintenance of facilities to treat wastewater for 685,000 customers including sewer interceptors, the treatment plant, laboratory and wet weather facilities; and educational outreach to residences and businesses.	75.1	78.6
Support Services Human resources, finance, legal, information systems, and other internal support services.	72.1	76.2
Customer Service Water conservation programs, public information, school outreach, billing services, call center and additional services to customers.	24.0	25.4
Natural Resource Management and Protection Environmentally sound management of nearly 56,000 acres of watershed lands, operation of public recreation facilities and fisheries programs.	17.6	18.5
TOTAL BUDGET APPROPRIATIONS	1,307.7	1,035.6

OPERATIONS

Operations are categorized by departments that carry out the day-to-day activities of the District and include appropriations for labor, contract services, fuel, chemicals, computer hardware, self-insured liability claims, etc. In addition, appropriations are budgeted for contingency to cover unanticipated needs and employee cost of living adjustments; intradistrict to ensure that for certain internal service accounts expenses are not duplicated in the budget such as vehicle expenses and warehouse overhead; and the administration of capital to capture costs that support, but are not directly attributable to capital projects. Administration of capital which is described in the Capital Improvement Program section is subtracted from operations and reallocated to the capital budget. Intradistrict expenses only impact the Water System and are also subtracted from operations.

The table below shows department operations within each system. Under the Water System, roughly half of the budget associated with conducting the District's day-to-day activities is under the Maintenance & Construction and the Water Operations Departments.

FY20 & FY21 DEPARTMENT OPERATIONS (\$ Millions)			
	FY20 Budget	FY21 Budget	% Chg
WATER SYSTEM			
Maintenance & Construction	104.2	105.8	1.5%
Water Operations	55.7	56.6	1.6%
Information Systems	30.4	31.4	3.4%
Finance	26.5	27.2	2.5%
Customer & Community Services	22.7	23.3	2.2%
Operations & Maintenance Support	21.2	21.5	1.4%
Engineering & Construction	20.6	21.0	1.9%
Natural Resources	17.0	17.3	2.2%
Human Resources	11.8	11.8	-0.5%
Water Resources	8.9	8.9	-0.4%
Office of the General Manager	6.4	6.9	6.9%
Water Recycling Program	5.8	5.9	2.0%
Office of the General Counsel	4.9	4.9	0.3%
Administration	0.4	0.4	1.9%
Staffed Departments	336.8	343.0	1.8%
Contingency	14.5	25.0	-
Intradistrict	(12.0)	(12.6)	5.0%
Administration of Capital	(40.0)	(40.0)	0.0%
TOTAL WATER SYSTEM	299.3	315.4	5.4%
WASTEWATER SYSTEM			
Staffed Department	75.4	77.1	2.3%
Contingency	2.7	4.5	-
Administration of Capital	(3.0)	(3.0)	0.0%
TOTAL WASTEWATER SYSTEM	75.1	78.6	4.6%
DISTRICT TOTAL	374.4	393.9	5.2%

DEBT SERVICE

Capital expenditures are typically funded through debt financing or on a “pay-as-you-go” basis. In some cases, capital expenditures can also be funded by reimbursements, grants or loans. Debt financing is generally suited to large capital projects with a long useful life and a significant cost. Debt financing also creates a measure of intergenerational equity in that future ratepayers will participate in the financing of the capital projects over their useful life. The “pay-as-you-go” option is a source of funding that utilizes current year revenues and supports long-term financial stability.

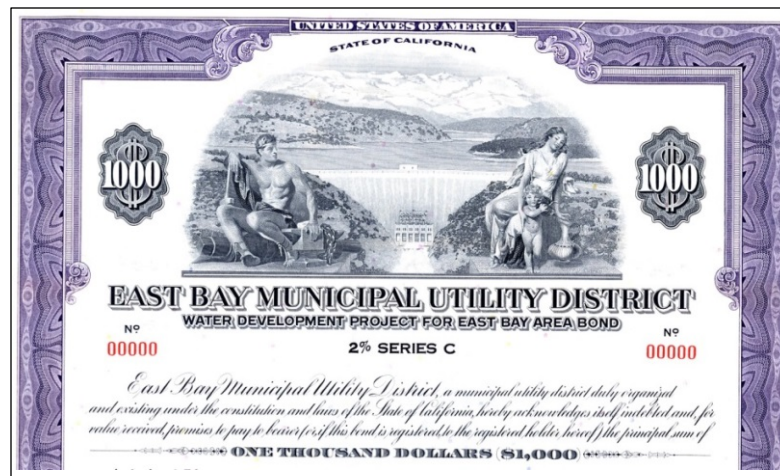
The District’s policy is that over any five-year planning period no more than 65 percent of the Capital Improvement Program (CIP) will be funded from debt. Prior biennial budgets, as well as this budget, support additional “pay-as-you-go” funding to reduce debt service costs. Although debt service payments are considered to be part of the operations budget, debt proceeds are used to finance capital investment activities.

The Water System utilizes more debt funding than the Wastewater System and almost half of the five-year FY20-24 Water System CIP will be funded by debt. Only 20 percent of the FY20-24 Wastewater CIP will be debt funded.

FY20 & FY21 Debt Service and Bonds Issued

Debt service payments are made to pay the interest and principal on the bonds issued to fund a portion of the CIP. Debt service will be \$208.2 million in FY20 and \$217.7 million in FY21 for the Water System and \$30.2 million in FY20 and \$29.8 million in FY21 for the Wastewater System.

The Water System budget assumes issuance of \$204.5 million in new revenue bonds in FY20, and \$160.0 million in FY21. The Wastewater System budget assumes no new revenue bonds will be issued in FY20 and FY21. Total outstanding debt on the Water System is projected to be \$2.71 billion and \$384.7 million on the Wastewater System as of June 30, 2019.



Water Revenue Bond

CAPITAL IMPROVEMENT PROGRAM

The Capital Improvement Program (CIP) identifies the District’s capital needs over the next five years and prioritizes projects to rehabilitate, upgrade and replace aging infrastructure.



Field Crew

Capital appropriations are the amounts approved by the Board to be spent on capital projects, and may be expended over multiple years. Appropriations vary from year-to-year depending upon the funding needs of the projected work. Administration of capital consists of costs incurred by support functions that are not directly charged to individual capital projects, such as finance, human resources, and information systems. These costs support the CIP as a whole, and are deducted from the operations budget and included in the capital budget.

The FY20 capital appropriation totals \$694.9 million for the Water and Wastewater Systems, and \$394.1 million in FY21. The following table shows the annual appropriations for the five-year CIP, plus the administration of capital. The Board adopts the appropriations for the first two years of the CIP. The remaining years are for planning purposes only and are subject to revision. Almost 90 percent of the appropriations are associated with the Water System.

Planned Capital Appropriations within Fund (\$ Millions)						
	FY20	FY21	FY22	FY23	FY24	Total
Water	582.6	312.3	389.5	468.2	285.0	2,037.6
Administration of Capital	40.0	40.0	41.3	42.6	44.0	207.9
Water Total	622.6	352.3	430.8	510.8	329.0	2,245.5
Wastewater	69.3	38.8	30.9	60.7	70.9	270.6
Administration of Capital	3.0	3.0	3.1	3.2	3.3	15.6
Wastewater Total	72.3	41.8	34.0	63.9	74.2	286.2
District Total	694.9	394.1	464.8	574.7	403.2	2,531.7

Major capital project to be undertaken are shown below. These projects are further described in Chapter 3 and 4, in addition to the supplemental volume for this budget.

Water System	Wastewater System
Distribution Pipelines Replacement	Treatment Plant Infrastructure
Water Treatment Plant Upgrades	Digester Upgrades
Large Diameter Pipelines Replacement	3rd Street Sewer Interceptor Rehabilitation
Service Installations for New Customers	Resource Recovery Improvements
West of Hills Pipelines/Pumping Plants	Concrete Rehabilitation
Reservoir Rehabilitation	Capital Equipment Replacement
Service Lateral Replacements	Power Generation System Improvements
Raw Water System Improvements	Seismic Retrofits

STAFFING

Departments look to add and delete positions based on operational need and for opportunities to restructure the workload as employees retire or leave the District. Staffing is shown by full-time equivalents (FTE). The FTE value varies depending upon the appointment type. Civil service, civil service exempt, limited-term, and temporary construction appointments are full-time and equivalent to 1.0 FTE. Intermittent appointments are equivalent to 0.75 FTE. Part-time and temporary appointments are equivalent to 0.5 FTE.

In FY20, the District will have 2,154.75 authorized FTE, with full-time civil service or full-time civil service exempt positions comprising over 95 percent of the workforce. The following shows the number of authorized FTEs for FY17 through FY21, as amended by Board actions. Over this five-year period, the number of authorized FTEs has increased over 85 or 4.1 percent.

District Staffing (Number of Authorized FTEs)					
Appointment Type	FY17	FY18	FY19	FY20	FY21
Full-Time Civil Service and C.S. Exempt	1,971.0	2,007.0	2,014.0	2,057.0	2,057.0
Limited-Term / Temporary Construction	56.0	65.0	65.0	62.0	60.0
Intermittent	3.0	3.0	3.0	3.75	3.75
Temporary / Part-Time	<u>37.5</u>	<u>33.0</u>	<u>33.0</u>	<u>32.0</u>	<u>32.0</u>
Total Authorized FTEs	2,067.5	2,108.0	2,115.0	2,154.75	2,152.75
FTE Change From Previous FY	0.0	40.5	7.0	39.75	(2.0)

Limited-Term / Temporary Construction category includes 12 FTEs requiring Drought Declaration.

FY20 & FY21 Changes in FTE

Staffing changes will enable the District to address priority areas such as investments in and maintenance of aging water and wastewater infrastructure. The number of District-wide authorized FTE is increasing a net of 39.75 in FY20 through the addition of 54.75 FTEs and the deletion of 15.0 FTEs. In FY21, 2.0 FTEs will be deleted.

Water System

The 54.75 FTEs added in FY20 will address:

- Pipeline Construction
- Infrastructure Maintenance / Investment
- Technology Infrastructure
- Human Resources

Wastewater System

The Wastewater System is not adding or deleting any positions in FY20 or FY21, but will transfer one FTE to the Water System.

LABOR AND BENEFITS



Crew In Trench

Budgeted labor includes all compensation such as wages, salaries, cost of living adjustments, and overtime. Benefits include the District's costs associated with retirement, health care, Social Security, and other programs such as disability and unemployment insurance. The District does not pay for the employee share of retirement contributions.

Depending upon the work being performed, labor and benefits are allocated to either operations or capital. Typical duties performed by employees that charge to operations include pipeline system maintenance, meter

maintenance, customer contact center support, human resources, managing watershed properties, information systems and treatment plant operations. Duties of employees that charge to capital include pumping plant rehabilitation, pipeline replacements, water treatment plant upgrades, wastewater plant improvements and reservoir rehabilitation.

The table below shows labor and benefits allocated between the operations and capital budgets. Of the total FY20 and FY21 budgets, approximately 73 percent of the District's labor and benefits budget is attributable to operations, and the remaining 27 percent to capital. Total labor and benefits are projected to increase 3.6 percent in FY20, and 5.1 percent in FY21. Benefits represent approximately 37.5 percent of the total District-wide labor budget.

Labor and Benefits by Operations and Capital (\$ Millions)					
	FY19 Budget	FY20 Budget	% Chg	FY21 Budget	% Chg
Water					
Operations	241.5	244.7	1.3%	256.3	4.7%
Capital	86.9	95.5	10.0%	101.5	6.2%
Wastewater					
Operations	44.3	46.3	4.5%	48.6	5.0%
Capital	10.7	10.8	1.0%	11.4	5.2%
District-wide					
Operations	285.8	290.9	1.8%	304.9	4.8%
Capital	97.6	106.4	9.0%	112.9	6.1%
Total District	383.4	397.3	3.6%	417.8	5.1%

Includes cost of living adjustment.

Excludes the Administration of Capital overhead allocated from Operations to Capital.

Increases in labor and benefit costs are primarily attributable to funding additional positions, and a cost of living adjustment. The majority of the additional positions are in the Water System to support capital projects, infrastructure maintenance, pipeline construction, operations support, and human resources. Several complex drivers impact the labor and benefits budget beyond funding additional positions such as a slower projected rise in benefit costs for retirement and health care.



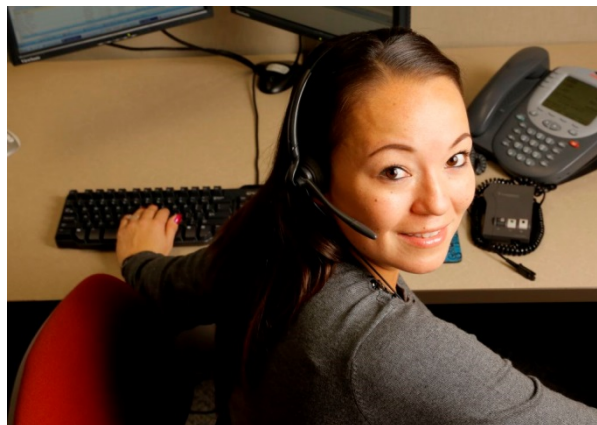
Employee Training

The FY20 and FY21 budget continues to build on past efforts to contain benefit costs. The benefits budget comprises several drivers, the largest is the employer pension contribution followed by the health care expense. In 2012, pursuant to state legislation referred to as the California Public Employees' Pension Reform Act (PEPRA), the Board of Directors implemented this change in the District's Employee Retirement System, referred to as the 2013 Plan. New employees receive a reduced pension benefit and fund a greater share of that benefit themselves. The assumption utilized for this budget projects a growth in the number of employees in the 2013 Plan thereby slowing the projected increase for this cost.

The following table shows the different employer pension contribution rates since FY18. Most new employees are part of the 2013 Plan and all other employees participate in the 1955/1980 Plan. The FY20 contribution rate remains unchanged from the prior fiscal year. The actual FY21 rate will not be available until it is calculated by the actuary and adopted by the Retirement Board in 2020.

Employer Pension Contribution Rates			
Plan	FY18	FY19	FY20
1955/1980 Plan	37.92%	37.86%	37.86%
2013 Plan	31.30%	31.24%	31.24%

In the District's continuing pursuit of cost containment, changes were made to health benefit provider options starting in 2019. The fiscal impact of these changes is expected to slow the growth of health care costs projected for this biennial budget. The health benefit assumption utilized for this budget represents a cost increase of approximately 2 percent for FY20 and 6 percent for FY21.

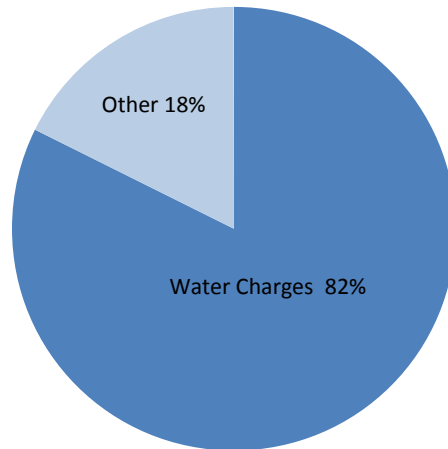


Customer Service Representative

SOURCES OF FUNDS

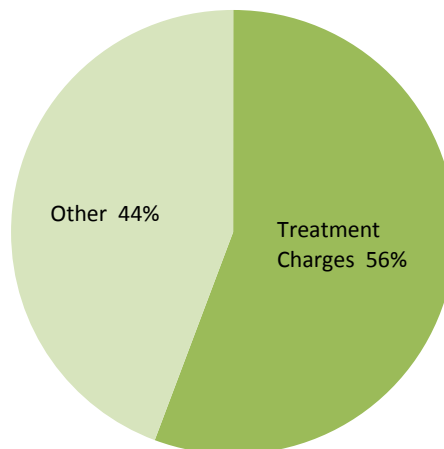
The principal source of Water System operating revenue is Water Charges which account for 82 percent of revenues, followed by System Capacity Charge (SCC) and property taxes. As such, Water System revenue is highly sensitive to changes in customer water use.

FY20 & FY21 Water System Operating Revenue
(Total = \$1.37 Billion)



The principal source of Wastewater System operating revenue is Treatment Charges which account for 56 percent of revenues, followed by the Wet Weather Charge and Resource Recovery. The Wastewater System is not as sensitive to changes in customer water use as the Water System since Treatment Charges are a smaller percentage of overall Wastewater revenue.

FY20 & FY21 Wastewater System Operating Revenue
(Total = \$284.6 Million)



WATER AND WASTEWATER SYSTEM FUND SUMMARIES

The following tables summarize the beginning and ending Water System and Wastewater System fund balance based on projected sources and use of funds.

FUND SUMMARIES BY OPERATING AND CAPITAL (\$ Millions)						
	FY20			FY21		
	Operating	Capital	Balance	Operating	Capital	Balance
WATER SYSTEM						
Beginning Balance (Projected)	332.8	0.0	332.8	383.2	0.0	383.2
Sources of Funds						
Operating Revenues	663.2		663.2	703.9		703.9
Capital Sources		232.4	232.4		188.5	188.5
Revenue Funded Capital	(105.4)	105.4	-	(197.0)	197.0	-
Total Sources of Funds	557.9	337.8	895.6	506.9	385.5	892.4
Use of Funds						
Operations	299.3		299.3	315.4		315.4
Debt Service	208.2		208.2	217.7		217.7
Capital Cash Flow	-	337.8	337.8	-	385.5	385.5
Total Use of Funds	507.5	337.8	845.3	533.1	385.5	918.6
Ending Balance *	383.2	0.0	383.2	357.0	0.0	357.0
WASTEWATER SYSTEM						
Beginning Balance (Projected)	103.0	0.0	103.0	89.4	0.0	89.4
Sources of Funds						
Operating Revenues	140.2		140.2	144.4		144.4
Capital Sources		-	-		-	-
Revenue Funded Capital	(48.5)	48.5	-	(46.0)	46.0	-
Total Sources of Funds	91.7	48.5	140.2	98.4	46.0	144.4
Use of Funds						
Operations	75.1		75.1	78.6		78.6
Debt Service	30.2		30.2	29.8		29.8
Capital Cash Flow	-	48.5	48.5	-	46.0	46.0
Total Use of Funds	105.3	48.5	153.8	108.4	46.0	154.4
Ending Balance *	89.4	0.0	89.4	79.4	0.0	79.4

* Includes reserves for working capital, self-insurance, worker's compensation, contingency, rate stabilization, and capital projects.

RATES, CHARGES, AND FEES

This section explains the components of the District's water and wastewater rates, charges, and fees. Rates, charges and fees for water and wastewater services are used to fund operating costs, debt service requirements, and revenue funded capital projects. An increase is necessary to fund the FY20 and FY21 operating and capital budgets.

WATER SYSTEM

Water Rates

To meet revenue requirements with the lower consumption levels, overall water rate increases of 6.5 percent for FY20 and 6.25 percent for FY21 have been adopted, and will apply to the water service charge, water flow charge, elevation surcharge, and private fire service charge. Water charges have five customer classes: single family residential, multi-family residential, non-residential, private fire service, and non-potable/recycled water; and the charges have the following components:

- **Water Service Charge (paid by all customers):** a fixed charge based on the size of the water meter servicing the property and is calculated to recover a portion of the District's fixed costs, such as meter reading, billing, repairs and customer service. Water meters range in size from 5/8" up to 18".
- **Water Flow Charge (paid by all customers):** a variable charge calculated per CCF (one hundred cubic feet which equals 748 gallons) of water delivered to a property. It is designed to recover the cost of providing water, including water supply, treatment and distribution. For single family residential customers, the charge consists of three tiers that impose higher rates per CCF of water as consumption increases.

Tier 1 = First 172 gallons per day (gpd) (0 – 7 CCF per month)

Tier 2 = All water used in excess of 172 gpd up to 393 gpd (8 – 16 CCF per month)

Tier 3 = All water used in excess of 393 gpd (in excess of 16 CCF per month)

- **Elevation Surcharge (only paid by certain customers based on their location):** applied to each CCF of water delivered to properties only in pressure zones located 200 feet or more above sea level, and is calculated to recover the increased cost of power and facility costs required to pump water to these higher elevations.
 - Pressure Zone 1 = 0 to 199 feet (no elevation surcharge)
 - Pressure Zone 2 = 200 to 600 feet
 - Pressure Zone 3 = above 600 feet
- **Private Fire Service Charge (only paid by customers with private fire service):** a fixed charge based on the size of the meter, applicable only to properties that have private fire service connections and is calculated based on EBMUD's costs of maintaining adequate water pressure to serve the fire service connection.

In addition the charges listed above, the District maintains a system of Drought Surcharges that are assessed during a declared drought or water shortage emergency as a percentage of the Water Flow Charges on potable water use. The current adopted Drought Surcharges percentages will remain in effect for FY20 and FY21 in the event of a drought or water shortage emergency. Details of the rates and charges can be accessed on line at EBMUD.com under [Water rates](#).

For FY20, the average single family residential (SFR) customer using 8 CCF per month will see an increase in their monthly water bill of \$3.62, or 6.5 percent over their FY19 water bill.

For FY21, the average single family residential customer will see an increase in their monthly water bill of \$3.73 or 6.2 percent over their FY20 water bill.

The following table illustrate by customer class monthly water charges based on the adopted FY20 and FY21 rates, and average water use.

AVERAGE WATER BILLS BY CUSTOMER CLASS								
(\$/Month)								
Customer Class / Meter Size	Water Use	FY19	FY20 Adopted	FY20 Change vs FY19	% Change	FY21 Adopted	FY21 Change vs FY20	% Change
SFR 5/8" or 3/4"	8 ccf	56.12	59.74	3.62	6.5%	63.47	3.73	6.2%
Multi-Family 4 units 1"	25 ccf	169.95	181.12	11.17	6.6%	192.35	11.23	6.2%
Multi-Family 5+ Units 1"	50 ccf	302.70	322.62	19.92	6.6%	342.60	19.98	6.2%
Commercial 1"	50 ccf	301.70	321.12	19.42	6.4%	341.10	19.98	6.2%
Industrial 2"	500 ccf	2,751.36	2,928.27	176.91	6.4%	3,110.35	182.08	6.2%

The following table illustrates the history of monthly water bills for the average single family residential customer based on average use of 8 CCF per month.

AVERAGE SINGLE FAMILY RESIDENTIAL WATER CHARGE (\$/Month)			
Fiscal Year	Monthly Water Bills	Residential % Increase	Overall % Increase*
2012	32.49	6.0%	6.0%
2013	34.45	6.0%	6.0%
2014	37.83	9.8%	9.7%
2015	41.40	9.4%	9.5%
2016	44.05	6.4%	8.0%
2017	47.15	7.0%	7.0%
2018	51.49	9.2%	9.2%
2019	56.12	9.0%	9.0%
2020	59.78	6.5%	6.5%
2021	63.47	6.2%	6.3%

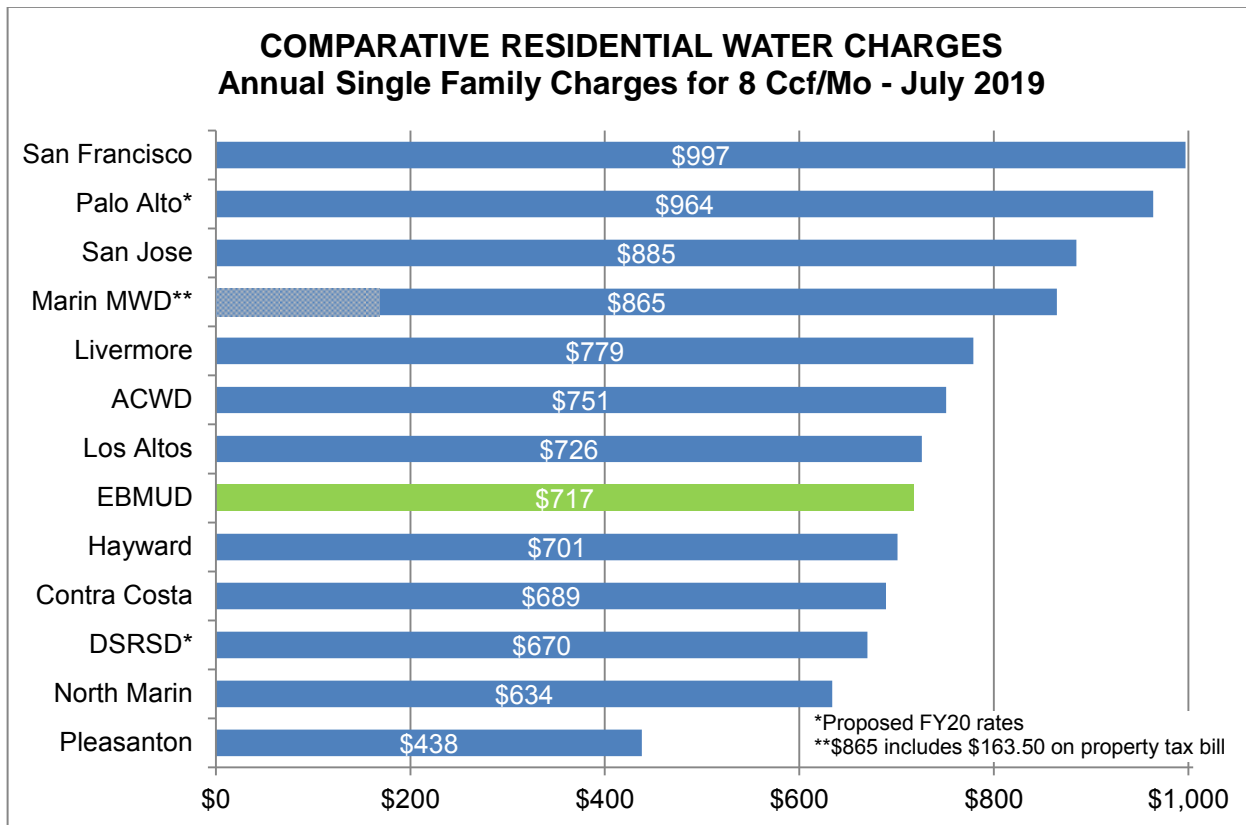
* Overall % increase includes the water charge for all customer classes.

The table below shows the various adopted water rate components.

WATER RATE COMPONENTS (\$/Month)						
Charge Type	Components	FY19	FY20 Adopted	% Change	FY21 Adopted	% Change
Service Charge*	5/8" or 3/4" meters	24.63	26.23	6.5%	27.87	6.3%
	2" meter	106.36	113.27	6.5%	120.35	6.3%
	4" meter	320.13	340.94	6.5%	362.25	6.3%
	6" meter	634.43	675.67	6.5%	717.90	6.3%
Flow Charge	SFR - Tier 1 (0-7 ccf)	3.76	4.00	6.4%	4.25	6.3%
	SFR - Tier 2 (7-16 ccf)	5.17	5.51	6.6%	5.85	6.2%
	SFR - Tier 3 (>16 ccf)	6.83	7.27	6.4%	7.72	6.2%
	Multi-family residential	5.31	5.66	6.6%	6.01	6.2%
	All other	5.29	5.63	6.4%	5.98	6.2%
	Nonpotable / Recycled	4.12	4.39	6.6%	4.66	6.2%
Elevation Surcharge	Pressure Zone 1 / ccf	0.00	0.00	0.0%	0.00	0.0%
	Pressure Zone 2 / ccf	0.76	0.81	6.6%	0.86	6.2%
	Pressure Zone 3 / ccf	1.58	1.68	6.3%	1.79	6.5%
Private Fire Service*	5/8" & 3/4" meters	13.11	13.96	6.5%	14.83	6.2%
	2" meter	44.84	47.75	6.5%	50.73	6.2%
	4" meter	127.85	136.16	6.5%	144.67	6.2%
	6" meter	249.92	266.16	6.5%	282.80	6.3%

* These charges are based on meter sizes that can range up to 18"

The following chart is a comparison of the average annual SFR water bill based on water use of 8 CCF per month for EBMUD and other local water agencies for their proposed or adopted FY20 rates or adopted FY19 rates. The District is below the median of these other agencies.



For comparative purposes, the chart displays the average SFR water use based on EBMUD's average SFR water use of 8 ccf/mo. The actual average consumption at other agencies may be lower or higher.

Customer Assistance Program

EBMUD offers a Customer Assistance Program (CAP) to help pay a portion of the water bill for qualified low-income residential customers and eligible homeless shelters. For residential customers the dwelling unit must be a single unit for receiving water service, have an individual water meter, be the primary residence of the applicant, and customers must meet household income requirements. Eligible customers may qualify for:

- A 50 percent discount on the water service charge and a 50 percent discount on the water flow charge, up to a maximum of 1,050 gallons per person per month.
- A 35 percent discount on the wastewater service charge and flow charges.

Water System Capacity Charges

There is a continuing need to construct both water supply and water distribution system improvements to assure that there will be reliable and secure water service for each new connection to the District's system. The System Capacity Charge (SCC) was established to assess new water customers an appropriate share of the costs of existing water distribution capital improvements and future water supply improvements within the SCC regions.

All applicants for water service are required to pay the SCC when the installation of a new service or upsizing of an existing connection is needed. The SCC is applied on a regional basis and is updated annually to reflect construction cost escalation for facilities that have already been built or increased cost estimates for facilities yet to be constructed.

East Bay Municipal Utility District SCC Regions



The current FY19 SCC rates will remain in effect for FY20. The current SCC rates are based on updates to a 2007 SCC Study performed by Bartle Wells Associates and updated for the Engineering News Record Construction Cost Index.

The current SCC rates are shown in the following table for single family residential 3/4" and non-residential 5/8" customers. These meter connections account for the majority of all future water service connections. Large meters pay proportionately more than the residential 3/4" and non-residential 5/8" customers based on expected water use. Non-residential and single family residential connections pay more in some regions due to higher consumption in those regions.

CURRENT SCC RATES		
(\$)		
Customer Type	Region	Current
Single Family Residential (3/4")	1	18,100
	2	31,350
	3	40,040
	3C	91,930
	3D	103,450
Non Residential (5/8")	1	25,850
	2	46,590
	3	43,140
	3C	See Note 1
	3D	103,450

Note 1: Calculated based on a 1993 Agreement with HCV & Associates LTD, Wiedemann Ranch, Inc., and Sue Christensen.

The SCC Rates consist of the following components:

- System-Wide Buy-In Component - calculated to recover a portion of the cost of existing facilities that serve the system as a whole;
- Regional Facilities Buy-In Component - calculated to recover a portion of the costs of existing facilities that serve one of the three SCC Regions;
- Future Water Supply (FWS) Component - calculated to recover a portion of the costs of future water supply projects that are allocated to new connections; and
- Additional Region Post 2000 – applies only to regions 3C and 3D to recover the costs of the additional facilities that were built to serve new connections in these regions.

The District also has a Standard Participation Charge (SPC), a District-wide connection charge that is applicable to only a few remaining contracts for service entered into prior to 1983. The SPC was designed to recover the District-wide average cost of distribution facilities constructed to serve new connections and was superseded by the SCC in 1983, and is less than the SCC in most regions. Customers eligible for service under the SPC regulations can pay for service under the more favorable of either the SPC or SCC terms and conditions.

The following table shows the various components that comprise the SCC charges for each region, and the charges are calculated based on each 100 gpd of consumption:

CURRENT WATER UNIT CHARGES					
(\$/100 GPD)					
Region	System-Wide Facilities Buy-In	Regional Facilities Buy-In	Future Water Supply	Additional Region Post-2000	Total
1	2,185	2,179	2,099	n/a	6,463
2	2,185	4,424	2,099	n/a	8,708
3	2,185	2,619	2,099	n/a	6,903
3C	2,185	1,965	612*	7,099	11,861
3D	2,185	1,965	2,099	7,099	13,348

* Future Water Supply component is set by the July 20, 1993 Weidemann Agreement, indexed to the U.S. City Average of the Consumer Price Index.

The SCC for each region is derived from the total of the unit charges of each of the SCC components, multiplied by the estimated average daily water consumption in that SCC region SFR and non-residential consumption as listed in the table below. Because of the large number of SCCs processed each year, the District has determined average daily water consumption for single family residential and non-residential meters up through 1-1/2 inches within each SCC region, and established SCC rates based on those averages. For larger meters the SCC is determined using the same methodology as for smaller meters but is calculated on a case by case basis from the unit charges of the SCC components multiplied by the estimated required demand of the requested service installation.

The following table shows calculations of SCC Rates for single family residential 3/4" connections and non-residential 5/8" connections.

SCC RATE CALCULATION				
Customer Type	Region	Consumption Per Connection (per 100 GPD)	SCC Charge for Each 100 GPD Consumption (\$)	SCC Rate (\$)
Single Family Residential (3/4")	1	2.80	6,463	18,100
	2	3.60	8,708	31,350
	3	5.80	6,903	40,040
	3C	7.75	11,861	91,930
	3D	7.75	13,348	103,450
Non-Residential (5/8")	1	4.00	6,463	25,850
	2	5.35	8,708	46,590
	3	6.25	6,903	43,140
	3C	7.75	11,861	See Note 1
	3D	7.75	13,348	103,450

Note 1: Calculated based on a 1993 Agreement with HCV & Associates LTD, Wiedemann Ranch, Inc., and Sue Christensen.

Applicants for non-potable/recycled water service have their SCC calculated based solely on the FWS Component. These customers are not served by the potable water system; they are served through a separate non-potable/recycled water system.

See the Biennial Report and Recommendation of the General Manager FY20 & FY21 for additional details. This report can be accessed on-line at EBMUD.com under Water, Water Rates, Budget and Rates, or at [Biennial Report and Recommendation of The General Manager Fiscal Years 2020 & 2021](#).

WASTEWATER SYSTEM

Wastewater Rates

The adopted changes to the Wastewater System rates and charges address the District's revenue requirement from its adopted biennial budget for FY20 and FY21. In 2019, the District conducted a cost of service (COS) study of the wastewater system to ensure that wastewater charges align with the cost to treat wastewater from residential and non-residential customers. As a result of the COS study, some wastewater rates and charges will decrease and others will increase in FY20. For FY21, wastewater rates and charges will increase an additional 4.0 percent. With the proposed FY20 and FY21 changes to the wastewater system charges, revenue collected from all wastewater system charges will increase by 4.0 percent in FY20 and an additional 4.0 percent in FY21 from what would have been collected under the current FY19 charges. The adopted changes to the Wastewater System rates and charges will apply to the Treatment Service Charge, Flow Charge and Strength Charge, and the Wet Weather Facilities Charge. There is no increase to the San Francisco Bay Pollution Prevention Fee. Wastewater charges have three customer classes: residential, multi-family residential, and non-residential. Non-residential customers are further classified based on the type of business operated: their business classification code (BCC). The wastewater charges have the following components:

- **Service Charge:** a fixed monthly charge per service connection/account and is calculated to recover a portion of EBMUD's fixed costs of providing wastewater services.
- **Flow Charge:** a variable monthly charge determined on the basis of a customer's metered water use and assumptions regarding the volume of water returned to the sewer system. For residential customers in dwellings up to four units the charge is capped at 9 CCF per month. The charge recovers a portion of EBMUD's costs of collecting and treating wastewater.
- **Strength Charge:** a monthly charged based on the estimated amount of constituents that a customer discharges into the sewer system and is calculated to recover EBMUD's costs of treating such constituents. Since residential customers' wastewater is very homogeneous, their treatment strength costs are recovered from a fixed strength charge.
- **San Francisco Bay Pollution Prevention Fee:** a fixed monthly charge calculated on the basis of the costs of EBMUD's pollution prevention program, established in the 1980s, to prevent pollutants from reaching the San Francisco Bay.
- **Wet Weather Facilities Charge collected on the property tax bill:** a fixed annual charge assessed by lot size for properties connected to the wastewater system. It is calculated on the basis of EBMUD's costs of its multi-million dollar Wet Weather Program mandated by the U.S. Environmental Protection Agency to improve the District's capacity to collect and treat all sewer flows during rainy weather.

Details of the rates and charges can be accessed on line at EBMUD.com under [Wastewater rates](#).

For FY20, the average single family residential customer that discharges 6.0 CCF per month will see a monthly wastewater treatment charge increase from \$21.95 to \$22.15, a 0.9 percent increase. For FY21, the average single family residential customer will see a monthly wastewater treatment charge increase from \$22.15 to \$23.02 or 3.9 percent.

The following table illustrates by customer class the monthly wastewater charges collected on the water service bill based on the adopted FY20 and FY21 rates.

WASTEWATER CHARGES ON WATER BILL							
(\$/Month)							
Customer Class	FY19	FY20 Adopted	FY20 Change vs FY19	% Change	FY21 Adopted	FY21 Change vs FY20	% Change
Average Single Family Residential	21.95	22.15	0.20	0.9%	23.02	0.87	3.9%
Multi-Family Residential 4 units	70.64	68.81	(1.83)	-2.6%	71.50	2.69	3.9%
Multi-Family Residential 5+ units	143.62	149.52	5.90	4.1%	155.30	5.78	3.9%
Commercial	148.10	154	5.90	4.0%	159.78	5.78	3.8%
Industrial	8,006.60	9037.5	1,030.90	12.9%	9,387.78	350.28	3.9%

Includes Service, Flow and Strength Charges and SF Bay Pollution Prevention Fee.

The Wet Weather Facilities Charge is collected on the property tax bill and is based on the square footage of each customer's lot. The Wet Weather Facilities Charge will increase by 7.2 percent in FY20 and 4.0 percent in FY21.

The following table illustrates the annual Wet Weather Facilities Charge collected on the property tax bill based on the adopted FY20 and FY21 rates.

ANNUAL WET WEATHER FACILITIES CHARGE		
(\$/Lot)		
Lot Size	FY20	FY21
Small Lot 0 - 5,000 sq. ft.	111.24	115.70
Medium Lot 5,000 - 10,000 sq. ft.	173.78	180.74
Large Lot >10,000 sq. ft.	397.20	413.10

The following table illustrates the history of annual total wastewater charges, including Wet Weather and SF Bay Residential Pollution Prevention fee for the average single family residential customer discharging 6 CCF per month.

AVERAGE SINGLE FAMILY RESIDENTIAL SEWER CHARGE			
(\$/Year)			
Fiscal Year	Annual Sewer Charge*	Residential % Increase	Overall % Increase**
2012	258.01	5.97%	6.00%
2013	273.30	5.93%	6.00%
2014	295.82	8.24%	9.00%
2015	320.34	8.29%	8.50%
2016***	317.74	-0.81%	5.00%
2017	333.26	4.88%	5.00%
2018	349.48	4.87%	5.00%
2019	367.14	5.05%	5.00%
2020	377.04	2.70%	4.00%
2021	391.94	3.95%	4.00%

* Annual Sewer Charge includes the Wet Weather Facilities Charge collected on the property tax bill for an under 5,000 square foot lot.

** Overall % increase includes the treatment rates for all customer classes.

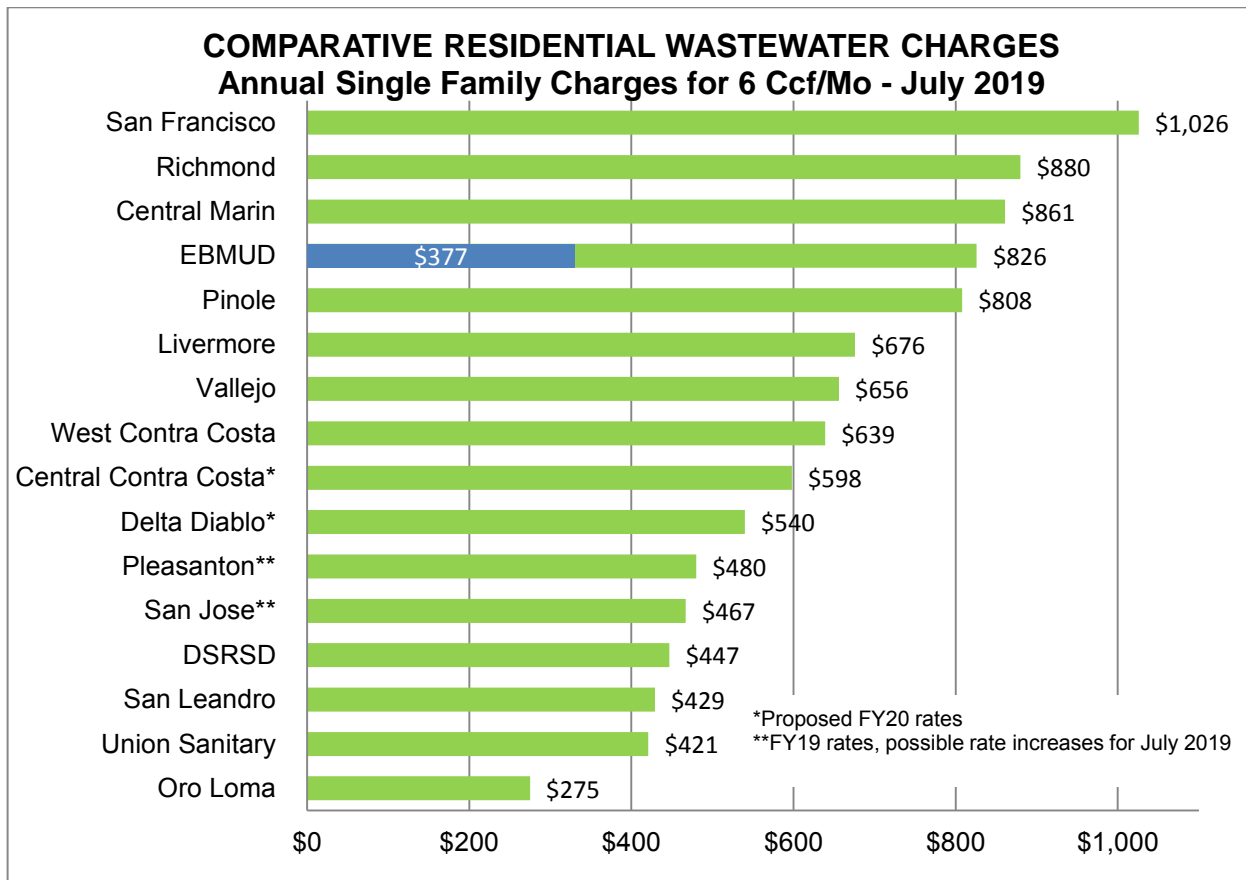
*** In 2016 the Cost of Service Study resulted in decreased charges for SFR customers.

The table below shows the various adopted wastewater rate components including the service charge, flow, strength which is comprised of Chemical Oxygen Demand (COD) and Total Suspended Solids (TSS), and San Francisco Bay Pollution Prevention Fee. As a result of the 2019 COS study, the District is no longer using Chemical Oxygen Demand filtered as a measure of wastewater strength and will be using Chemical Oxygen Demand beginning in FY20.

WASTEWATER TREATMENT UNIT RATE COMPONENTS					
(\$)					
Unit Rates	FY19	FY20 Adopted	% Change	FY21 Adopted	% Change
Service Charge (\$/month)	6.12	7.02	14.7%	7.30	4.0%
Flow (\$/ccf)	1.196	1.266	5.9%	1.317	4.0%
Strength - COD (\$/pound)	N/A	0.129	N/A	0.134	3.9%
Strength - Total TSS (\$/pound)	0.517	0.530	2.5%	0.551	4.0%
Residential Pollution Prevention Fee \$/dwelling unit (up to 4 dwelling units)	0.20	0.20	0.0%	0.20	0.0%
Multi-Family Pollution Prevention Fee for 5+ dwelling units	1.00	1.00	0.0%	1.00	0.0%
Non-Residential Pollution Prevention Fee	5.48	5.48	0.0%	5.48	0.0%

The following chart is a comparison of the average annual SFR wastewater bill on flows of 6 CCF per month for EBMUD and other local communities. EBMUD provides only a portion of the total wastewater service in its operating area; other local collection system agencies provide service from the customer to the EBMUD sewer interceptor. The total charge varies by community according to the level of local agency charges.

EBMUD's FY20 Wastewater charge for the average single family residential customer is \$377 annually, which includes treatment charges on the water bill of \$266 and the Wet Weather Facilities Charge on the property tax bill of \$111.



Includes collection and treatment based on flow of 6 ccf/mo.
 EBMUD rate based on proposed Treatment rate, SF Bay Residential Pollution Prevention Fee, and Wet Weather Fee, \$377/year plus average community collection charge of \$449/year.

Wastewater Capacity Fees

The Wastewater Capacity Fee (WCF) was established in 1984 to recover costs for providing wastewater treatment capacity for new or expanded system use. The WCF is based on an equity approach whereby new users “buy-in” to a wastewater system that has adequate capacity to serve both existing demands and new growth. The WCF is expressed in terms of wastewater flow volume (flow) and strength factors including COD and TSS. The WCF applies to all new customers and dischargers who increase wastewater volume or strength.

For example, an additional capacity fee may be required if a property is developed and connects to the wastewater system, changes use, or is redeveloped and increases the volume or strength of the wastewater it discharges. An additional capacity fee may also be required if a flow review by the District demonstrates the volume and/or strength of the wastewater discharged from a non-residential property has significantly increased or is greater than anticipated at the time a WCF was first paid.

The WCF is based on the anticipated flow contributions multiplied by the average wastewater strength measured or assigned for each customer classification, and the unit capacity rates for flow and strength factors. The single family residential capacity fee is based on a standard flow and strength of new single family residential accounts to the wastewater system. For non-residential customers, a review of the actual flow and strength may be conducted within 24 months, once the business is fully established, to verify the estimated demand for wastewater capacity. The review may result in the assessment of additional capacity fees if the actual flow or strength exceeds the original estimate.

For the FY20 WCF update, the District hired a financial rate consultant to conduct a comprehensive capacity fee study on the WCF. The study updated the total system value and determined unit rates for flow (\$ per CCF), COD (\$ per pound (lbs)), and TSS (\$ per lbs). Additionally, the consultant evaluated several approaches for streamlining the process of determining non-residential WCFs. The approach that has been selected is similar to the Water System Capacity Charge (SCC) process for new customers.

The adopted FY20 WCF unit capacity rates and the single family residential capacity fee are shown in the tables below. FY21 rates are tied to the 2020 Engineering News Record Construction Cost Index and are not available until 2021.

NON-RESIDENTIAL UNIT CAPACITY FEE RATES			
(\$)			
Unit Capacity Rate	FY19	FY20	% Increase
Flow /ccf/year	16.00	13.85	-13.4%
COD /lbs/year	N/A	1.45	N/A
TSS /lbs/year	6.33	6.66	5.3%

SINGLE-FAMILY RESIDENTIAL CAPACITY FEE			
(\$)			
Customer Class	FY19	FY20	% Increase
Single-Family	2,610	2,750	5.4%

CHAPTER 3: WATER SYSTEM

This chapter provides a detailed description of the Water System including discussions of the following topics:

- Fund Summary
- Sources of Funds
- Use of Funds
- Staffed Department Operations
- Debt Service and Financing
- Capital Improvement Program
- Five-Year Financial Forecast

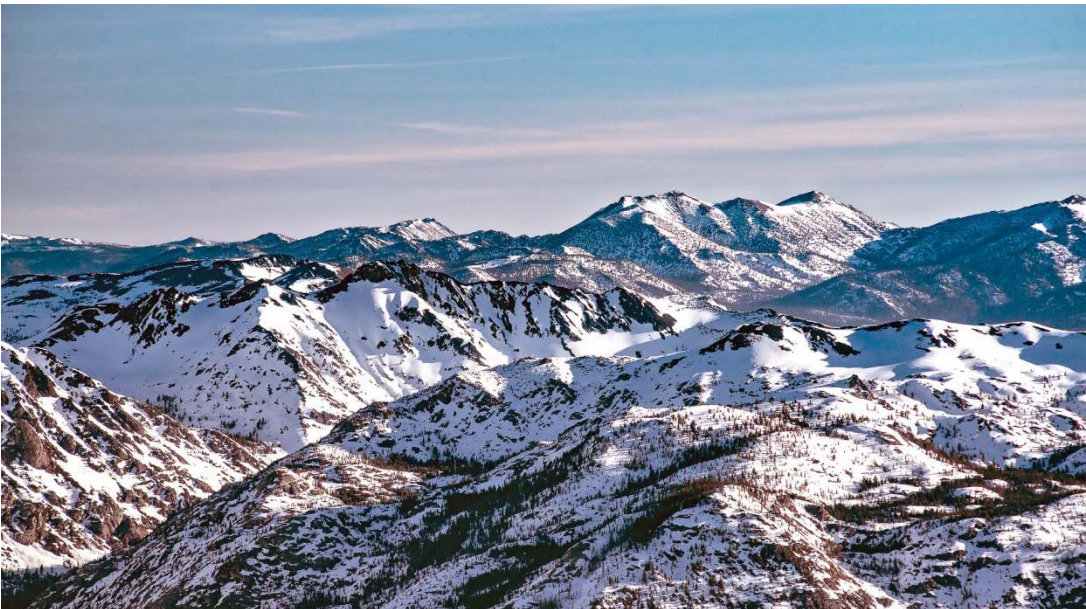


Lafayette Reservoir

The Water System is an enterprise fund consisting of an operating and a capital budget. The function of the Water System is to collect, transmit, and distribute water to communities within Alameda and Contra Costa Counties. In addition, the Water System provides administrative, financial, and other support services to the Wastewater System. These costs are charged to the Wastewater System.

The following are key projections and assumptions utilized in the FY20 and FY21 budget.

Water System Fund – Key Assumptions		
	FY20	FY21
Water Sales Volume (mgd)	141.0	143.0
% Rate Increase	6.50%	6.25%
Average monthly single family residential bill based on 8 ccf/month	\$59.74	\$63.47



Watershed Snow

FUND SUMMARY

The fund summary illustrates the beginning and ending fund balances as well as revenues, expenditures, and other financing sources/uses. The following table shows the fund balance, and projected revenues and expenditures for the Water System for FY20 and FY21.

Water System Fund Summary						
Operating and Capital Budgets (\$ Millions)						
	FY20			FY21		
	Operating	Capital	Balance	Operating	Capital	Balance
Beginning Balance (Projected)	332.8	0.0	332.8	383.2	0.0	383.2
Sources of Funds						
Operating Revenues						
Water Charges	543.5		543.5	582.5		582.5
Property Taxes	35.0		35.0	35.8		35.8
Power Sales	5.0		5.0	5.0		5.0
Interest Income	9.3		9.3	9.6		9.6
SCC Revenue	40.0		40.0	40.0		40.0
Reimbursements	12.3		12.3	12.6		12.6
All Other Revenue	<u>18.2</u>		<u>18.2</u>	<u>18.4</u>		<u>18.4</u>
Total Operating Revenues	663.2		663.2	703.9		703.9
Capital Funding Sources						
New Bond Proceeds		200.4	200.4		156.8	156.8
Loans Proceeds		-	-		-	-
Grants		-	-		-	-
Reimbursements		32.0	32.0		31.7	31.7
Commercial Paper		-	-		-	-
Total Capital Sources		<u>232.4</u>	<u>232.4</u>		<u>188.5</u>	<u>188.5</u>
Revenue Funded Capital	<u>(105.4)</u>	<u>105.4</u>	<u>-</u>	<u>(197.0)</u>	<u>197.0</u>	<u>-</u>
Total Sources of Funds	557.9	337.7	895.6	506.9	385.5	892.4
Use of Funds						
Operations	299.3		299.3	315.4		315.4
Debt Service	208.2		208.2	217.7		217.7
Capital Cash Flow	<u>-</u>	<u>337.7</u>	<u>337.7</u>	<u>-</u>	<u>385.5</u>	<u>385.5</u>
Total Use of Funds	507.5	337.7	845.2	533.1	385.5	918.6
Ending Balance *	383.2	0.0	383.2	357.0	0.0	357.0

* Includes reserves for working capital, self-insurance, worker's compensation, contingency, rate stabilization, and capital projects.

SOURCES OF FUNDS

The Water System has a variety of revenue sources that are used to fund operations, and a portion of the capital expense. The remaining capital expense is funded primarily by bonds and reimbursements.

The table below displays FY18 actuals, FY19 budget, and projections for operating revenue and capital funding sources.

Water System Sources of Funds (\$ Millions)				
	FY18 Actuals	FY19 Budget	FY20 Budget	FY21 Budget
Operating Revenues				
Water Charges	480.8	507.5	543.5	582.5
Property Taxes	34.7	30.7	35.0	35.8
Power Sales	7.0	3.7	5.0	5.0
Interest Income	7.5	7.4	9.3	9.6
SCC Revenue	69.3	28.0	40.0	40.0
Reimbursements	11.7	11.9	12.3	12.6
All Other Revenue	19.8	18.1	18.2	18.4
Total Operating Revenues	630.7	607.2	663.2	703.9
Revenue Funded Capital	(115.3)	(101.1)	(105.4)	(197.0)
Capital Funding Sources				
Revenue Funded Capital	115.3	101.1	105.4	197.0
New Bond Proceeds	176	148.6	200.4	156.8
Loans Proceeds	-	-	-	-
Grants	2.8	0.3	0.0	0.0
Reimbursements	15.5	19.9	32.0	31.7
Commercial Paper	-	-	-	-
Construction Fund	-	-	-	-
Total Capital Funding Sources	309.5	269.8	337.7	385.5
Total Water Sources	824.9	776.0	895.6	892.4

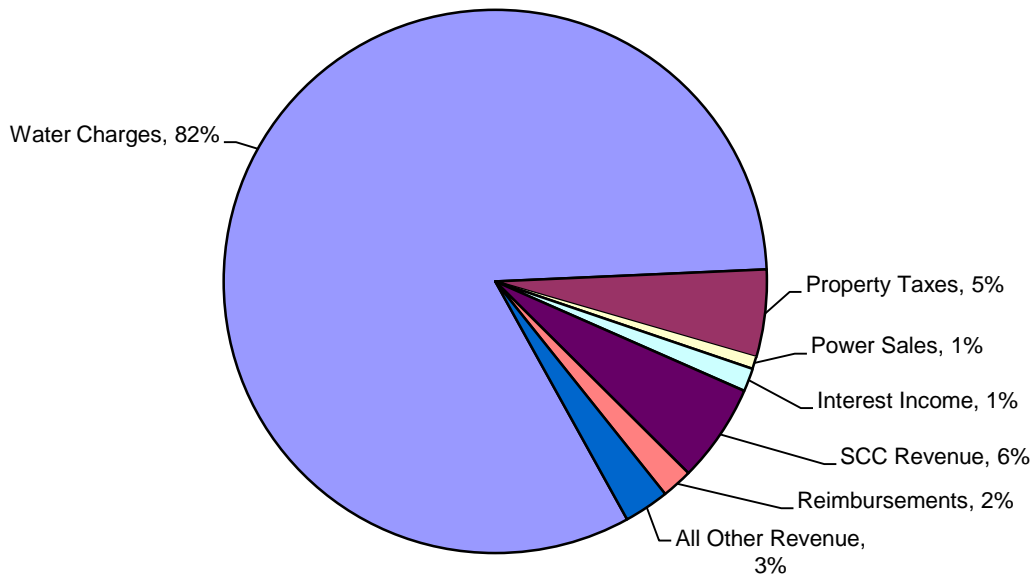
Operating Revenue

In FY20, Water System operating revenues are budgeted to increase \$56.0 million, or 9.2 percent compared to FY19 for a total of \$663.2 million. This increase is based on FY20 water sales remaining at the FY19 budgeted level of 141.0 million gallons per day (MGD), but reflects a rate increase of 6.50 percent. The FY20 budget also includes increases over the last budget in SCC revenue of \$12.0 million, Property Taxes of \$4.3 million, and small increases in Interest Income, Power Sales, Reimbursements, and All Other.

In FY21, Water System operating revenues are budgeted to increase \$40.7 million, or 6.1 percent for a total of \$703.9 million. This increase is comprised primarily of \$39.0 million from Water Charges due to higher projected consumption of 143.0 MGD and the 6.25 percent increase in the water rates.

The figure below illustrates the various sources of revenue and the percentage each contributes to the total. Water Charges revenue is the largest source of revenue for EBMUD comprising 82 percent of FY20 and FY21 total operating revenue.

FY20 & FY21 Water System Operating Revenue
(Total = \$1.37 Billion)



Operating Revenue Descriptions

The following are descriptions of the sources of operating revenue, including information about the projected revenues for FY20 and FY21.

Water Charges

Water Charges consist of a monthly service charge, a volume charge for the amount of water used and an elevation charge for those customers located at higher elevations that require pumping and additional storage facilities. The Water Charges increase 6.50 percent in FY20 and an additional 6.25 percent in FY21.

FY20 Revenue (\$ Millions)			FY21 Revenue (\$ Millions)		
	<u>Amount</u>	<u>% of Total</u>		<u>Amount</u>	<u>% of Total</u>
Monthly Service Charge	160.0	29.4	Monthly Service Charge	170.4	29.3
Volume Charge	355.1	65.3	Volume Charge	381.6	65.5
Elevation Charge	28.4	5.2	Elevation Charge	30.5	5.2
Total	543.5	100.0	Total	582.5	100.0

FY20 Water Charges are projected to increase \$36.0 million, for a total of \$543.5 million, or 7.1 percent over the FY19 budgeted Water Charges revenue, based on a 6.50 percent rate increase. FY21 Water Charges are projected to increase \$39.0 million, for a total of \$582.5 million, or 7.2 percent over FY20 Water Charges revenue as projected consumption increases slightly from 141 MGD to 143 MGD, and a rate increase of 6.25 percent.

Property Taxes

The District receives a portion of the 1 percent county tax levy on properties within District boundaries. The District's share averages 1.25 percent of the total monies collected. For FY20, budgeted Property Tax revenue of \$35.0 million is based upon FY18 actual property tax receipts. The FY21 projections is \$35.8 million or a 2.3 percent increase.

Power Sales

The District operates hydroelectric power generation facilities at the Pardee and Camanche Dams. For FY20 and FY21, projecting normal precipitation, the District expects to earn approximately \$5.0 million for each year, primarily from sales of power to other agencies.

Interest Income

The District places funds not needed for current expenditures in short-term investments in accordance with the District's investment policy and may include money market funds, commercial paper, medium-term corporate notes, and short-term U.S. government securities. Interest earned on these funds in FY20 is projected to be \$9.3 million, a \$1.9 million increase from FY19 due to higher interest rates than the 2.0 percent assumed for the FY19 budget. For FY21 Interest Income is projected to be \$9.6 million, a \$0.3 million increase over FY20. Interest earned is assumed to be 2.5 percent in FY20 and FY21.

SCC Revenue

System Capacity Charges (SCC) are collected from customers requesting new water service. The charges are designed to recover costs of facilities necessary to serve new customers. These costs include distribution and treatment facilities, facilities that serve the system as a whole such as Pardee and Camanche Reservoirs, terminal storage reservoirs, administrative facilities, and a portion of the costs of supplemental water supply. The purpose of the SCC is to assure that existing customers do not bear the cost of customer growth and that new customers pay for their appropriate share of the existing water system facilities. Funds collected from the SCC are held either in dedicated reserves or accounted for as a capital contribution from developers. Funds held in the dedicated reserve account are used to pay the debt service for the bonds issued to build supplemental water supply projects.

SCC revenue for FY20 and FY21 is projected at \$40.0 million each year, which is a \$12.0 million increase from the amount budgeted for FY19. Due to the increase in building activity in the service area, the SCC revenue collected has been over \$50.0 million in each of the past three years. The budgeted SCC revenue of \$40.0 million assumes that the level of building activity will remain higher than normal, but below the trend of the past three years.

Reimbursements

The Water System receives reimbursement for services provided to other agencies. The Wastewater System reimburses the Water System for administrative costs, space rental in the Administration Building and for providing billing and collection services. The Water System also receives reimbursements from several cities for providing billing and collection services for the cities' sewer charges. Total reimbursements for FY20 and FY21 are projected at \$12.3 million and \$12.6 million respectively.

All Other Revenue

Included in this category are receipts from property sales, rental of District properties, fees for use of District recreational lands and facilities, insurance and property damage reimbursements, sales of surplus District equipment and vehicles, sales of District publications, reimbursements from the U.S. Treasury under the Build America Bonds program, reimbursement of operating expenses from the Richmond Advanced Recycled Expansion (RARE) project and other miscellaneous revenues. All Other revenues are projected at \$18.2 million for FY20 and \$18.4 million for FY21.

Capital Funding

The following are descriptions of the sources of capital funding. The Capital Improvement Program (CIP) will be funded with bond proceeds, water revenues, reimbursements, and grants. It is anticipated that the District will receive \$200.4 million in new revenue bond proceeds in FY20 and \$156.8 million in FY21, combined with revenue funded capital of \$105.4 million in FY20 and \$197.0 million in FY21.

New Bond Proceeds

The District has the ability to issue long-term bonds to fund its capital program. The proceeds of the bond sales can be used to pay for capital expenses over several years. The repayment of the bonds is generally over 30 years and is made from water rate revenues.

Commercial Paper Issues

In addition to issuing long-term bonds, the District has used short-term borrowing in the form of commercial paper to raise revenues for capital expenses. The term of commercial paper can be up to 270 days. The repayment of commercial paper is made from water rate revenues.

Grants and Loans Proceeds

The District pursues federal and state grants and low-interest loans to fund some of its capital projects when they meet the conditions of the District's grant and loan programs.

Reimbursements

Some of the capital projects in the Water System are performed at the request of other agencies, and the District is reimbursed for its expenses. An example would be the relocation of a water main at the request of a city or state agency. Also, work to expand the distribution system to meet new connections not covered by the System Capacity Charge is paid for directly by the applicants.

Revenue Funded Capital

Annual capital expenses that are not paid from debt funding, grants, loans or reimbursements are paid from operating revenues, either from current year revenues or from reserves.

Please refer to the section on Debt Service and Financing for additional details on debt funding of capital projects.

USE OF FUNDS

The Water System has three types of expenditures:

Operations, or the annual costs of providing all water services;

Debt service, or the repayment of bonds for making capital investments in the water system; and

Capital cash flow, or the annual costs of the CIP for long-term projects.

The following table shows the breakdown of expenses for operations, debt service, and capital cash flow.

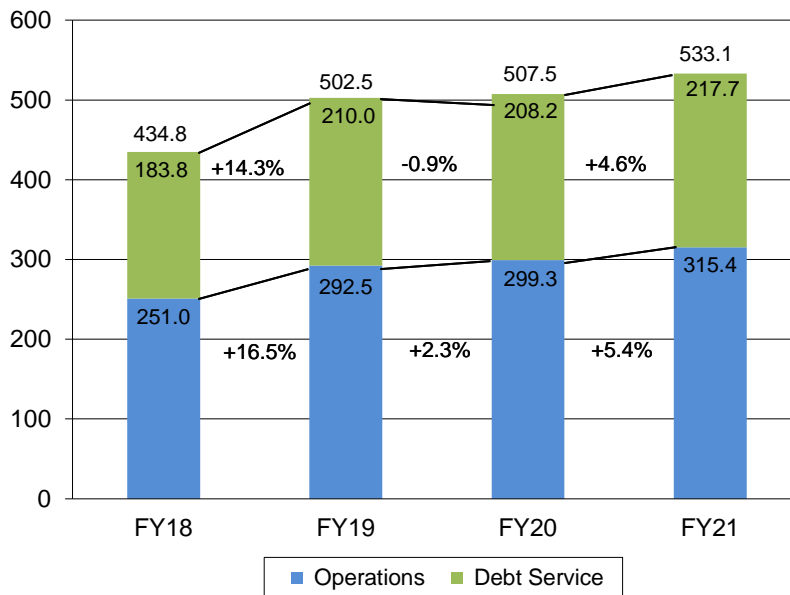
Use of Funds (\$ Millions)				
Expenditure Type	FY18 Actuals	FY19 Budget	FY20 Budget	FY21 Budget
Operations	251.0	292.5	299.3	315.4
Debt Service	183.8	210.0	208.2	217.7
Capital Cash Flow	<u>309.4</u>	<u>269.8</u>	<u>337.7</u>	<u>385.5</u>
Total Expenditures	744.2	772.3	845.2	918.6

Operating Budget

This section contains charts and tables which explain the major components of the Water System operations budget. Typical operations expenditures include, but are not limited to labor, benefits, chemicals, energy, parts, materials, insurance, District vehicle fleet costs, and computer hardware and software.

In FY20, the operations and debt service budget is increasing \$5.0 million or 1.0 percent over the FY19 budget, and in FY21 will increase \$25.6 million or 5.0 percent as shown below.

FY18-FY21 Operations and Debt Service
(\$ Millions)



The operations budget is also shown by department on the following pages.

Department Operating Budgets

The operations portion of the Water System budget is divided into various departments. The majority of these departments are referred to as staffed departments indicating employees are assigned to work in these areas. The staffed department budget funds the day-to-day operations of the District, and includes funding for labor, benefits, outside contract services and other non-labor expenses such as electricity, chemicals, fuel, computer hardware, self-insured liability claims, and workers compensation claims. A detailed description of each staffed department is included later in this chapter.

A small number of departments do not have personnel assigned to them and are referred to as non-staffed departments. The impact on the budget by each of the following non-staffed departments varies:

Contingency – Funds are budgeted each fiscal year to cover projected labor-related expenses such as the employee cost of living adjustment which is based upon each year's February Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) in the San Francisco-Oakland-Hayward area. The contingency budget also includes funding for unanticipated needs which may arise before the next budget cycle.

Intradistrict - Certain internal service accounts are included in balance sheets to assure that internal expenses are not counted twice within the operations budget. Examples of these accounts include warehouse stores overhead and fleet vehicle expenses.

Administration of Capital - The administration of capital represents those costs that are not directly attributable to specific capital projects, but indirectly support the CIP. The administration of capital in the operations budget will decrease operating expense by a like amount and reallocate the costs to the capital budget.

The following table presents the total FY20 and FY21 Water System operating budget by department.

Operating Budget by Department (\$ Millions)						
Departments	FY18	FY19	FY20		FY21	
	Actuals	Budget	Budget	% Chg	Budget	% Chg
Operations & Maint Support	20.4	20.4	21.2	4.0%	21.5	1.4%
Maintenance and Construction	99.5	107.8	104.2	-3.3%	105.8	1.5%
Water Operations	52.4	58.0	55.7	-4.1%	56.6	1.6%
Water Resources	8.2	9.0	8.9	-1.1%	8.9	-0.4%
Natural Resources	15.8	16.8	17.0	1.0%	17.3	2.2%
Engineering & Construction	17.5	20.1	20.6	2.4%	21.0	1.9%
Office of the General Manager	5.6	6.8	6.4	-5.2%	6.9	6.9%
Finance	22.9	29.5	26.5	-10.2%	27.2	2.5%
Information Systems	28.2	30.7	30.4	-0.8%	31.4	3.4%
Customer & Community Services	19.9	22.1	22.7	3.1%	23.3	2.2%
Human Resources	10.5	12.0	11.8	-1.0%	11.8	-0.5%
Office of the General Counsel	4.4	4.9	4.9	-0.2%	4.9	0.3%
Water Recycling Program	4.4	5.6	5.8	3.1%	5.9	2.0%
Administration	0.3	0.4	0.4	5.1%	0.4	1.9%
Staffed Departments	310.1	344.2	336.8	-2.2%	343.0	1.8%
Contingency	1.5	(0.1)	14.5	-	25.0	-
Intradistrict	(12.5)	(11.7)	(12.0)	2.3%	(12.6)	5.0%
Administration of Capital	(48.1)	(40.0)	(40.0)	0.0%	(40.0)	0.0%
Operations	251.0	292.5	299.3	2.3%	315.4	5.4%
Debt Service	183.8	210.0	208.2	-0.9%	217.7	4.6%
Total Operating	434.8	502.5	507.5	1.0%	533.1	5.0%

Department Operations Budget Highlights

The Water System comprises 14 staffed departments that perform and provide operations, and also support functions for the Wastewater System. This section details the various departments including the labor and non-labor budgets, department goals and staffing.

The table below is a summary of the Water System departments' budgets, which excludes the administration of capital overhead allocated from operations to capital.

Category (\$ Thousands)	FY18	FY19	FY20		FY21	
	Actuals	Budget	Budget	% Chg	Budget	% Chg
Total Labor and Benefits	296,113	326,544	323,754	-0.9%	328,114	1.3%
Less: Capital Labor and Benefits	<u>(80,813)</u>	<u>(86,875)</u>	<u>(91,470)</u>	5.3%	<u>(93,660)</u>	2.4%
Operating Labor and Benefits	215,300	239,669	232,284	-3.1%	234,454	0.9%
Contract Services	16,701	19,281	19,510	1.2%	19,397	-0.6%
Other Costs	<u>78,078</u>	<u>85,271</u>	<u>84,959</u>	-0.4%	<u>89,126</u>	4.9%
Operating Total	310,078	344,221	336,754	-2.2%	342,977	1.8%

Labor and Benefits

Labor and benefits are allocated between the staffed departments and contingency for cost of living adjustments. Cost of living adjustments are not shown in the staffed departments' FY20 and FY21 labor and benefits budgets since it is based on the CPI-W index and the amount is not known until the index is published annually. Once the index is published, and if funds are needed, contingency would be transferred to departments. The details of the departments' labor and benefits budget are shown later in this chapter.

Additional positions have been funded over the prior biennial budget. The positions support capital projects and operations work such as infrastructure maintenance, ramp-up of pipeline construction, and support functions such as human resources and finance to replace aging financial and human resource information systems. While additional positions have been funded in FY20, total labor and benefit costs decrease \$2.8 million or 0.9 percent due to a number of complex drivers that offset the labor and benefits budget. These offsets include:

- A slower projected rise in retirement and healthcare costs which impact benefit costs,
- Projected savings to account for the time required to fill positions given the number of retirements, additional positions and the recruitment lead time,
- Overall lower salaries in comparison to the prior biennial budget due to the significant number of new employees with salaries lower than the employees they replaced, and
- Lower projected overtime costs.

In FY21, total labor and benefit costs increase \$4.4 million or 1.3 percent compared to FY20 primarily for funding additional positions compared to FY20, scheduled step increases, and slightly higher overtime costs.

Non-Labor

In FY20, staffed department non-labor costs are budgeted to decrease \$0.08 million or less than 1 percent compared to the prior fiscal year. The major drivers accounting for the change include:

- Energy costs are budgeted to increase \$1.4 million due to new tariffs and increased water production; and
- Software costs are budgeted to increase \$0.5 million primarily for specialized software used by the Engineering and Construction Department, and database license fees.

Planned reductions largely offset the anticipated increases in FY20:

- Computer hardware and equipment are budgeted to decrease \$1.2 million due to the equipment replacement fund which will be used for such purchases; and
- Professional services are budgeted to decrease \$0.8 million due to completion of the school Lead Sampling Program contract totaling \$1.5 million.

In FY21, staffed department non-labor costs are budgeted to increase \$4.0 million or 3.9 percent compared to FY20. The major drivers accounting for the change include:

- Fees and licenses are budgeted to increase \$0.7 million primarily for Board election fees in the second year and recycled water discharge fees;
- Computer hardware is budgeted to increase \$0.6 million for replenishing the equipment replacement fund for future equipment replacement needs;
- Computer software is budgeted to increase \$0.5 million for upgrading Microsoft Office software;
- Energy costs are budgeted to increase \$0.5 million primarily due to increased water production;
- Vehicle use charges are budgeted to increase \$0.3 million for operating and maintenance costs associated with fleet vehicles and equipment;
- Allowance for self-insured liability and worker's compensation claims are budgeted to increase \$0.3 million consistent with prior multi-year trends;
- Laboratory services are budgeted to increase \$0.2 million for the Water System's share of the costs of additional improvements to the laboratory and computer system;
- Mailing costs are budgeted to increase \$0.2 million primarily due to Prop 218 notices in the second year;
- Chemicals are budgeted to increase \$0.1 million primarily due to higher production and inflation;
- Security is budgeted to increase \$0.1 million due to scheduled annual contract changes; and
- Fuel is budgeted to increase \$0.1 million due to addition of vehicles to the fleet and anticipated price change.

Planned reductions related to equipment, outside services and professional services offset a small portion of the anticipated increases in FY21.

Department Operations by Budget Category

The table below depicts the Water System staffed departments operations by expense category. It does not include capital labor; however, capital labor by department is shown later in this chapter.

FY20 & FY21 Department Operations by Categories (\$ Millions)										
Department	FY20				FY21					
	Labor	Contr	Svc	Other	Total	Labor	Contr	Svc	Other	Total
Operations & Maint Support	11.2	4.2	5.8		21.2	11.2	4.2	6.1		21.5
Maintenance and Construction	75.3	3.8	25.2		104.2	76.1	3.6	26.1		105.8
Water Operations	32.0	1.1	22.5		55.7	32.2	1.2	23.2		56.6
Water Resources	6.7	0.4	1.8		8.9	6.8	0.3	1.8		8.9
Natural Resources	10.3	3.1	3.6		17.0	10.5	3.1	3.7		17.3
Engineering & Construction	19.1	0.2	1.4		20.6	19.5	0.2	1.4		21.0
Office of the General Manager	5.6	0.2	0.6		6.4	5.6	0.1	1.1		6.9
Finance	16.5	1.4	8.7		26.5	16.6	1.4	9.1		27.2
Information Systems	21.0	2.3	7.1		30.4	21.2	2.2	8.1		31.4
Customer & Community Svcs	19.5	0.3	3.0		22.7	19.9	0.4	3.0		23.3
Human Resources	9.3	1.8	0.8		11.8	9.2	1.7	0.9		11.8
Office of the General Counsel	4.0	0.8	0.2		4.9	4.0	0.8	0.2		4.9
Water Recycling Program	1.8	0.1	3.9		5.8	1.8	0.1	4.0		5.9
Administration	-	-	0.4		0.4	-	-	0.4		0.4
Total	232.3	19.5	85.0		336.8	234.5	19.4	89.1		343.0

STAFFED DEPARTMENT OPERATIONS

This section describes each of the staffed departments and includes the following topics:

Overview provides an overall statement about the key responsibilities of the department within the larger mission of the District as a whole.

Description of Services Provided describes the responsibilities of the department, by unit (division) or by function, including services required to meet regulatory or legal requirements.

FY20 & FY21 Goals highlight the highest priority tasks or projects related to the budget, and the District Strategic Plan.

Department Budget Summary is a reference table that shows the Department's operating budget expenditures by category (Labor and Benefits, Contract Services, Other Costs). It also includes capital labor to detail a more comprehensive view of the departmental budgets.

Budget Highlights shows changes in cost relative to the previous fiscal year and describes reasons for those changes. This section focuses on the significant budget changes.

Staffing Summary is a reference table that shows the Full-Time Equivalent (FTE) for the department by appointment type (full-time, part-time, etc.).

Staffing Changes is a section included only if departments have position changes that require Board approval. It includes a table that enumerates position changes, followed by a brief description of the changes. The change in cost is determined by comparing the annual cost of the salaries and benefits of the current classification with the annual cost of the new classification at the top salary step.

The following guide lists each department by name, the divisions within each department, and includes the page number to locate each department in this chapter.

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OPERATIONS AND MAINTENANCE SUPPORT DEPARTMENT (OSD)

OVERVIEW

The Operations and Maintenance Support Department is responsible for managing and improving the operational information systems, water system infrastructure, processes and assets, and providing District-wide support and leadership in regulatory compliance, emergency preparedness, business continuity, and facility security.

DESCRIPTION OF SERVICES PROVIDED

The department includes the Regulatory Compliance Office, Water Quality Office, and Asset Management Division. The Regulatory Compliance Office provides environmental compliance guidance and assistance, security services, emergency preparedness support, and workplace health and safety support to the entire District. The Water Quality Office provides technical review and oversight of water quality issues at the treatment plants and in the distribution system, as well as review of upcoming legislative and regulatory changes that may impact water quality. The Asset Management Division develops and maintains work management systems and tools, including mobile and GIS technologies for field operations and staff; coordinates technical training and educational programs for department staff; and provides leadership and guidance for knowledge retention efforts.

FY20 & FY21 GOALS

The department has primary responsibility for leading the Water Quality and Environmental Protection Strategic Plan goal. Key department goals include:

- Ensuring compliance with water discharge, air emission, and land disposal requirements to protect and preserve the environment;
- Supporting the accelerated pipeline infrastructure renewal capital program;
- Providing technical input and guidance in the development of the CIP for the water treatment plants (WTPs);
- Reviewing water quality data on a regular basis and assessing strategies for improvements;
- Operating and maintaining District facilities to anticipate and meet all water discharge, air emission, and land disposal regulations to protect and preserve the environment;
- Minimizing impacts to the environment by reducing, recycling, reusing and reclaiming waste, and by conserving natural resources; and
- Maintaining active Emergency Preparedness and Business Continuity Programs to plan for and manage the District's functions during and following an emergency.

DEPARTMENT BUDGET SUMMARY (OSD)

The department's projected spending is compared to prior years in the table below.

Category (\$ Thousands)	FY18	FY19	FY20		FY21	
	Actuals	Budget	Budget	% Chg	Budget	% Chg
Total Labor and Benefits	10,912	11,808	11,853	0.4%	11,813	-0.3%
Less: Capital Labor and Benefits	(768)	(686)	(626)	-8.8%	(637)	1.9%
Operating Labor and Benefits	10,144	11,122	11,227	0.9%	11,175	-0.5%
Contract Services	4,070	4,012	4,183	4.2%	4,250	1.6%
Other Costs	6,158	5,280	5,814	10.1%	6,093	4.8%
Operating Total	20,373	20,415	21,224	4.0%	21,518	1.4%

BUDGET HIGHLIGHTS

The department's operating budget in FY20 is increasing \$0.8 million or 4.0 percent compared to FY19. In FY21, the budget will increase \$0.3 million or 1.4 percent compared to the prior fiscal year. Significant budget changes include:

FY20

Total labor and benefit costs are increasing \$0.05 million. Capital labor and benefit costs are decreasing \$0.06 million due to funding one less position and a slower than projected rise in benefits cost. Operating labor and benefit costs are increasing \$0.1 million, primarily attributable to funding additional positions. Contract services are increasing \$0.2 million primarily due to an increase in security contracts serving the entire District. All other costs are increasing \$0.5 million primarily due to increases in hazardous waste disposal and District laboratory services costs.

FY21

Total labor and benefit costs will decrease \$0.04 million primarily due to unfunding one operating position. Contract services will increase \$0.07 million primarily due to increases in security service level. Other costs will increase \$0.3 million primarily due to an increase in District laboratory services costs.

STAFFING SUMMARY

The table below summarizes the transfers that have occurred among departments. There are no other staffing changes.

Position Type	FY18	FY19	FY20	FTE Chg	FY21	FTE Chg
Full-Time	52.0	53.0	52.0	(1.0)	52.0	0.0
Limited-Term / Temp Construction	3.0	3.0	2.0	(1.0)	1.0	(1.0)
Intermittent	0.0	0.0	0.0	0.0	0.0	0.0
Temporary / Part-Time	0.0	0.0	0.0	0.0	0.0	0.0
Total FTE	55.0	56.0	54.0	(2.0)	53.0	(1.0)

MAINTENANCE AND CONSTRUCTION DEPARTMENT (MCD)

OVERVIEW

The Maintenance and Construction Department is responsible for maintaining the local water system infrastructure and facilities, performing preventative and corrective maintenance, replacing and rehabilitating the District's infrastructure, reading and maintaining the nearly 400,000 water meters, and maintaining all vehicles and heavy equipment.

DESCRIPTION OF SERVICES PROVIDED

The department includes the Distribution Maintenance and Construction, Facilities Maintenance and Construction, Pipeline Construction and Equipment, and Maintenance Support divisions. Distribution Maintenance and Construction installs new services and pipelines and supports the maintenance, replacement, and installation of the water distribution system by identifying and repairing leaks, maintaining valves and hydrants, and replacing pipeline appurtenances. Facilities Maintenance and Construction provides support for the water treatment and distribution infrastructure and other facilities located throughout the Water System including the computer systems used to operate the water system. Pipeline Construction and Equipment installs replacement pipelines and provides paving services. Maintenance Support provides District-wide construction support and is responsible for vehicle and equipment maintenance and replacement, maintenance, repair, and reading of meters, and backflow prevention.

FY20 & FY21 GOALS

The department has a key role in the Long-Term Infrastructure Investment Strategic Plan goal. Key department goals include:

- Increasing the miles of distribution pipe replaced from 15 to 17.5 miles in FY20 and to 20 miles in FY21;
- Reading, testing, and replacing revenue-generating water meters;
- Implementing OP/NET system improvements and cyber security controls for the industrial control systems and centralized security systems;
- Leading the industry in water loss control through using new and innovative technology, effective maintenance practices, and efficient operations; and
- Implementing preventive, predictive, and corrective maintenance plans that improve safety, reliability, and efficiency.

DEPARTMENT BUDGET SUMMARY (MCD)

The department's projected spending is compared to prior years in the table below.

Category (\$ Thousands)	FY18	FY19	FY20		FY21	
	Actuals	Budget	Budget	% Chg	Budget	% Chg
Total Labor and Benefits	109,166	121,198	121,386	0.2%	123,995	2.1%
Less: Capital Labor and Benefits	<u>(37,941)</u>	<u>(41,885)</u>	<u>(46,088)</u>	10.0%	<u>(47,925)</u>	4.0%
Operating Labor and Benefits	71,226	79,313	75,298	-5.1%	76,070	1.0%
Contract Services	3,595	3,157	3,757	19.0%	3,641	-3.1%
Other Costs	<u>24,686</u>	<u>25,365</u>	<u>25,183</u>	-0.7%	<u>26,079</u>	3.6%
Operating Total	99,506	107,835	104,239	-3.3%	105,790	1.5%

BUDGET HIGHLIGHTS

The department's operating budget in FY20 is decreasing \$3.6 million or 3.3 percent compared to FY19. In FY21, the budget will increase \$1.6 million or 1.5 percent compared to the prior fiscal year. Significant budget changes include:

FY20

Total labor and benefit costs are increasing \$0.2 million primarily due to funding additional positions supporting the ramp-up of the Pipeline Rebuild Program and reducing reliance on fully-manned and operated (FM&O) services. As a result, the capital labor and benefit costs are increasing \$4.2 million. Operating labor and benefit costs are decreasing \$4.0 million primarily due to a shift to more capital-intensive work, savings taken to account for the time required to fill positions, and a slower than projected rise in benefits cost. Contract services are increasing \$0.6 million primarily attributable to vegetation control for fire abatement and other outside services. Other costs are decreasing \$0.2 million primarily for parts and materials used in facilities and grounds (\$0.6 million), vehicle use charges based on the restructure of rates (\$0.4 million) and a reduction of vehicles and equipment repair services (\$0.4 million). The savings are partially offset by anticipated petroleum price increases, additional vehicles and equipment (\$0.5 million), and a rise in city inspection fees (\$0.3 million).

FY21

Total labor and benefit costs will increase \$2.6 million compared to the prior year due to funding additional positions that are primarily for the Pipeline Rebuild Program and to reduce reliance on FM&O outside concrete contract services. Consequently, contract services for concrete work will decrease \$0.1 million as work will be performed by the new crew. Other costs will increase \$0.9 million primarily to address operating cost for the additional vehicles and equipment for new crews.

STAFFING SUMMARY

The table below summarizes the staffing changes and transfers that have occurred among departments.

Position Type	FY18	FY19	FY20	FTE Chg	FY21	FTE Chg
Full-Time	714.0	719.0	746.0	27.0	746.0	0.0
Limited-Term / Temp Construction	22.0	21.0	21.0	0.0	21.0	0.0
Intermittent	0.0	0.0	0.0	0.0	0.0	0.0
Temporary / Part-Time	3.0	2.5	2.5	0.0	2.5	0.0
Total FTE	739.0	742.5	769.5	27.0	769.5	0.0

STAFFING CHANGES

The table below summarizes the FTE changes excluding transfers among departments. The net change in cost represents the difference between the annual salary at the top step including benefits for the existing highest job classification versus the highest classification for the change.

FY	Action	From Classification(s)	To Classification(s)	Cost Chg	FTE Chg	Project/Program
2020	Add		Assistant Constr & Maintenance Supt	234,530	1.0	Pipeline Rebuild
2020	Add		General Pipe Supervisor	212,411	1.0	
2020	Add		General Pipe Supervisor	212,411	1.0	
2020	Add		Heavy Equipment Operator	157,912	1.0	
2020	Add		Heavy Equipment Operator	157,912	1.0	
2020	Add		Heavy Equipment Operator	157,912	1.0	
2020	Add		Heavy Equipment Operator	157,912	1.0	
2020	Add		Heavy Equipment Operator	157,912	1.0	
2020	Add		Heavy Equipment Operator	157,912	1.0	
2020	Add		Heavy Transport Operator	150,375	1.0	
2020	Add		Heavy Transport Operator	150,375	1.0	
2020	Add		Heavy Transport Operator	150,375	1.0	
2020	Add		Heavy Transport Operator	150,375	1.0	

(continued next page)

FY	Action	From Classification(s)	To Classification(s)	Cost Chg	FTE Chg	Project/Program
2020	Add		Materials Specialist	146,704	1.0	Pipeline Rebuild
2020	Add		Utility Laborer / Water Distribution Plumber I	126,420	1.0	
2020	Add		Utility Laborer / Water Distribution Plumber I	126,420	1.0	
2020	Add		Water Distribution Plumber III / II / I	154,143	1.0	
2020	Add		Water Distribution Plumber III / II / I	154,143	1.0	
2020	Add		Water Distribution Plumber III / II / I	154,143	1.0	
2020	Add		Water Distribution Plumber III / II / I	154,143	1.0	
2020	Add		Water Distribution Plumber III / II / I	154,143	1.0	
2020	Add		Water Distribution Plumber III / II / I	154,143	1.0	
2020	Add		Water Distribution Plumber III / II / I	154,143	1.0	
2020	Add		Water Distribution Plumber III / II / I	154,143	1.0	
2020	Add		Water Distribution Plumber III / II / I	154,143	1.0	
2020	Flex Class & Character	Janitor	(LT) Paving Raker A / Janitor	36,780	0.0	Reduce reliance on FM&O and conduct saw-cutting pilot study
2020	Flex Class & Character	Janitor	(LT) Paving Raker A / Janitor	36,780	0.0	
2020	Flex Class & Character	Gardener II / I	(LT) Concrete Finisher II / I / Gardener I / II	20,738	0.0	Reduce reliance on FM&O and support additional Pipeline Rebuild
2020	Flex Class & Character	Gardener II / I	(LT) Concrete Finisher I / II / Gardener I / II	20,738	0.0	
FY20 TOTAL				4,110,191	25.0	
2021	Flex Class & Character	Gardener II / I	(LT) Concrete Finisher II / I / Gardener I / II	20,698	0.0	Reduce reliance on FM&O and support additional Pipeline Rebuild
2021	Flex Class & Character	Gardener II / I	(LT) Concrete Finisher II / I / Gardener I / II	20,698	0.0	
FY21 TOTAL				41,395	0.0	

In FY20, the department is adding 25 full-time FTEs to create two additional crews in support of the Pipeline Rebuild Program. One new crew will be operational in each fiscal year. All positions will be authorized in FY20 to enable a shortened recruitment lead time for FY21 to support a 2.5 mile increase in the miles of pipe being replaced. The second crew is funded starting in FY21. In addition, four full-time FTEs are flexing to limited-term positions to decrease reliance on outside concrete services and to conduct a pilot study on sawcutting.

In FY21, the department is flexing two full-time FTEs to further reduce reliance on outside concrete services.

WATER OPERATIONS DEPARTMENT (WOD)

OVERVIEW

The Water Operations Department is responsible for the operation of water supply, water treatment, and water distribution facilities spanning six counties, including the Freeport Regional Water Facilities. The Department also operates and maintains Pardee and Camanche Dams including hydropower generation facilities.

DESCRIPTION OF SERVICES PROVIDED

The department includes the Water Treatment and Distribution and the Water Supply divisions. The Water Treatment and Distribution Division is responsible for providing high quality water to the District's 1.4 million customers and meeting or exceeding public health and aesthetic water quality standards. The Water Supply Division is responsible for raw water operation including flood control and Mokelumne River regulation, maintaining the District's aqueduct rights of way, operation and maintenance of upcountry water and wastewater systems and facilities, water system regulatory compliance and monitoring, water customer complaint investigation and support, and emergency response preparedness. The department is also responsible for implementing a comprehensive Energy Management Strategy.

FY20 & FY21 GOALS

The department has a key role in implementing the Water Quality and Environmental Protection Strategic Plan goal. Key department goals include:

- Operating the water system to meet multiple objectives including municipal water supply, water quality, power generation, river flow regulation, environmental protection, and flood control;
- Meeting Joint Settlement Agreement (JSA) Mokelumne River minimum flow releases 100% of the time;
- Meeting water quality regulations and water quality goals 100% of the time;
- Managing Freeport Regional Water Facilities and other supplemental supply projects and supporting development of new supply projects;
- Operating the water system efficiently to minimize costs; and
- Leading the District's Energy Management Strategy.

DEPARTMENT BUDGET SUMMARY (WOD)

The department's projected spending is compared to prior years in the table below.

Category (\$ Thousands)	FY18	FY19	FY20		FY21	
	Actuals	Budget	Budget	% Chg	Budget	% Chg
Total Labor and Benefits	32,721	35,698	34,251	-4.1%	34,456	0.6%
Less: Capital Labor and Benefits	(1,763)	(1,325)	(2,251)	69.9%	(2,269)	0.8%
Operating Labor and Benefits	30,958	34,374	32,000	-6.9%	32,186	0.6%
Contract Services	1,280	2,767	1,121	-59.5%	1,180	5.3%
Other Costs	20,181	20,892	22,546	7.9%	23,218	3.0%
Operating Total	52,418	58,032	55,667	-4.1%	56,585	1.6%

BUDGET HIGHLIGHTS

The department's operating budget in FY20 is decreasing \$2.4 million or 4.1 percent compared to FY19. In FY21, the budget will increase \$0.9 million or 1.6 percent compared to the prior fiscal year. Significant budget changes include:

FY20

Operating labor and benefit costs are decreasing \$2.4 million primarily due to a shift to support an increase in capital-intensive work, savings taken consistent with prior trends, and a slower than projected rise in benefits cost. Contract services are decreasing \$1.6 million primarily due to completion of the school Lead Sampling Program. Other costs are increasing \$1.7 million primarily attributable to energy tariff rate adjustments for water treatment and distribution (\$1.3 million) in addition to water production volume changes, and spoils/sludge disposal (\$0.2 million).

FY21

Operating labor and benefit costs will increase \$0.2 million due to scheduled salary step increases offset by salary savings and the deletion of a limited-term position that supported the school Lead Sampling Program. Contract services will increase \$0.06 million primarily due to additional maintenance support for chlorination boosting stations. Other costs will increase \$0.7 million mainly driven by energy (\$0.4 million) and chemicals (\$0.1 million).

STAFFING SUMMARY

The table below summarizes the transfer staffing changes and transfers that have occurred among departments.

Position Type	FY18	FY19	FY20	FTE Chg	FY21	FTE Chg
Full-Time	183.0	183.0	185.0	2.0	185.0	0.0
Limited-Term / Temp Construction	1.0	1.0	1.0	0.0	0.0	(1.0)
Intermittent	0.0	0.0	0.75	0.75	0.75	0.0
Temporary / Part-Time	2.0	2.5	2.0	(0.5)	2.0	0.0
Total FTE	186.0	186.5	188.75	2.25	187.75	(1.0)

STAFFING CHANGES

The table below summarizes the FTE changes excluding transfers among departments. The net change in cost represents the difference between the annual salary at the top step including benefits for the existing highest job classification versus the highest classification for the change.

FY	Action	From Classification(s)	To Classification(s)	Cost Chg	FTE Chg	Project/Program
2020	Add		Water System Inspector II / I	165,982	1.0	Pipeline Rebuild
2020	Add		Water System Inspector II / I	165,982	1.0	
2020	Convert	(PT) Housekeeper	(INT) Housekeeper	26,603	0.25	Operational needs
FY20 TOTAL				358,568	2.25	
2021	Delete	(LT) Water System Inspector II / I		(165,659)	(1.0)	Completion of school Lead Sampling
FY21 TOTAL				(165,659)	(1.0)	

In FY20, the department is adding two full-time FTE Water System Inspectors to support the Pipeline Rebuild Program, and converting a part-time Housekeeper at the Pardee facility to intermittent for operational needs.

In FY21, the department is deleting the limited-term Water System Inspector that manages the school Lead Sampling Program as this program will be completed in FY20.

WATER RESOURCES DEPARTMENT (WRD)

OVERVIEW

The Water Resources Department develops and administers the plans, policies and programs necessary to protect existing District water resources, develops additional water supplies to meet future needs, and assures the availability of adequate physical facilities to meet those needs.

DESCRIPTION OF SERVICES PROVIDED

The department includes the Bay-Delta Section, Water Resources Planning and Water Supply Improvements divisions. The Bay-Delta Section provides the District's technical and policy evaluation and advocacy efforts related to the state and federal plans to restore the San Francisco Bay-Delta ecosystem, technical and project management support to all sections of the department, legislative and policy review and development, and special projects assigned by the Department Director. Water Resources Planning Division administers the District's licenses, permits and agreements for current water supplies and hydropower facilities; conducts water resource modeling and analyses to support operations and planning; performs hydrologic and hydraulic analysis of the District's facilities; and prepares reports and implements plans needed to comply with state and federal regulations related to water resources management. Water Supply Improvements Division plans and implements supplemental supply and recycling projects needed to meet current and future needs.

FY20 & FY21 GOALS

The department has primary responsibility for the Long-Term Water Supply Strategic Plan goal. Key department goals include:

- Continuing collaborative partnerships for ensuring dry-year water supply with emphasis on a long-term water transfer agreement with Placer County Water Agency, potential participation in an expanded Los Vaqueros Reservoir project, development of a Groundwater Banking Demonstration project with San Joaquin County, and water supply reliability partnerships in the Bay Area;
- Initiating development of a Groundwater Sustainability Plan for the East Bay Plain;
- Continuing to evaluate use of recycled water to further reduce demand on Mokelumne River and East Bay water supplies;
- Participating in State Water Resources Control Board (SWRCB) hearings on the California Water Fix and the Water Quality Control Plan; and
- Continuing collaborative partnerships with upcountry agencies, resources agencies, and SWRCB to coordinate long-term water supply planning.

DEPARTMENT BUDGET SUMMARY (WRD)

The department's projected spending is compared to prior years in the table below.

Category (\$ Thousands)	FY18	FY19	FY20		FY21	
	Actuals	Budget	Budget	% Chg	Budget	% Chg
Total Labor and Benefits	8,417	8,814	8,607	-2.4%	8,639	0.4%
Less: Capital Labor and Benefits	(2,116)	(1,664)	(1,866)	12.1%	(1,880)	0.8%
Operating Labor and Benefits	6,301	7,150	6,741	-5.7%	6,759	0.3%
Contract Services	494	200	410	105.0%	335	-18.3%
Other Costs	1,449	1,684	1,781	5.8%	1,805	1.4%
Operating Total	8,244	9,034	8,932	-1.1%	8,899	-0.4%

BUDGET HIGHLIGHTS

The department's operating budget in FY20 is decreasing \$0.1 million or 1.1 percent compared to FY19. In FY21, the budget will decrease \$0.03 million or 0.4 percent compared to the prior fiscal year. Significant budget changes include:

FY20

Total labor and benefit costs are decreasing \$0.2 million primarily due to a slower than projected rise in benefits cost. Capital labor and benefit costs are increasing \$0.2 million due to a higher portion of labor allocated to capital projects related to compliance with state and federal regulations. Contract services costs are increasing \$0.2 million to develop a Historical Properties Management Plan (HPMP), and to update the Bay-Delta Water Quality Control Plan. Other costs are increasing \$0.1 million due to necessary project models for dam safety training, and the District's share of payments to the joint Dublin San Ramon Services District/EBMUD Recycled Water Authority (DERWA) for recycled water use.

FY21

Total labor and benefit costs will increase \$0.03 million due to scheduled salary step increases. Contract services costs will decrease \$0.08 million due to work completed on the HPMP. Other costs will increase \$0.02 million primarily due to the District's share of payments to DERWA for recycled water use.

STAFFING SUMMARY

The table below summarizes the staffing changes and transfers that have occurred among departments.

Position Type	FY18	FY19	FY20	FTE Chg	FY21	FTE Chg
Full-Time	36.0	36.0	37.0	1.0	37.0	0.0
Limited-Term / Temp Construction	0.0	0.0	1.0	1.0	1.0	0.0
Intermittent	0.0	0.0	0.0	0.0	0.0	0.0
Temporary / Part-Time	0.5	0.5	0.0	(0.5)	0.0	0.0
Total FTE	36.5	36.5	38.0	1.5	38.0	0.0

STAFFING CHANGES

The table below summarizes the FTE changes excluding transfers among departments. The net change in cost represents the difference between the annual salary at the top step including benefits for the existing highest job classification versus the highest classification for the change.

FY	Action	From Classification(s)	To Classification(s)	Cost Chg	FTE Chg	Project/Program
2020	Flex Class & Character	(PT) Engineering Aide	(LT) Junior Engineer / (PT) Engineering Aide	127,289	0.5	Bridge classification to create pipeline of qualified candidates
FY20 Total				127,289	0.5	

In FY20, the department is converting one part-time FTE to a limited-term FTE to bridge the Engineering Aide and Junior Engineer classifications in order to create a pipeline of qualified candidates.

NATURAL RESOURCES DEPARTMENT (NRD)

OVERVIEW

The Natural Resources Department develops and implements plans, policies and programs necessary to manage over 50,000 acres of water, watershed lands and related facilities. The department develops and implements programs for water quality, environmental protection and public recreation on these lands, and the reservoirs, rivers and streams within them.

DESCRIPTION OF SERVICES PROVIDED

The department includes the East Bay Watershed and Recreation, Mokelumne Watershed and Recreation, Fisheries and Wildlife, and Natural Resources Administration divisions. Both the East Bay and Mokelumne Watershed and Recreation divisions, manage and protect the local and upcountry watershed lands owned by EBMUD, including overseeing environmental, recreation, and public education programs. The Fisheries and Wildlife Division develops and maintains the scientific information necessary to manage and protect wildlife and fisheries on EBMUD-owned lands and the Lower Mokelumne River fishery, conducts monitoring to comply with water right agreements, provides biological support for capital projects, and responds to service area water discharge incidents. The Natural Resources Administration Division supports all divisions with planning, grant administration, budgeting, regional collaborations and initiatives, and special projects as assigned by the Department Director.

FY20 & FY21 GOALS

The department has a key role in the Water Quality and Environmental Protection Strategic Plan goal. Key department goals include:

- Implementing the water quality protection, environmental stewardship and recreation and public use programs consistent with the East Bay and Mokelumne Watershed Master Plans;
- Continuing to build on the successful fishery program for the Mokelumne River including expansion of the science programs on outmigration survival, juvenile barging, hatchery genetics management and working collaboratively with public organization, non-profit, and local landowner partners along the lower Mokelumne River;
- Developing the San Leandro Creek Management Plan;
- Participating and collaborating in addressing forest health issues in the Mokelumne watershed; and
- Partnering with the Operations and Maintenance Department in ongoing water quality monitoring in the Mokelumne watershed.

DEPARTMENT BUDGET SUMMARY (NRD)

The department's projected spending is compared to prior years in the table below.

Category (\$ Thousands)	FY18	FY19	FY20		FY21	
	Actuals	Budget	Budget	% Chg	Budget	% Chg
Total Labor and Benefits	10,090	10,229	10,352	1.2%	10,570	2.1%
Less: Capital Labor and Benefits	(134)	(15)	(66)	348.0%	(67)	0.7%
Operating Labor and Benefits	9,957	10,215	10,286	0.7%	10,504	2.1%
Contract Services	2,474	3,020	3,064	1.4%	3,132	2.2%
Other Costs	3,415	3,570	3,619	1.4%	3,706	2.4%
Operating Total	15,845	16,805	16,970	1.0%	17,341	2.2%

BUDGET HIGHLIGHTS

The department's operating budget in FY20 is increasing \$0.2 million or 1.0 percent compared to FY19. In FY21, the budget will increase \$0.4 million or 2.2 percent compared to the prior fiscal year. Significant budget changes include:

FY20

Total labor and benefit costs are increasing \$0.1 million, while operating labor and benefits are increasing by a smaller amount primarily due to scheduled salary step increases, and a higher portion of labor allocated to capital for environmental surveying and monitoring. Contract services costs are increasing \$0.04 million primarily due to public safety services provided by the East Bay Regional Park District Police and Amador and Calaveras County Sheriff's Department. Other costs are increasing \$0.05 million primarily due to increased costs for the California Department of Fish and Game to operate the Mokelumne River Fish Hatchery.

FY21

Total labor and benefit costs will increase \$0.2 million due to scheduled salary step increases. Contract services costs will increase \$0.07 million due to anticipated increases for watershed security contracts. Other costs will increase \$0.09 million due to the hatchery operations agreement with the California Department of Fish and Game.

STAFFING SUMMARY

The table below summarizes the staffing changes and transfers that have occurred among departments.

Position Type	FY18	FY19	FY20	FTE Chg	FY21	FTE Chg
Full-Time	66.0	66.0	64.0	(2.0)	64.0	0.0
Limited-Term / Temp Construction	0.0	0.0	0.0	0.0	0.0	0.0
Intermittent	0.0	0.0	0.0	0.0	0.0	0.0
Temporary / Part-Time	2.5	2.5	2.5	0.0	2.5	0.0
Total FTE	68.5	68.5	66.5	(2.0)	66.5	0.0

ENGINEERING AND CONSTRUCTION DEPARTMENT (ENG)

OVERVIEW

The Engineering and Construction Department is responsible for developing plans, policies and programs that assure the availability of adequate physical facilities to meet future water service needs. These responsibilities include water system capital program implementation, infrastructure management, system expansions, and facility improvements. The department provides technical leadership and innovation in engineering, construction, research and development, and operational efficiency improvements.

DESCRIPTION OF SERVICES PROVIDED

The department includes Water Distribution Planning, Design, Construction, Pipeline Infrastructure, and Engineering Services divisions. Services include planning, design, and construction management and inspection of water system capital projects. Support services include cost estimating, contract specifications preparation, bid and award management, surveying, mapping, graphic design, hydraulic modeling, geotechnical engineering, materials testing, engineering records storage and engineering support to other departments.

FY20 & FY21 GOALS

The department is primarily responsible for leading the Long-Term Infrastructure Investment goal and providing a supporting role to all other goals identified in the Strategic Plan. Key department goals include:

- Developing and maintaining coordinated master plans;
- Implementing the CIP based on priorities identified in the plans;
- Continuing support for the ramp-up of planned distribution pipeline infrastructure renewals;
- Planning, designing and overseeing the construction of improvements at the District's WTPs identified in a recent comprehensive assessment to ensure high quality water continues to be delivered to customers; and
- Supporting the implementation and use of information technologies that improve the efficiency and effectiveness of business processes, such as geospatial tools and radio frequency identification.

DEPARTMENT BUDGET SUMMARY (ENG)

The department's projected spending is compared to prior years in the table below.

Category (\$ Thousands)	FY18	FY19	FY20		FY21	
	Actuals	Budget	Budget	% Chg	Budget	% Chg
Total Labor and Benefits	51,015	57,614	56,990	-1.1%	57,607	1.1%
Less: Capital Labor and Benefits	<u>(34,664)</u>	<u>(38,777)</u>	<u>(37,932)</u>	-2.2%	<u>(38,153)</u>	0.6%
Operating Labor and Benefits	16,351	18,837	19,058	1.2%	19,454	2.1%
Contract Services	135	160	169	5.8%	167	-1.0%
Other Costs	<u>1,051</u>	<u>1,153</u>	<u>1,398</u>	21.2%	<u>1,403</u>	0.4%
Operating Total	17,537	20,150	20,625	2.4%	21,024	1.9%

BUDGET HIGHLIGHTS

The department's operating budget in FY20 is increasing \$0.5 million or 2.4 percent compared to FY19. In FY21, the budget will increase \$0.4 million or 1.9 percent compared to the prior fiscal year. Significant budget changes include:

FY20

Total labor and benefit costs are decreasing \$0.6 million despite funding additional positions to support the ramp-up of the Pipeline Rebuild Program which are offset by savings taken to account for time required to fill positions and a slower than projected rise in benefits cost. Capital labor and benefit costs are decreasing \$0.8 million primarily due to a shift from capital labor to operating. Contract services are increasing \$0.01 million primarily due to regulatory requirements for Moraga Creek. Other costs are increasing \$0.2 million primarily due to software licenses and the state Division of Safety of Dams (DSOD) fees.

FY21

Total labor and benefit costs will increase \$0.6 million primarily due to scheduled salary step increases. Other costs will increase \$0.01 million primarily due to higher fees for DSOD.

STAFFING SUMMARY

The below table summarizes the staffing changes and transfers that have occurred among departments.

Position Type	FY18	FY19	FY20	FTE Chg	FY21	FTE Chg
Full-Time	257.0	257.0	272.0	15.0	272.0	0.0
Limited-Term / Temp Construction	15.0	14.0	9.0	(5.0)	9.0	0.0
Intermittent	0.0	0.0	0.0	0.0	0.0	0.0
Temporary / Part-Time	4.5	4.5	4.5	0.0	4.5	0.0
Total FTE	276.5	275.5	285.5	10.0	285.5	0.0

STAFFING CHANGES

The table below summarizes the FTE changes excluding transfers among departments. The net change in cost represents the difference between the annual salary at the top step including benefits for the existing highest job classification versus the highest classification for the change.

FY	Action	From Classification(s)	To Classification(s)	Cost Chg	FTE Chg	Project/Program
2020	Add		Associate Civil Engineer	234,530	1.0	Pipeline Rebuild
2020	Add		Associate Civil Engineer	234,530	1.0	
2020	Add		Engineering Designer II / I	187,746	1.0	
2020	Add		Engineering Designer II / I	187,746	1.0	
2020	Add		Engineering Designer II / I	187,746	1.0	
2020	Add		Materials Testing Technician II / I	150,375	1.0	
2020	Add		Construction Inspector	187,746	1.0	
2020	Add		Construction Inspector	187,746	1.0	
2020	Add		Chief of Party	192,521	1.0	
2020	Add		Survey Technician II / I	165,982	1.0	
2020	Delete	(TC) Senior Construction Inspector / (TC) Construction Inspector		(207,202)	(1.0)	Wildcat Pipeline; Alameda Crossings
2020	Delete	(TC) Assistant Engineer / (TC) Junior Engineer / (TC) Senior Construction Inspector		(212,411)	(1.0)	Faria Project; Orinda WTP Reliability and Maintenance
2020	Add		(TC) Senior Construction Inspector / (TC) Construction Inspector	207,202	1.0	Alameda Crossings; Reservoir Rehabilitation
2020	Add		(TC) Assistant Engineer / (TC) Junior Engineer / (TC) Senior Construction Inspector	212,411	1.0	

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FY	Action	From Classification(s)	To Classification(s)	Cost Chg	FTE Chg	Project/Program
2020	Delete	(TC) Associate Civil Engineer / (TC) Associate Electrical Engineer / (TC) Associate Mechanical Engineer		(234,530)	(1.0)	Faria Project; Orinda WTP Reliability and Maintenance
2020	Delete	(TC) Supervising Construction Inspector		(228,729)	(1.0)	
2020	Delete	(TC) Assistant Engineer / (TC) Junior Engineer / (TC) Senior Construction Inspector		(212,411)	(1.0)	
2020	Add		(TC) Associate Civil Engineer / (TC) Associate Electrical Engineer / (TC) Associate Mechanical Engineer	234,530	1.0	Orinda WTP Disinfection Improvement; Pumping Plant Rehabilitation
2020	Add		(TC) Supervising Construction Inspector	228,729	1.0	
2020	Add		(TC) Assistant Engineer / (TC) Junior Engineer / (TC) Senior Construction Inspector	212,411	1.0	
2020	Delete	(LT) Senior Construction Inspector / (LT) Construction Inspector		(207,202)	(1.0)	Pumping Plant Rehabilitation; Reservoir Rehabilitation
2020	Add		(LT) Senior Construction Inspector / (LT) Construction Inspector	207,202	1.0	Orinda WTP Disinfection Improvement; Pumping Plant Rehabilitation; Reservoir Rehabilitation
2020	Delete	(LT) Construction Inspector / (LT) Senior Construction Inspector		(187,746)	(1.0)	Applicant Pipeline Extensions and / or Relocations
2020	Delete	(TC) Construction Inspector		(187,746)	(1.0)	Faria Pipelines; Pipeline Rebuild
2020	Add		(LT) Construction Inspector / (LT) Senior Construction Inspector	187,746	1.0	Pipeline Rebuild; Applicant Pipeline
2020	Add		(TC) Construction Inspector	187,746	1.0	Extensions and / or Relocations

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FY	Action	From Classification(s)	To Classification(s)	Cost Chg	FTE Chg	Project/Program
2020	Convert	(TC) Assistant Engineer	Assistant Engineer	0	0.0	Convert to baseline work due to success of Commissioning Group Pilot
2020	Convert	(TC) Assistant Engineer / (TC) Junior Engineer / (TC) Senior Construction Inspector	Assistant Engineer / Junior Engineer / Senior Construction Inspector	0	0.0	
2020	Convert	(TC) Associate Electrical Engineer / (TC) Assistant Engineer / (TC) Junior Engineer	Associate Electrical / Civil / Mechanical / Control System Engineer / Assistant Engineer / Junior Engineer	0	0.0	
2020	Convert	(LT) Materials Inspector / (LT) Senior Construction Inspector / (LT) Construction Inspector	Materials Inspector / Senior Construction Inspector / Construction Inspector	0	0.0	Pipeline Rebuild; Applicant Pipeline Extensions and / or Relocations;
2020	Convert	(LT) Materials Inspector / (LT) Senior Construction Inspector / (LT) Construction Inspector	Materials Inspector / Senior Construction Inspector / Construction Inspector	0	0.0	Pumping Plant Rehabilitation; Reservoir Rehabilitation
FY20 TOTAL				1,916,668	10.0	

In FY20, the department is adding ten FTEs in support of the Pipeline Rebuild Program.

Three temporary construction FTEs and two limited-term FTEs are converted to full-time FTEs due to the successful pilot of the Commissioning Group and an increase in material inspection baseline work.

Six temporary construction FTEs and two limited-term FTEs will be deleted due to completion of work, and six temporary construction FTEs and two limited-term FTEs are being added to support various capital projects which net to a zero change in FTEs.

OFFICE OF THE GENERAL MANAGER (GEN)

OVERVIEW

The Office of the General Manager manages the overall operations of the District and implements the policies and priorities of the elected Board of Directors with an emphasis on effectively communicating with all stakeholders and advancing EBMUD's policy objectives with the state legislature and congress.

DESCRIPTION OF SERVICES PROVIDED

The department includes the Office of the General Manager, Inter-Governmental Affairs, Public Affairs and the Office of the Secretary. The Office of the General Manager provides several District-wide functions including: legislative and intergovernmental agency advocacy; public and community education and outreach; support to the Board of Directors and District-wide records management, including managing responses to public records requests.

FY20 & FY21 GOALS

The department supports all six Strategic Plan goals. Key department goals include:

- Providing cross-departmental direction to cohesively and effectively manage District operations and implement Board policies and priorities;
- Supporting EBMUD's water and wastewater program goals through engaging and communicating with the public and employees about District operations and infrastructure, Board policy proposals and decisions, and stewardship of the District's natural, financial and human resources;
- Educating stakeholders on the need for a generational investment in infrastructure and on other District priorities as expressed through the District's Strategic Plan goals and objectives; and
- Supporting EBMUD's water and wastewater program goals through legislative efforts to advance EBMUD's policy objectives, acquire state and federal funding and proactively influence legislation through active outreach and customer education.

DEPARTMENT BUDGET SUMMARY (GEN)

The department's projected spending is compared to prior years in the table below.

Category (\$ Thousands)	FY18	FY19	FY20		FY21	
	Actuals	Budget	Budget	% Chg	Budget	% Chg
Total Labor and Benefits	4,938	5,577	5,616	0.7%	5,630	0.3%
Less: Capital Labor and Benefits	-	-	-	0.0%	-	0.0%
Operating Labor and Benefits	4,938	5,577	5,616	0.7%	5,630	0.3%
Contract Services	160	125	222	77.4%	146	-34.0%
Other Costs	494	1,077	588	-45.4%	1,094	86.2%
Operating Total	5,592	6,779	6,426	-5.2%	6,871	6.9%

BUDGET HIGHLIGHTS

The department's operating budget in FY20 is decreasing \$0.4 million or 5.2 percent compared to FY19. In FY21, the budget will increase \$0.4 million or 6.9 percent compared to the prior fiscal year. Significant budget changes include:

FY20

Total labor and benefit costs are increasing \$0.04 million primarily due to funding an additional position which is offset by a slower than projected rise in benefit costs. Contract services are increasing \$0.1 million due to the District-wide customer survey which occurs in the first year of the biennial budget. Other costs are decreasing \$0.5 million primarily due to Board election fees charged by the counties to participate in the ballot process which occurs in the second year of the biennial budget.

FY21

Total labor and benefit costs will increase \$0.01 million due to scheduled salary step increases. Contract services will decrease \$0.08 million due to the District-wide customer survey expense which occurred in the prior fiscal year. Other costs will increase \$0.5 million due to the Board election fees mentioned above which occur in the second year of the budget.

STAFFING SUMMARY

The table below summarizes the staffing changes and transfers that have occurred among departments.

Position Type	FY18	FY19	FY20	FTE Chg	FY21	FTE Chg
Full-Time	25.0	25.0	26.0	1.0	26.0	0.0
Limited-Term / Temp Construction	0.0	0.0	0.0	0.0	0.0	0.0
Intermittent	0.0	0.0	0.0	0.0	0.0	0.0
Temporary / Part-Time	0.5	0.5	0.5	0.0	0.5	0.0
Total FTE	25.5	25.5	26.5	1.0	26.5	0.0

STAFFING CHANGES

The table below summarizes the FTE changes excluding transfers among departments. The net change in cost represents the difference between the annual salary at the top step including benefits for the existing highest job classification versus the highest classification for the change.

FY	Action	From Classification(s)	To Classification(s)	Cost Chg	FTE Chg	Project/Program
2020	Flex Class	Special Assistant III	Special Assistant I / II / III	0	0.0	Legislative Affairs
FY20 TOTAL				0	0.0	

In FY20, one full-time FTE was reassigned to the Inter-Governmental Affairs Office from the Wastewater Inflow & Infiltration Program.

FINANCE DEPARTMENT (FIN)

OVERVIEW

The Finance Department is responsible for providing proactive and strategic management of District finances and ensuring the long-term financial stability of the District. These responsibilities include managing the finances to meet funding needs, ensuring adequate internal financial controls, reporting financials timely and accurately, managing the budget efficiently, implementing reasonable rates and charges, optimizing investment of cash funds, maintaining good standing in the credit markets, and engaging actively with external stakeholders to promote fiscal transparency and accountability.

DESCRIPTION OF SERVICES PROVIDED

The department includes Accounting, Budget Office, Internal Audit, Treasury Operations, Purchasing, and Risk Management divisions. It provides a range of financial services including accounts payable and payroll, financial reporting, biennial budget management, grant administration, strategic planning coordination, debt management, credit rating agency and investor relations, rates and charges, investment of funds, procurement and supply chain management, liability and workers compensation claim management, insurance procurement, and internal controls. The department also supports the District's Employee Retirement System with respect to investment management.

FY20 & FY21 GOALS

The department supports all six Strategic Plan goals but is primarily responsible for leading the Long-Term Financial Stability Strategic Plan goal. Key department goals include:

- Developing a long-range financing plan;
- Developing the biennial budget for FY20 and FY21;
- Developing the FY20 and FY21 rates, fees, and charges;
- Increasing fiscal transparency and accountability in financial reporting; and
- Replacing aging financial, materials management, and payroll information computer systems.

DEPARTMENT BUDGET SUMMARY (FIN)

The department's projected spending is compared to prior years in the table below.

Category (\$ Thousands)	FY18	FY19	FY20		FY21	
	Actuals	Budget	Budget	% Chg	Budget	% Chg
Total Labor and Benefits	15,412	18,175	18,244	0.4%	18,478	1.3%
Less: Capital Labor and Benefits	(506)	-	(1,778)	0.0%	(1,829)	2.9%
Operating Labor and Benefits	14,906	18,175	16,466	-9.4%	16,649	1.1%
Contract Services	1,021	1,466	1,388	-5.4%	1,439	3.7%
Other Costs	<u>6,931</u>	<u>9,908</u>	<u>8,681</u>	-12.4%	<u>9,111</u>	4.9%
Operating Total	22,858	29,549	26,535	-10.2%	27,200	2.5%

BUDGET HIGHLIGHTS

The department's operating budget in FY20 is decreasing \$3.0 million or 10.2 percent compared to FY19. In FY21, the budget will increase \$0.7 million or 2.5 percent compared to the prior fiscal year. Significant budget changes include:

FY20

Capital labor and benefit costs are increasing \$1.8 million primarily to fund additional positions for the financial/materials management information computer system (FIS/MMIS) replacement project. Operating labor and benefit costs are decreasing \$1.7 million primarily due to a shift from operating to capital and a slower than projected rise in benefits cost. Contract services are decreasing \$0.08 million primarily due to the new copiers which require less maintenance costs. Other costs are decreasing \$1.25 million for self-insured liability claims and workers' compensation claims based on multi-year prior trends, and the Wastewater System budgeting for their portion of insurance premiums.

FY21

Total labor and benefit costs will increase \$0.2 million primarily due to scheduled salary step increases and overtime for implementation of the FIS/MMIS replacement project. Contract services will increase \$0.05 million primarily due to worker's compensation third-party administration, and office and print shop equipment maintenance costs. Other costs will increase \$0.4 million for self-insured liability claims and workers' compensation claims.

STAFFING SUMMARY

The table below summarizes the staffing changes and transfers that have occurred among departments.

Position Type	FY18	FY19	FY20	FTE Chg	FY21	FTE Chg
Full-Time	98.0	98.0	101.0	3.0	101.0	0.0
Limited-Term / Temp Construction	1.0	1.0	1.0	0.0	1.0	0.0
Intermittent	0.0	0.0	0.0	0.0	0.0	0.0
Temporary / Part-Time	0.5	0.5	0.5	0.0	0.5	0.0
Total FTE	99.5	99.5	102.5	3.0	102.5	0.0

STAFFING CHANGES

The table below summarizes the FTE changes excluding transfers among departments. The net change in cost represents the difference between the annual salary at the top step including benefits for the existing highest job classification versus the highest classification for the change.

FY	Action	From Classification(s)	To Classification(s)	Cost Chg	FTE Chg	Project/Program
2020	Flex Class & Character	Administrative Clerk / Senior Administrative Clerk	(LT) Info Syst Support Analyst II / Administrative Clerk	81,827	0.0	FIS / MMIS Replacement Project
2020	Flex Class & Character	Administrative Clerk	(LT) Info Syst Support Analyst II / Administrative Clerk	81,827	0.0	
2020	Flex Class & Character	Ranger Naturalist II / I	(LT) Info Syst Support Analyst II / Ranger Naturalist II / I	9,728	0.0	
FY20 TOTAL				173,382	0.0	

In FY20, three authorized FTEs are temporarily reallocated to support the FIS/MMIS computer replacement project currently underway. These FTEs are required to streamline business processes as part of the implementation of the new computer system.

INFORMATION SYSTEMS DEPARTMENT (ISD)

OVERVIEW

The Information Systems Department is responsible for planning, acquiring, developing, deploying, operating, and maintaining information technology and services in support of District functions. These responsibilities include providing security and recoverability for business systems and data critical to the operations of the District.

DESCRIPTION OF SERVICES PROVIDED

The department includes the IT Applications, IT Operations, and IT Security divisions. Together, these divisions support the lifecycle of the District's technology and communication needs including initial planning, acquisition, development, deployment, and ongoing maintenance. The department also supports: desktop, mobile, and cloud computing; remote access; network connectivity; telephone, radio, and microwave communications; application development and integration for a wide range of business functions; risk identification in computing and network environments; guidance to ensure District systems and data are properly secured and available; and planning to ensure business continuity of District computing resources.

FY20 & FY21 GOALS

The department has a key role in the Long-Term Financial Stability Strategic Plan goal. Key department goals include:

- Ensuring maintenance and project work is performed in a manner that supports the achievement of goals outlined in the IT Master Plan;
- Completing planning and beginning implementation of projects to replace the human resources and work management systems;
- Implementing a new financial information system, including procurement and warehousing;
- Implementing a new laboratory information management system; and
- Implementing the IT Governance FY20-21 Project Portfolio.

DEPARTMENT BUDGET SUMMARY (ISD)

The department's projected spending is compared to prior years in the table below.

Category (\$ Thousands)	FY18	FY19	FY20		FY21	
	Actuals	Budget	Budget	% Chg	Budget	% Chg
Total Labor and Benefits	20,622	21,754	21,019	-3.4%	21,172	0.7%
Less: Capital Labor and Benefits	(570)	(160)	-	-100.0%	-	0.0%
Operating Labor and Benefits	20,051	21,594	21,019	-2.7%	21,172	0.7%
Contract Services	1,044	1,470	2,325	58.1%	2,182	-6.2%
Other Costs	7,081	7,586	7,059	-6.9%	8,077	14.4%
Operating Total	28,176	30,650	30,403	-0.8%	31,430	3.4%

BUDGET HIGHLIGHTS

The department's operating budget in FY20 is decreasing \$0.2 million or 0.8 percent compared to FY19. In FY21, the budget will increase \$1.0 million or 3.4 percent compared to the prior fiscal year. Significant budget changes include:

FY20

Total labor and benefit costs are decreasing \$0.7 million primarily due to fewer funded positions. Contract services are increasing \$0.9 million primarily due to centralizing District-wide IT resources in a single department. Other costs are decreasing \$0.5 million due to available equipment replacement funds (ERF) which will be used to purchase ongoing computer equipment replacement.

FY21

Total labor and benefit costs will increase \$0.2 million primarily due to scheduled salary step increases. Contract services will decrease \$0.1 million primarily due to savings from the WiFi rollout to field staff which will occur in FY20. Other costs will increase \$1.0 million to replenish the ERF for future ongoing computer equipment replacement, and for upgrading Microsoft Office software.

STAFFING SUMMARY

The table below summarizes the staffing changes and transfers that have occurred among departments.

Position Type	FY18	FY19	FY20	FTE Chg	FY21	FTE Chg
Full-Time	94.0	95.0	92.0	(3.0)	92.0	0.0
Limited-Term / Temp Construction	2.0	2.0	2.0	0.0	2.0	0.0
Intermittent	0.0	0.0	0.0	0.0	0.0	0.0
Temporary / Part-Time	0.0	0.0	0.0	0.0	0.0	0.0
Total FTE	96.0	97.0	94.0	(3.0)	94.0	0.0

STAFFING CHANGES

The table below summarizes the FTE changes followed by a brief description. The net change in cost represents the difference between the annual salary at the top step including benefits for the existing highest job classification versus the highest classification for the change.

FY	Action	From Classification(s)	To Classification(s)	Cost Chg	FTE Chg	Project/Program
2020	Flex Class	(LT) Inform Technology Intern II	(LT) Info Syst Support Analyst II / (LT) Inform Technology Intern II / (LT) ISSA I	69,317	0.0	Workload efficiencies
FY20 TOTAL				69,317	0.0	

In FY20, the department is temporarily reassigning a career intern to assist with the procurement of hardware and software, and asset management activities.

CUSTOMER AND COMMUNITY SERVICES DEPARTMENT (CUS)

OVERVIEW

The Customer and Community Services Department provides quality, responsive customer service through the use of efficient business practices, technology, and value-added programs and services to District customers and stakeholders guided by fairness, consistency, efficiency, and high standards of professionalism and fiscal responsibility.

DESCRIPTION OF SERVICES PROVIDED

The department includes the Contact Center, Field Services, Customer Services Support, New Business Office, Water Conservation, Real Estate Services, and Contract Equity divisions. These divisions are the direct interface for external customers and internal stakeholders to support billing, payment, and service inquiries; field service operation requests; customer programs and services; Customer Information System administration, maintenance, systems integration and support; water conservation services and assistance; new service and development requests; property management and land acquisitions; mail distribution and payment processing; and promote equity and opportunities for District contracts and procurement.

FY20 & FY21 GOALS

The department is primarily responsible for the Customer and Community Services Strategic Plan goal. Key department goals include:

- Providing responsive, quality service to meet and/or exceed customer expectations;
- Promoting programs and services that support or benefit the community, residents, and businesses;
- Updating the District's website to improve customer self-service capabilities and enhance the customer experience;
- Implementing a Water Conservation Management System to improve the efficiency of water conservation programs and customer accessibility to the programs;
- Locking in water efficiency gains and savings by promoting water conservation programs and services to all customer sectors, and community and business partners;
- Expanding the leasing program by leveraging land assets and developing a long-term real estate utilization plan to enhance business operations; and
- Promoting contract education and growing contract equity opportunities.

DEPARTMENT BUDGET SUMMARY (CUS)

The department's projected spending is compared to prior years in the table below.

Category (\$ Thousands)	FY18	FY19	FY20		FY21	
	Actuals	Budget	Budget	% Chg	Budget	% Chg
Total Labor and Benefits	18,971	20,540	19,837	-3.4%	20,187	1.8%
Less: Capital Labor and Benefits	(2,226)	(2,364)	(314)	-86.7%	(324)	3.2%
Operating Labor and Benefits	16,744	18,176	19,523	7.4%	19,863	1.7%
Contract Services	244	349	271	-22.4%	353	30.5%
Other Costs	2,946	3,541	2,956	-16.5%	3,035	2.7%
Operating Total	19,934	22,066	22,749	3.1%	23,251	2.2%

BUDGET HIGHLIGHTS

The department's operating budget in FY20 is increasing \$0.7 million or 3.1 percent compared to FY19. In FY21, the budget will increase \$0.5 million or 2.2 percent compared to the prior fiscal year. Significant budget changes include:

FY20

Total labor and benefit costs are decreasing \$0.7 million primarily due to employees with lower starting salaries than employees they replaced and a slower than projected rise in benefits cost. Capital labor and benefit costs are decreasing \$2.1 million due to a shift of ongoing water conservation efforts to operating. Operating labor and benefit costs are increasing but are offset by the lower starting salaries and the slower than projected rise in benefits cost. Contract services are decreasing \$0.08 million primarily due to the District-wide centralization of IT-related contracts. Other costs are decreasing \$0.6 million primarily due to lower vehicle use charges (VUC) and printing and distribution cost for Proposition 218 which occur in the second year of the biennial budget.

FY21

Total labor and benefit costs will increase \$0.4 million primarily due to scheduled salary step increases. Contract services are increasing \$0.08 million due to check payment processing maintenance support. Other costs will increase \$0.08 million primarily for Proposition 218 notice costs.

STAFFING SUMMARY

The table below summarizes the transfers that have occurred among departments. There are no other staffing changes.

Position Type	FY18	FY19	FY20	FTE Chg	FY21	FTE Chg
Full-Time	124.0	123.0	125.0	2.0	125.0	0.0
Limited-Term / Temp Construction	0.0	0.0	0.0	0.0	0.0	0.0
Intermittent	3.0	3.0	3.0	0.0	3.0	0.0
Temporary / Part-Time	13.5	13.5	13.5	0.0	13.5	0.0
Total FTE	140.5	139.5	141.5	2.0	141.5	0.0

HUMAN RESOURCES DEPARTMENT (HRD)

OVERVIEW

The Human Resources Department recruits, develops, and retains a diverse, well-qualified and professional workforce that reflects the values of EBMUD, supports the District's core mission, and leads the organization in positive employee relations, talent management, succession planning and employee engagement.

DESCRIPTION OF SERVICES PROVIDED

The department is comprised of Diversity and Inclusion, Employee Relations, Employee Services, Recruitment and Classification, and Employee and Organizational Development divisions. These divisions administer the District's retirement system, deferred compensation programs and employee benefits; provide guidance to effectively resolve grievances, as well as facilitate labor contract negotiations; implement training and development opportunities to support leadership and managerial skill enhancement; administer a performance recognition program that acknowledges employee contributions toward meeting District goals; steward a "grow our own" strategy to address skills shortages by developing employees to meet workforce demands; respond to discrimination and harassment complaints; work with the community on outreach efforts to attract a diverse applicant pool; and create and implement workforce development programs to recruit and onboard highly qualified and diverse employees.

FY20 & FY21 GOALS

The department is primarily responsible for leading the Workforce Planning and Development Strategic Plan goal. Key department goals include:

- Coordinating with the District's departments, community organizations and schools to increase diversity in candidates for District jobs including but not limited to internships and apprenticeships;
- Providing Manager and Supervisor Training (MAST) programs that provide the tools leaders need to do their jobs more effectively in a changing business environment;
- Providing team-building, organizational development, and change management assistance to divisions and departments;
- Identifying and implementing a new Human Resource Information System (HRIS) to modernize employee services;
- Completing recruitments in a timely manner to expeditiously fill vacancies;
- Updating the District's job classification descriptions; and
- Continuing to inspire employee engagement in all areas of the District's work to support the mission of the District.

DEPARTMENT BUDGET SUMMARY (HRD)

The department's projected spending is compared to prior years in the table below.

Category (\$ Thousands)	FY18	FY19	FY20		FY21	
	Actuals	Budget	Budget	% Chg	Budget	% Chg
Total Labor and Benefits	8,424	9,475	9,815	3.6%	9,780	-0.4%
Less: Capital Labor and Benefits	(122)	-	(545)	0.0%	(571)	4.8%
Operating Labor and Benefits	8,302	9,475	9,270	-2.2%	9,209	-0.7%
Contract Services	1,499	1,722	1,760	2.2%	1,729	-1.8%
Other Costs	696	758	819	7.9%	857	4.7%
Operating Total	10,497	11,955	11,848	-0.9%	11,794	-0.5%

BUDGET HIGHLIGHTS

The department's operating budget in FY20 is decreasing \$0.1 million or 0.9 percent compared to FY19. In FY21, the operating budget will decrease \$0.05 million or 0.5 percent. Significant budget changes include:

FY20

Total labor and benefit costs are increasing \$0.3 million due to an increase in funded positions to meet workload needs. Capital labor and benefit costs are increasing \$0.5 million due a higher portion of labor allocated to support implementation of the HRIS project. Contract services costs are increasing \$0.04 million primarily due to an audit of dependent coverage on employee benefit plans. Other costs are increasing \$0.06 million primarily due to the tuition reimbursement program, and MAST classes and materials to address required staff training.

FY21

Total labor and benefit costs will decrease \$0.04 million due to a deletion of a limited-term position no longer needed. Contract services costs will decrease \$0.03 million primarily due to completion of the dependent coverage audit.

STAFFING SUMMARY

The table below summarizes the staffing changes and transfers that have occurred among departments.

Position Type	FY18	FY19	FY20	FTE Chg	FY21	FTE Chg
Full-Time	49.0	49.0	48.0	(1.0)	48.0	0.0
Limited-Term / Temp Construction	5.0	6.0	8.0	2.0	8.0	0.0
Intermittent	0.0	0.0	0.0	0.0	0.0	0.0
Temporary / Part-Time	4.5	4.5	4.5	0.0	4.5	0.0
Total FTE	58.5	59.5	60.5	1.0	60.5	0.0

STAFFING CHANGES

The table below summarizes the FTE changes excluding transfers among departments. The net change in cost represents the difference between the annual salary at the top step including benefits for the existing highest job classification versus the highest classification for the change.

FY	Action	From Classification(s)	To Classification(s)	Cost Chg	FTE Chg	Project/Program
2020	Add		(TC) HRIS Analyst II	197,296	1.0	HRIS Project
2020	Add		(TC) Human Resources Analyst II / I	197,296	1.0	HRIS Project
2020	Add		Senior Human Resources Analyst	217,700	1.0	Employee Workforce Development and Values Advocate
2020	Reallocate	(LT) Special Employment Program Trainee (SEP)	(LT) Ranger Naturalist I	49,913	0.0	Create bridge for qualified Ranger Naturalist candidates
2020	Delete	(LT) Senior Human Resources Analyst		(241,890)	(1.0)	LT expired
FY20 TOTAL				420,315	2.0	
2021	Delete	(LT) Administrative Clerk, Conf		(120,188)	(1.0)	Workload efficiencies
FY21 TOTAL				(120,188)	(1.0)	

In FY20, the department is adding two temporary construction FTEs to support the implementation of the HRIS project and one full-time FTE to support workforce development and training, and to support Values Advocate efforts. The reallocation of a limited-term FTE from a Special Employment Program Trainee to a Ranger Naturalist I is needed to create a bridge for qualified Ranger Naturalist candidates. The department is deleting one limited-term FTE as the limited-term status has expired.

In FY21, the department is deleting one limited-term FTE position due to workload efficiencies.

OFFICE OF THE GENERAL COUNSEL (OGC)

OVERVIEW

The Office of the General Counsel (OGC) provides the legal advice and assistance necessary to implement the District's mission, policies, and programs in a manner consistent with the law and to take charge of litigation and other legal matters in which the District is a party or in which it is legally interested.

DESCRIPTION OF SERVICES PROVIDED

The department provides legal assistance and litigation support to the Board, General Manager and staff in such areas as: resources law; municipal and public law; environmental law; public works contracting; construction and real estate law; personnel, benefits, retirement and labor law; risk management and insurance; public finance and governmental law; tort law; and rates, regulations, and public policy matters.

FY20 & FY21 GOALS

Key department goals include:

- Providing the District, its officers, and its employees with competent, responsible, and effective representation in all proceedings in which the District is a party or has an interest, and obtain the best results possible given the facts and law applicable to the specific case;
- Assuring that all documents with legal significance presented to the OGC for review, or are originally prepared by OGC, accomplish the purpose for which they are intended, protect the District from legal risk to the full extent staff considers appropriate for the transaction, and are written in clear and understandable language in an appropriate legal form;
- Providing accurate, clear, and practical oral legal advice that is responsible to the questions and facts presented;
- Providing accurate, clear, and practical written legal memoranda and opinions that are thoroughly researched, timely, and in an appropriately professional form;
- Providing forceful and persuasive advocacy on behalf of the District in non-judicial settings when requested to do so;
- Assuring that all legal services provided to the District are cost-effective, responsive to the directions of the Board, and professionally competent; and
- Adhering to the highest standards of professional conduct and legal ethics including those standards set forth in the Rules of Professional Conduct.

DEPARTMENT BUDGET SUMMARY (OGC)

The department's projected spending is compared to prior years in the table below.

Category (\$ Thousands)	FY18	FY19	FY20		FY21	
	Actuals	Budget	Budget	% Chg	Budget	% Chg
Total Labor and Benefits	3,579	3,944	3,977	0.8%	3,985	0.2%
Less: Capital Labor and Benefits	-	-	-	0.0%	-	0.0%
Operating Labor and Benefits	3,579	3,944	3,977	0.8%	3,985	0.2%
Contract Services	623	750	750	0.0%	750	0.0%
Other Costs	152	235	192	-18.3%	200	4.2%
Operating Total	4,354	4,930	4,920	-0.2%	4,936	0.3%

BUDGET HIGHLIGHTS

The department's operating budget in FY20 is decreasing \$0.01 million or 0.2 percent compared to FY19. In FY21, the budget will increase \$0.02 million or 0.3 percent compared to the prior fiscal year. Significant budget changes include:

FY20

Total labor and benefits are increasing \$0.03 million primarily due to scheduled salary step increases. Other costs are decreasing \$0.04 million due to efficiency savings.

FY21

Total labor and benefits will increase \$0.01 million due to scheduled salary step increases.

STAFFING SUMMARY

The table below summarizes staffing and there are no other changes.

Position Type	FY18	FY19	FY20	FTE Chg	FY21	FTE Chg
Full-Time	16.0	16.0	16.0	0.0	16.0	0.0
Limited-Term / Temp Construction	0.0	0.0	0.0	0.0	0.0	0.0
Intermittent	0.0	0.0	0.0	0.0	0.0	0.0
Temporary / Part-Time	1.0	1.0	1.0	0.0	1.0	0.0
Total FTE	17.0	17.0	17.0	0.0	17.0	0.0

WATER RECYCLING PROGRAM (WRP)

OVERVIEW

The Water Recycling Program develops and implements projects that provide recycled water for appropriate uses by the District and its customers to reduce the demand on high quality drinking water supplies.

DESCRIPTION OF SERVICES PROVIDED

The program operates and maintains the North Richmond Water Reclamation Plant and the Richmond Advance Recycled Expansion (RARE) facility that provide recycled water for use in the Chevron refinery, and the East Bayshore Recycled Water treatment facility that provides recycled water to customers for irrigation applications. While this program is managed and budgeted under the Water System, the Wastewater Department is responsible for the ongoing operations and maintenance of the recycled WTPs.

FY20 & FY21 GOALS

The department supports the Long-Term Water Supply Strategic Plan goal. Key department goals include:

- Continuing to operate and maintain the three recycled water treatment facilities (RARE, North Richmond, and East Bayshore) to meet regulatory standards for recycled water and to maximize the production;
- Maintaining contractual obligations with Chevron; and
- Continuing to offset the use of drinking water for non-potable applications as part of the District's water recycling goal.

DEPARTMENT BUDGET SUMMARY (WRP)

The department's projected spending is compared to prior years in the table below.

Category (\$ Thousands)	FY18	FY19	FY20		FY21	
	Actuals	Budget	Budget	% Chg	Budget	% Chg
Total Labor and Benefits	1,847	1,716	1,806	5.2%	1,803	-0.2%
Less: Capital Labor and Benefits	(4)	-	(4)	0.0%	(4)	0.0%
Operating Labor and Benefits	1,843	1,716	1,802	5.0%	1,799	-0.2%
Contract Services	63	83	92	11.1%	92	0.1%
Other Costs	2,495	3,845	3,926	2.1%	4,045	3.0%
Operating Total	4,400	5,644	5,821	3.1%	5,936	2.0%

BUDGET HIGHLIGHTS

The department's FY20 operating budget is increasing \$0.2 million or 3.1 percent compared to FY19. In FY21, the operating budget will increase \$0.1 million or 2.0 percent. Significant budget changes include:

FY20

Total labor and benefit costs are increasing \$0.09 million primarily due to employees with higher starting salaries than budgeted in the prior fiscal year but are offset by a slower than projected rise in benefits cost. Contract services are increasing \$0.01 million due to RARE membrane process support and training for microfiltration and reverse osmosis systems at RARE Water Treatment Plant. Other costs are increasing \$0.08 million primarily due to discharge fees, parts and materials, chemicals, and energy for the North Richmond Water Reclamation facility which is expected to be operational for the entire fiscal year. The facility had not been operational due to construction at West County Water District which impacted their effluent water quality and made it unsuitable for treatment.

FY21

Other costs will increase \$0.1 million primarily due to discharge fees, chemical, and energy costs.

STAFFING SUMMARY

The table below summarizes staffing and there are no other changes.

Position Type	FY18	FY19	FY20	FTE Chg	FY21	FTE Chg
Full-Time	8.0	8.0	8.0	0.0	8.0	0.0
Limited-Term / Temp Construction	0.0	0.0	0.0	0.0	0.0	0.0
Intermittent	0.0	0.0	0.0	0.0	0.0	0.0
Temporary / Part-Time	0.0	0.0	0.0	0.0	0.0	0.0
Total FTE	8.0	8.0	8.0	0.0	8.0	0.0

ADMINISTRATION DEPARTMENT (ADM)

OVERVIEW

The Administration Department is currently unstaffed, and the functions of the department have been distributed to the Customer and Community Services Department and the Human Resources Department.

DESCRIPTION OF SERVICES PROVIDED

The department has the budget for District-wide memberships in professional and trade organizations.

FY20 & FY21 GOALS

The department does not have any Strategic Plan goals in FY20 and FY21.

DEPARTMENT BUDGET SUMMARY

The department's projected spending is compared to prior years in the table below.

Category (\$ Thousands)	FY18	FY19	FY20		FY21	
	Actuals	Budget	Budget	% Chg	Budget	% Chg
Total Labor and Benefits	-	-	-	0.0%	-	0.0%
Less: Capital Labor and Benefits	-	-	-	0.0%	-	0.0%
Operating Labor and Benefits	-	-	-	0.0%	-	0.0%
Contract Services	-	-	-	0.0%	-	0.0%
Other Costs	344	377	396	5.1%	403	1.9%
Operating Total	344	377	396	5.1%	403	1.9%

BUDGET HIGHLIGHTS

FY20

The department has no personnel or contract budget due to transferring services to other departments. Other costs are increasing due to new memberships and a projected rise in cost for professional dues.

FY21

The District membership budget remains flat.

STAFFING SUMMARY (ADM)

The table below summarizes staffing and there are no other changes.

Position Type	FY18	FY19	FY20	FTE Chg	FY21	FTE Chg
Full-Time	2.0	2.0	2.0	0.0	2.0	0.0
Limited-Term / Temp Construction	0.0	0.0	0.0	0.0	0.0	0.0
Intermittent	0.0	0.0	0.0	0.0	0.0	0.0
Temporary / Part-Time	0.0	0.0	0.0	0.0	0.0	0.0
Total FTE	2.0	2.0	2.0	0.0	2.0	0.0

STAFFING

Appointment Types

The majority of the workforce is comprised of full-time civil service or full-time civil service exempt positions. Limited-term positions are intended to augment regular staff to accomplish extra work or other operational programs or activities of a limited duration, with appointments for a maximum of 4 years. Temporary construction positions are also of a limited and specified duration typically associated with capital projects. Intermittent positions represent the smallest number of appointment types and typically work 32 hours instead of 40 hours per week. Part-time positions are normally restricted to 832 hours per year. Temporary positions are limited to a 6-month duration, and are full-time during that duration.

The table below provides the full-time equivalent (FTE) by department and compares the changes from year-to-year. Depending upon the appointment type, the FTE value will be different. Full-time, limited-term and temporary construction appointment types are equivalent to 1.0 FTE; intermittent appointment types are equivalent to 0.75 FTE; part-time and temporary appointment types are equivalent to 0.5 FTE.

FY20 & FY21 Department Staffing (FTE)					
Department	FY19 Budget	FY20 Budget FTE Chg		FY21 Budget FTE Chg	
Operations & Maintenance Support	56.0	54.0	(2.0)	53.0	(1.0)
Maintenance and Construction	742.5	769.5	27.0	769.5	0.0
Water Operations	186.5	188.75	2.25	187.75	(1.0)
Water Resources	36.5	38.0	1.5	38.0	0.0
Natural Resources	68.5	66.5	(2.0)	66.5	0.0
Engineering & Construction	275.5	285.5	10.0	285.5	0.0
Office of the General Manager	25.5	26.5	1.0	26.5	0.0
Finance	99.5	102.5	3.0	102.5	0.0
Information Systems	97.0	94.0	(3.0)	94.0	0.0
Customer & Community Services	139.5	141.5	2.0	141.5	0.0
Human Resources	59.5	60.5	1.0	60.5	0.0
Office of the General Counsel	17.0	17.0	0.0	17.0	0.0
Water Recycling Program	8.0	8.0	0.0	8.0	0.0
Administration	2.0	2.0	0.0	2.0	0.0
Water System Total	1,813.5	1,854.25	40.75	1,852.25	(2.0)

In FY20, a net total of 40.75 FTEs are being added to the Water System including the transfer of one FTE from the Wastewater Department to the Office of the General Manager.

In FY21, two full-time FTEs will be deleted, one from Human Resources and the second from Water Operations.

For more detail description of staffing changes, please see the specific department section in this chapter.

Bargaining Unit Changes

Tables below show the net change in bargaining unit status of authorized FTEs represented by different unions, management/confidential, non-represented groups, and civil service exempt positions. The tables reflect Board of Directors authorized additions and deletions in FY20 & FY21 and correspond to the staffing changes table in each department.

FY20 vs. FY19 Net Change in Bargaining Unit Status (FTE)							
Department	Local 2019	Local 444	Local 21	Local 39	MGR/ CNF	NRP	EXMPT
Operations & Maintenance Support							
Maintenance and Construction		22	3				
Water Operations	2.25						
Water Resources	0.50						
Natural Resources	(1)						
Engineering & Construction	10						
Office of the General Manager					1		
Finance	2						
Information Systems							
Customer & Community Services							
Human Resources	(1)				2		
Office of the General Counsel							
Water Recycling Program							
Administration							
Total Net Change	12.75	22	3	0	3	0	0

FY21 vs. FY20 Net Change in Bargaining Unit Status (FTE)							
Department	Local 2019	Local 444	Local 21	Local 39	MGR/ CNF	NRP	EXMPT
Operations & Maintenance Support							
Maintenance and Construction							
Water Operations	(1)						
Water Resources							
Natural Resources							
Engineering & Construction							
Office of the General Manager							
Finance							
Information Systems							
Customer & Community Services							
Human Resources					(1)		
Office of the General Counsel							
Water Recycling Program							
Administration							
Total Net Change	(1)	0	0	0	(1)	0	0

DEBT SERVICE AND FINANCING

This section describes the Water System's current and projected debt obligations, current credit ratings, and adherence to the District's debt financing policies.

The District incurs debt to finance projects or purchase, repair or replace assets which will have useful lives equal to or greater than the related debt. Issuance of revenue supported debt is authorized by the Board of Directors, subject to a referendum process. Individual revenue bond issues are authorized by the Board of Directors.

The annual debt service principal and interest payments are charged to the operating budget. However, debt is only issued to finance capital investment activities.

Outstanding Debt

The Water System will have a total outstanding debt of \$2.71 billion as of June 30, 2019. The District's debt issues are summarized on the following page and discussed in detail thereafter.

Outstanding Debt (\$ Thousands)
As of June 30, 2019

Issue	Date of Issue	Last Maturity	Amount Issued	Debt Outstanding
LONG-TERM DEBT				
Revenue Bonds				
Series 2008A	3/20/2008	6/1/2038	322,525	105,250
Series 2010A	2/3/2010	6/1/2036	192,830	2,090
Series 2010B (Build America Bonds)	2/23/2010	6/1/2040	400,000	400,000
Series 2012A	10/10/2012	6/1/2037	191,750	81,750
Series 2012B	11/13/2012	6/1/2026	358,620	178,740
Series 2013A	3/5/2013	6/1/2021	48,670	14,780
Series 2014A	6/11/2014	6/1/2035	128,315	128,315
Series 2014B	6/11/2014	6/1/2030	242,730	216,985
Series 2014C	6/26/2014	6/1/2044	75,000	75,000
Series 2015A	3/3/2015	6/1/2037	429,360	429,360
Series 2015B	6/17/2015	6/1/2045	74,335	74,335
Series 2015C	6/17/2015	6/1/2045	110,715	110,715
Series 2017A	6/22/2017	6/1/2045	185,355	185,355
Series 2017B	6/22/2017	6/1/2037	309,665	297,130
Total Revenue Bonds			3,069,870	2,299,805
General Obligations Bonds			0	0
Loans				
State Loan (parity)	1/1/2003	1/1/2024	2,188	590
State Loan (parity)	5/22/2008	4/1/2028	20,100	10,093
State Loan (parity) ¹	12/14/2017	7/1/2048	18,947	18,947
State Loan (parity) ¹	4/18/2018	7/1/2049	18,042	18,042
Total Loans			59,276	47,671
Total Long-Term Debt			3,129,146	2,347,476
SHORT-TERM DEBT				
Commercial Paper	Various	Various	N/A	359,800
TOTAL OUTSTANDING DEBT				2,707,276

¹ For the 2017 and 2018 state loans, Debt Outstanding represents the amount expected to be outstanding if the loans are fully drawn down by June 30, 2019.

The District plans to issue \$204.5 million in revenue bonds to support capital investment activities in FY20. The budget also includes a second bond issue of \$160.0 million in FY21.

Debt Service

The Water System total outstanding debt of \$2.71 billion as of June 30, 2019 is projected to cost the District \$1.9 billion in interest payments over the next 31 years, as detailed in the table below. The table does not include additional debt expected to be issued at the end of FY19 or the beginning of FY20. The principal payments below do not include the payments of commercial paper principal, as there is no final maturity associated with the notes.

Interest payments on synthetic fixed-rate debt were calculated at their associated swap rates. Interest on commercial paper (CP) are projected at 3.0 percent.

Projected Debt Service on Current Outstanding Debt			
(\$ Thousands)			
Fiscal Year	Principal	Interest	Debt Service
2020	64,983	125,013	189,996
2021	66,978	122,026	189,003
2022	69,778	118,968	188,746
2023	73,119	115,681	188,800
2024	76,321	112,178	188,498
2025	79,913	108,558	188,471
2026	81,503	104,747	186,250
2027	85,509	100,745	186,255
2028	89,667	96,587	186,253
2029	94,080	92,171	186,251
2030	98,719	87,534	186,252
2031	103,618	82,635	186,253
2032	108,578	77,712	186,290
2033	113,778	72,549	186,327
2034	118,948	67,413	186,361
2035	124,334	62,070	186,403
2036	130,205	56,238	186,443
2037	136,651	49,834	186,485
2038	143,818	42,895	186,713
2039	151,490	35,082	186,572
2040	67,638	26,441	94,078
2041	51,531	22,894	74,425
2042	53,949	20,473	74,422
2043	56,488	17,936	74,423
2044	59,067	15,357	74,424
2045	40,616	12,658	53,274
2046	1,486	10,891	12,377
2047	1,512	10,866	12,377
2048	1,537	10,840	12,377
2049	1,157	10,814	11,971
2050	382	10,797	11,179
TOTAL	2,347,348	1,900,604	4,247,952

The debt service in the table above is less than the budgeted debt service because the latter includes:

- Payments on new debt issues in FY20 and FY21, and
- Additional costs for liquidity fees, re-marketing fees, basis spread, and debt service administration.

Debt Ratings

Credit risk is the risk that the issuer of an investment, such as a revenue bond, will not fulfill its obligation to the holder of the investment. Credit ratings are assigned to bonds by Nationally Recognized Statistical Credit Rating Organizations (NRSROs) based on published methodologies. The ratings reflect the organizations' opinions about the issuer's ability and willingness to meet its financial obligations on time and in full.

The District's strong credit ratings provide tangible benefits to ratepayers in the form of reduced debt service cost. A strong credit rating provides better access to capital markets, lower interest rates, better terms on debt, and access to a greater variety of debt products. Prudent financial management policies have contributed to the District's strong ratings shown in the table below.

As of January 1, 2019, ratings on the Water System's debt were as follows:

Water System Debt Ratings			
Debt by Type	Standard & Poor's	Moody's Investors Service	Fitch
Fixed Rate Revenue Bonds	AAA	Aa1	AA+
Variable Rate Revenue Bonds			
Long-term Underlying Rating	AAA	Aa1	--
Short-term Rating	A-1+	VMIG-1	--
Commercial Paper	A-1+	P-1	F1+

Debt Management Policy and Debt Service Coverage

The District is subject to legal debt limits prescribed in the Municipal Utility District (MUD) Act. The MUD Act describes three types of legal limitations: general debt limits, revenue bond limits, and short-term borrowing limits.

The District's general debt indebtedness cannot exceed the ordinary annual income and revenue of the District without a two-thirds approval of the voters. However, revenue bonds are not included in general debt limits.

The District is authorized to issue revenue bonds with the approval of a resolution from the Board of Directors, subject to a 60-day referendum period. The resolution specifies the maximum principal amount of bonds that may be issued pursuant to the authorization. The District's Board of Directors also approves individual series of revenue bonds issued under the broader authorization.

The MUD Act authorizes the District to issue short-term indebtedness without an election of the voters. The amount of short-term borrowing cannot exceed the lesser of 1) the annual average total revenue of the three preceding years or 2) twenty-five percent of the District's total outstanding bonds. This provision is substantially the same as the District's internal policy discussed below.

The District has also established its own policy regarding debt management (Policy 4.02: Cash Reserves and Debt Management – see Appendix). The purpose of the debt policy is to maintain a balance between current funding sources and debt financing over each five-year plan horizon in order to retain the District's financing flexibility and achieve the lowest cost of financing.

The District's debt management policy is to:

- a) maintain an annual revenue bond debt service coverage ratio of at least 1.6 times;
- b) limit debt-funded capital to no more than 65 percent of the total capital program over each five-year planning period; and
- c) limit commercial paper / variable rate debt to 25 percent of outstanding long-term debt.

Debt Service Coverage Ratio

The debt service coverage policy ensures that the District has sufficient annual operating revenues to pay its operating expenses and meet its debt service obligations on its revenue bonds and other parity debt. The revenue bond debt service coverage ratio is defined as the District's net operating revenue (current year's operating revenue less the current year's operating expenses) divided by the current year's debt service on all revenue bonds and other parity debt. Net revenues are reduced by any Rate Stabilization Fund deposits and increased by any withdrawals. In FY20 and FY21, the projected debt coverage ratios are 1.88 and 1.89, respectively.

Debt-Funded Capital

The percentage of the capital program that is funded by debt over the five-year planning period FY20-24 is projected to average 49.4 percent, which is below the financial policy maximum target of 65 percent. The debt percentage funding levels for FY20 and FY21 are shown in the table below.

Projected Debt Percentage of Funding		
(\$ Millions)		
	FY20	FY21
Expenditures		
Capital Cash Flow	297.7	345.5
Administration of Capital	<u>40.0</u>	<u>40.0</u>
Total Expenditures	337.7	385.5
Project Funding		
New Bond Proceeds	200.4	156.8
Loans Proceeds	-	-
Commercial Paper	-	-
Construction Fund	<u>-</u>	<u>-</u>
Total Resources	200.4	156.8
Debt Percentage of Funding	59.3%	40.7%

Commercial Paper and Variable Rate Debt Ratio

The District has authorized a short-term commercial paper (CP) borrowing program consistent with the MUD Act and the District's debt management policy. Under this program, the District may issue commercial paper notes at prevailing interest rates for periods of not more than 270 days from the date of issuance. The program is supported by liquidity agreements. The Water System CP is secured by a pledge of the Water System's net revenues, subordinate to the Water System's revenue bonds.

As of June 30, 2019, \$359.8 million of Water System CP is projected to be outstanding under the program. Water System CP will comprise less than 14 percent of the \$2.71 billion in total outstanding debt.

Water System outstanding variable rate debt projected as of June 30, 2019 will be approximately \$105.3 million. Since the beginning of FY14, the District has converted over \$340.0 million of its variable rate debt into fixed rate debt by terminating existing interest rate swap contracts and replacing the underlying variable rate bonds with fixed rate bonds. Going forward, the District expects to finance its capital program through a combination of available funds and fixed-rate debt.

CAPITAL IMPROVEMENT PROGRAM

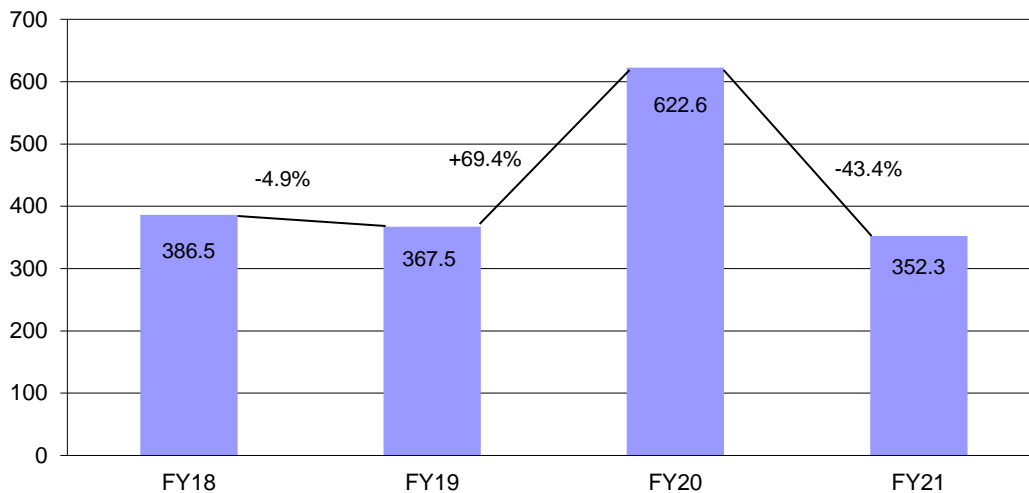
The CIP consists of projects that typically result in the construction of new facilities, or the rehabilitation or upgrade of existing facilities. Project costs include all expenditures required to study, plan, design, construct or upgrade new or existing facilities. Projects can also include large equipment purchases and the creation or replacement of computer systems.

Capital Appropriation

Capital appropriations are the amounts approved by the Board to be spent on projects in the CIP. Since these appropriations are often spent over multiple years, the amounts appropriated for each fiscal year will vary depending upon project scope and timing, and any unspent appropriation a project may already have.

The Water System's FY20 appropriation totals \$622.6 million, an increase of \$255.1 million or 69 percent from FY19. In FY21, the appropriation totals \$352.3 million, a decrease of \$270.4 million or 43 percent from FY20. The Water System appropriations for FY20 and FY21 and the prior two years are summarized below.

Four-Year Summary Capital Appropriation
(\$ Millions)



The FY20-24 Water System CIP requires \$2.24 billion in project appropriations, an increase of \$551.6 million or 33 percent from the FY18-22 CIP. The increase is primarily due to increased appropriation needs of the Maintaining Infrastructure Strategy for replacing deteriorated pipelines and rehabilitating pumping plants.

The Water System appropriations focus on the Maintaining Infrastructure Strategy which comprises 48 percent of the CIP appropriations. All Water System appropriations by strategy are summarized below.

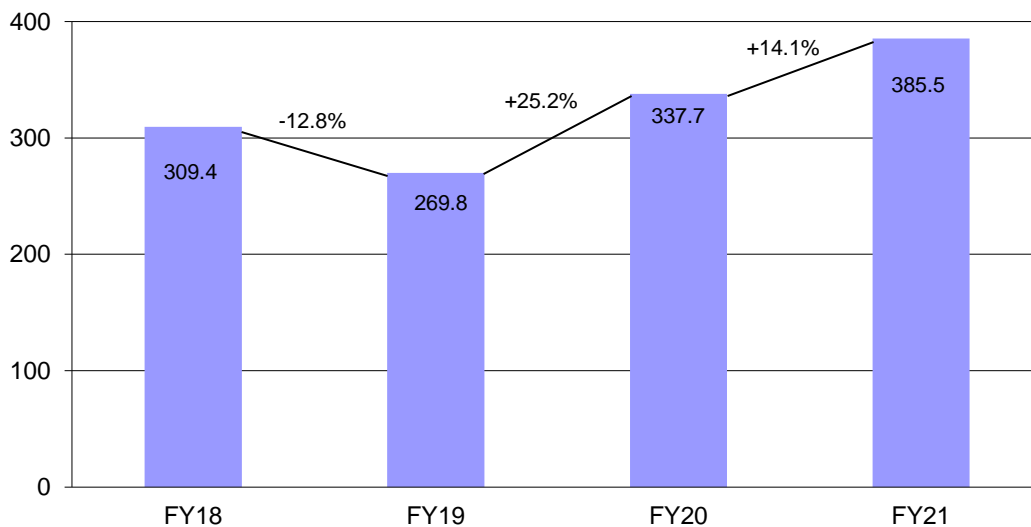
FY18-22 vs. FY20-24 Appropriation				
Capital Improvement Program by Strategy (\$ Thousands)				
Strategy	Appropriation		\$ Chg	% Chg
	FY18-22	FY20-24		
Extensions & Improvements	194,672	497,676	303,004	156%
Facilities, Services & Equipment	89,269	78,053	(11,216)	-13%
Maintaining Infrastructure	790,748	970,057	179,309	23%
Regulatory Compliance	40,068	46,266	6,198	15%
Resource Management	12,016	9,294	(2,722)	-23%
Water Quality	147,023	186,217	39,194	27%
Water Supply	186,345	218,503	32,158	17%
Non-Program Specific	26,500	31,564	5,064	19%
Strategy Subtotal	1,486,641	2,037,630	550,989	37%
Administration of Capital	207,345	207,970	625	0%
Total Water	1,693,986	2,245,600	551,614	33%

Capital Cash Flow

Capital cash flows are the amounts projected to be spent each fiscal year on projects in the CIP. The amount of cash flow spending varies each year as projects progress from one phase to another, such as from planning to design and then construction, and as existing projects are completed and new ones started.

The Water System's FY20 cash flow totals \$337.7 million, an increase of \$67.9 million or 25 percent from FY19. In FY21, the cash flow totals \$385.5 million, an increase of \$47.8 million or 14 percent from FY20.

Four-Year Summary Capital Cash Flow
(\$ Millions)



The FY20-24 CIP identifies \$1.9 billion in projected cash flow spending, an increase of \$394.3 million or 26 percent compared to the FY18-22 CIP. The increase is primarily attributable to the Maintaining Infrastructure Strategy for replacing deteriorated water distribution pipelines, service laterals and large diameter transmission pipelines; and continuing to retrofit the temperature anchors on Mokelumne Aqueduct #1. Under the Water Quality Strategy, new work was identified regarding water treatment plant upgrades.

All Water System cash flows by strategy are summarized below.

FY18-22 vs. FY20-24 Cash Flows				
Capital Improvement Program by Strategy (\$ Thousands)				
Strategy	Cash Flows		\$ Chg	% Chg
	FY18-22	FY20-24		
Extensions & Improvements	188,805	218,211	29,406	16%
Facilities, Services & Equipment	85,410	113,561	28,151	33%
Maintaining Infrastructure	623,807	847,980	224,172	36%
Regulatory Compliance	70,808	61,641	(9,167)	-13%
Resource Management	11,331	11,462	131	1%
Water Quality	116,811	226,463	109,652	94%
Water Supply	197,309	208,620	11,311	6%
Non-Program Specific	-	-	-	0%
Strategy Subtotal	1,294,281	1,687,938	393,657	30%
Administration of Capital	207,345	207,970	625	0%
Total Water	1,501,626	1,895,908	394,282	26%

In accordance with the District's ten-year capital planning horizon, approximately \$2.4 billion of work has been tentatively identified for FY25-29. These future year estimates will be revised as studies are completed, priorities are redefined, and new needs emerge. Therefore, the focus is on the first five years of the CIP.

Select programs and projects are discussed in more detail in the following pages. In addition, a description of each project including recent accomplishments and future work is provided in a supplemental volume of this budget book for every project that has work planned in FY20-24.

Capital Labor

The capital labor component of the CIP totals over \$90 million per fiscal year. The following table shows the capital labor and benefits budget.

Capital Labor By Department (\$ Thousands)						
	FY18 Actuals	FY19 Budget	FY20		FY21	
			Budget	% Chg	Budget	% Chg
Operations & Maintenance Support	768	686	626	-8.8%	637	1.9%
Maintenance and Construction	37,941	41,885	46,088	10.0%	47,925	4.0%
Water Operations	1,763	1,325	2,251	69.9%	2,269	0.8%
Water Resources	2,116	1,664	1,866	12.1%	1,880	0.8%
Natural Resources	134	15	66	348.0%	67	0.7%
Engineering & Construction	34,664	38,777	37,932	-2.2%	38,153	0.6%
Office of the General Manager	-	-	-	0.0%	-	0.0%
Finance	506	-	1,778	0.0%	1,829	2.9%
Information Systems	570	160	-	-100.0%	-	0.0%
Customer & Community Services	2,226	2,364	314	-86.7%	324	3.2%
Human Resources	122	-	545	0.0%	571	4.8%
Office of the General Counsel	-	-	-	0.0%	-	0.0%
Water Recycling Program	4	-	4	0.0%	4	0.0%
Administration	-	-	-	0.0%	-	0.0%
Total Departments	80,813	86,875	91,470	5.3%	93,660	2.4%

The Water System capital labor budget is increasing approximately \$4.6 million in FY20 and \$2.2 million in FY21 to fund additional positions in support of capital work. The total labor increase in FY20 is offset by a slower than projected rise in benefits cost. In FY21, total capital labor will increase primarily due to scheduled salary step increases.

Capital Program Highlights

All Water System FY20-24 appropriations are shown below by strategy and program, with select programs and projects discussed in more detail to provide a sense of the work that is projected to take place over the next ten years.

EXTENSIONS & IMPROVEMENTS TO THE SYSTEM STRATEGY

This strategy furthers the District's objectives to improve the infrastructure to ensure reliable, high quality service, and update and enhance the District's system modeling capabilities. Work under this strategy focuses on making improvements to various components of pressure zones such as pipelines, reservoirs, pumping plants and WTPs to improve system reliability for existing customers, and to provide service to new customers. The FY20-24 program strategy appropriations are as follows:

Appropriations (\$ Thousands)						
Programs	FY20	FY21	FY22	FY23	FY24	Total
Mapping	1,877	1,871	1,941	2,014	2,089	9,792
OP/NET	1,083	1,017	1,902	1,968	1,801	7,771
Pressure Zone Improvements	68,056	90,573	61,166	23,159	28,418	271,372
Walnut Creek - San Ramon Valley In-Zone Improvements	0	0	0	0	0	0
Water Treatment and Transmission Improvements	6,467	3,439	21,988	174,946	1,900	208,740
Total	77,483	96,900	86,997	202,087	34,208	497,675

Pressure Zone Improvement Program

The Pressure Zone Improvements Program includes studying individual pressure zones and compiling the studies into the Distribution System Master Plan, and upgrading or replacing reservoirs, pumping plants and transmission systems to optimize storage capacity and improve water quality. The following significant pressure zone work is planned:

- Almond/Fire Trail in Castro Valley – construct a new regulator/rate control station (RCS) in FY20-22 and replace the 6.6 million gallon (MG) open-cut Almond Reservoir with two smaller tanks in FY26-30, and then demolish the 3.1 MG Cull Creek Reservoir;
- Encinal Cascade in Orinda – replace the Westside Pumping Plant (PP) and associated pipelines in FY20-23, and replace Dos Osos Reservoir with dual tanks at a higher elevation and rehabilitate the Dos Osos Pumping PP in FY22-26;
- Leland in Lafayette/Walnut Creek – replace the 18 MG open-cut reservoir and associated pipelines with two 8 MG concrete reservoirs in FY21-25;
- Maloney in El Sobrante/Pinole/Crockett – increase the capacity of the Maloney PP by 12.5 MGD in FY19-22, make improvements to the Crockett PP in FY23-27, and construct a new 3 to 5 MG Selby Reservoir in FY24-27;
- Summit in Berkeley – plan for a new Lawrence Reservoir in FY23 subject to discussions with the Lawrence Berkeley National Laboratory and the University of California;
- Bryant in Orinda and Walnut Creek – upsize the Castle Hill and Los Altos PP's in FY24-29;

- West of Hills Transmission Improvements – increase transmission capacity to the Wildcat Aqueduct, new pipeline will be constructed in Berkeley and El Cerrito in FY19-22; a new Fontaine PP and RCS in Oakland will be constructed in FY22-25; increase transmission capacity to the Sequoia Aqueduct to efficiently fill Central Reservoir, new pipeline will be constructed in Oakland in FY22-26; construction of a new 25 MGD Wildcat PP is scheduled for FY23-28; and increase transmission capacity to the South 30 Aqueduct, new pipeline will be constructed in Oakland in FY27-30.

Water Treatment and Transmission Improvements Program

The Water Treatment and Transmission Improvements Program (WTTIP) calls for new and upgraded facilities to meet water demands in the Lafayette, Orinda, Moraga and western Walnut Creek area. The program includes a new 3.2 MGD Happy Valley PP in Orinda in FY20-21; replacing the Fay Hill PP in Moraga with a new 2.6 MGD PP in FY20-23; a new 2 MG Ardith Reservoir and 1.2 MGD Donald PP in Orinda in FY22-25; a new Tice PP in Walnut Creek in FY23-26 which will allow for rezoning of the Tice area of the Colorados Pressure Zone (PZ) into a new Tice PZ; and a new 3 MGD Withers PP in Lafayette in FY25-28.

The program also includes constructing an intertie and 14 MGD PP between the Contra Costa Water District and the District's Leland PZ to provide a backup treated water supply for the Walnut Creek WTP in FY22-26; constructing a 20 MGD PP at the Bayview PP site in Castro Valley along with two rate control stations to allow water to be pumped through the Southern Loop Pipeline in FY22-26, thus providing a backup treated water supply to the East of Hills; and constructing a Walnut Creek Aqueduct and 63 MGD PP in FY22-29 to deliver treated water from the Walnut Creek WTP to the Lafayette WTP, thus allowing the Lafayette WTP to be decommissioned.

FACILITIES, SERVICES & EQUIPMENT STRATEGY

This strategy furthers the District's objectives to ensure the security of the water supply and the water system; to evaluate facilities and implement corrective maintenance programs; to implement changes in technology; and to maintain a safe, well equipped workplace. Work associated with this strategy includes making security improvements at various facilities, implementing new computer systems and replacing vehicles and equipment as needed. The FY20-24 program strategy appropriations are as follows:

Appropriations (\$ Thousands)						
Programs	FY20	FY21	FY22	FY23	FY24	Total
Area Service Center / Building	19,454	3,215	5,218	3,199	3,277	34,363
Communications	12,050	0	0	0	0	12,050
Security	906	511	1,668	2,124	2,530	7,739
Vehicle / Equipment	10,465	3,936	2,975	3,869	2,656	23,901
Total	42,875	7,662	9,861	9,192	8,463	78,053

Area Service Center / Building Program

The Area Service Center/Building Program is comprised of various projects to upgrade District buildings. In FY20-24, the focus will be on the Oakland Administration Building. Work includes HVAC improvements to increase energy efficiency and decrease maintenance cost; overhauling the elevators; new roofing; replacing carpet; upgrading electrical equipment; and installing new security cameras.

Other work includes replacing the deteriorated Oakport warehouse roof and developing additional storage space; making various improvements at the Adeline Maintenance Center; upgrading facilities at Walnut Creek PP 1 & 2, Bixler Maintenance Center, and Stockton Center to comply with ADA requirements; completing the conversion of a property purchased in Walnut Creek into the new Fleet Maintenance East facility; and a potential property purchase to support construction and maintenance operations.

Communications Program

The Communications Program is comprised of projects that replace and upgrade computer and communication systems. The Materials Management Information System (MMIS) used for purchasing and accounting purposes is over 25 years old and will be replaced along with the Pareto budget system and the Financial Information System (FIS) in FY19-22 as the systems share data and must be integrated. Various modules of the HRIS will be replaced in FY20-22. Replacement of various work management systems including general work orders, concrete orders and paving orders will take place in FY19-22.

Vehicles / Equipment Program

The Vehicle Replacements Project is ongoing and involves the periodic replacement of vehicles and construction equipment as needed. In FY20-21, equipment will be purchased to outfit additional staff and decrease the reliance on fully manned and operated contracts. In FY20-22, improvements will be made to fueling facilities including the replacement of fuel dispensers at sixteen sites, and installing vapor recovery equipment for the above ground storage tanks.

MAINTAINING INFRASTRUCTURE STRATEGY

This strategy furthers the District's objectives to improve, rehabilitate and replace aging infrastructure in a cost effective manner to ensure the sustainable delivery of reliable, high quality water service now and in the future. Work under this strategy focuses on pipeline projects to improve system reliability for existing customers and to provide service to new customers. The FY20-24 program strategy appropriations are as follows:

Appropriations (\$ Thousands)						
Programs	FY20	FY21	FY22	FY23	FY24	Total
Corrosion	5,624	3,109	5,792	7,566	7,850	29,941
Electrical Hazard Prevention	145	315	383	344	407	1,594
Pipelines / Appurtenances	41,043	27,921	26,419	26,631	26,749	148,763
Pipelines / Regulators	117,322	64,637	118,527	126,910	103,465	530,861
Polybutylene Lateral Replacement	24,844	16,116	16,052	14,124	13,385	84,521
Pumping Plant Rehabilitation	11,336	2,254	2,953	15,501	19,664	51,708
Reservoir Rehabilitation	49,791	16,535	19,519	22,380	14,443	122,668
Total	250,105	130,887	189,645	213,456	185,963	970,056

Corrosion Program

This program maintains and extends the useful life of pipelines by improving corrosion control on aqueducts, large diameter pipelines, distribution water mains, and copper laterals.

Pipelines / Appurtenances Program

This program maintains efficient pipeline operations by replacing appurtenances such as valves, hydrants and meters at the end of their useful life. The New Service Installations Project installs taps on the main, laterals, and meter sets for new customers. The need for new services is expected to increase as housing development continues to rise. In FY16-17, 450 new services were installed each year. In FY18, over 700 services were installed, and this rate is expected to continue in FY20 and beyond.

Water meters are routinely replaced at the end of their useful life, as are meters that are believed to be reading inaccurately. In FY18, an estimated 15,000 residential meters and 300 small commercial meters were replaced, and the number of annual replacements is expected to increase to over 20,000 starting in FY20.

To comply with measures associated with California Senate Bill 555, a new Water Loss Control project has been created to construct water treatment plant flow meter verification pipeline vaults, and install acoustic leak detection devices to improve the accuracy of the District's water audit and reduce water losses in the distribution system.

Pipelines / Regulators Program

Pipelines/Regulators is an ongoing program to replace deteriorated pipelines and expand the distribution system. This is the District's largest capital program.

The Pipeline Infrastructure Renewals project replaces deteriorating water distribution pipelines. In FY18, pipeline replacements totaled 15 miles. In FY20-24, work includes replacing 17.5 miles in FY20, ramping up to 22.5 miles per year by FY23. An increase in production is expected as more efficient replacement processes and installation methods are implemented.

The Large Diameter Pipelines project replaces the large transmission pipes that form the backbone of the distribution system. In FY20-29, work will occur in phases to make improvements to the Summit Pressure Zone by installing 3.5 miles of 24-inch pipe to replace undersized pipes located mostly in Berkeley. Work also includes completing construction of MacArthur/Davenport in Oakland in FY20; D Street and East 15th Street in Oakland in FY20-23; and installing three new 24-inch Oakland/Alameda estuary crossing pipelines in FY19-26.

Pipeline System Extensions is an ongoing project to serve new customers. The workload is estimated from projections of development activity and recent trends in water service activity in the District's New Business Office. In FY18-19, roughly 8 miles per year were installed (1.5 miles by District forces and 6.5 miles by applicants). In FY20-24, system extensions are expected to continue at 8 miles per year.

Polybutylene Lateral Replacement Program

This program previously focused on the replacement of defective polybutylene service laterals, but has been restructured to encompass all types of laterals. Crews respond to 4 to 5 service lateral failures each day (emergency replacements). While the majority involve replacing defective polybutylene laterals, a significant percentage also involve corroding copper laterals. This project will also continue to identify and replace service laterals within areas that have suffered high failure rates at a rate of 400 per year.

Pumping Plant Rehabilitation Program

The Distribution Pumping Plant Infrastructure Rehabilitation Plan was updated in 2018 and identifies the highest priority pumping plants for rehabilitation, replacement, or demolition. In FY20-24, work is planned at 27 of the District's 130 distribution pumping plants, and includes power reliability improvements to protect against extended electrical outages.

Reservoir Rehabilitation Program

This program includes the rehabilitation, replacement and demolition of distribution reservoirs. The Reservoir Rehabilitation and Maintenance Project extends the service lives of the steel and reinforced concrete distribution tanks by replacing coating systems; repairing or replacing roofs; and performing structural upgrades to improve water quality and enhance worker safety. In FY20-24, three to four steel reservoirs per year will continue to be rehabilitated, and the reservoir roof safety program to improve reservoir roofs and ladders will be completed.

The Open-Cut Reservoir Rehabilitation project includes the rehabilitation and replacement of open-cut reservoirs. Plans for FY20-24 include completion of the San Pablo Clearwell replacement in Kensington with two 3.5 MG concrete tanks, and demolition of the Seneca Reservoir in Oakland. Planning for the eventual replacement of North Reservoir in Richmond is scheduled for FY25-27, and replacing Central Reservoir in Oakland is planned for FY24-30.

REGULATORY COMPLIANCE STRATEGY

This strategy furthers the District's objectives to operate and maintain facilities to meet all air, land and water discharge requirements; implement preventative and corrective maintenance programs; and improve the infrastructure to ensure delivery of reliable, high quality service. The work under this strategy focuses on dam safety improvements and modifications to reservoir towers. The FY20-24 program strategy appropriations are as follows:

Appropriations (\$ Thousands)						
Programs	FY20	FY21	FY22	FY23	FY24	Total
Dam Safety	8,335	900	1,013	1,250	0	11,498
Penn Mine	0	0	0	0	85	85
Remediation	11,000	0	0	4,985	3,000	18,985
Trench Spoils	10,756	1,058	1,098	1,440	1,346	15,698
Total	30,091	1,958	2,111	7,675	4,431	46,266

Dam Safety Program

This program upgrades dams, reservoir outlet towers, clearwells and spillways to meet flood and earthquake safety requirements. The Dam Seismic Upgrades Project includes safety evaluations and dam freeboard increases to improve seismic safety. Evaluations have been completed at all of the District's dams. The seismic upgrade at Chabot Dam in San Leandro was completed in FY18. Upgrades at Camanche Dam are dependent on Federal Energy Regulatory Commission (FERC) review and approval, and is planned to begin in FY22.

The Reservoir Tower Modifications Project encompasses the seismic retrofit of six reservoir towers. Retrofits to Chabot Tower were completed as part of the seismic upgrades made to Chabot Dam, and retrofits to the Upper San Leandro (USL) and San Pablo Towers were recently completed. Retrofit of the Briones Tower in Orinda and the Lafayette Reservoir Tower to resist earthquake loads will take place in FY20-23. A previous seismic evaluation of the Pardee Reservoir Tower found it to be safe, but identified leakage in Pardee Tunnel. The tunnel was inspected in FY18 and found to be in satisfactory condition. Dam, spillway and reservoir tunnels will continue to be inspected and evaluated, and any necessary repairs made.

Remediation Program

The Upcountry Wastewater Improvement Project will upgrade the wastewater collection, treatment and disposal systems serving Pardee and Camanche facilities in FY20-25. Work includes replacing the sewer collection systems at the Camanche North Shore and South Shore Mobile Home Parks; the Camanche South Shore Cottages; and the Camanche South Shore Monument RV Park.

Trench Spoils Program

Trench soils are generated from pipeline installations and repairs, and are temporarily stockpiled at three sites for reuse or disposal: Miller Road in Castro Valley, Briones in Orinda and Amador in San Ramon. The project includes site management in accordance with regulatory requirements, periodic removal of the trench soils, and evaluation of soils reduction and disposal alternatives. The project also includes evaluating and potentially purchasing a property for additional trench soils purposes as soils production is expected to increase as more miles of pipe are replaced under the Pipeline Rebuild Program.

RESOURCE MANAGEMENT STRATEGY

This strategy furthers the District's objectives to manage the Mokelumne and East Bay watersheds to ensure a high quality water supply; protect natural resources; and provide public access and recreational opportunities compatible with water quality and natural resource protection. Work under this strategy focuses on making improvements to recreational facilities at Camanche, Pardee and East Bay Reservoirs, and updating habitat and watershed management plans. The programs included in this strategy are:

Appropriations (\$ Thousands)						
Programs	FY20	FY21	FY22	FY23	FY24	Total
Recreation Areas	0	0	0	0	0	0
Watershed Recreation	4,400	1,715	1,202	857	1,120	9,294
Total	4,400	1,715	1,202	857	1,120	9,294

Recreation Areas Program

The Pardee and Camanche Recreation Area facilities require periodic replacements and upgrades to the roads, parking lots, fuel docks, launch ramps, docks, boat berths, stores, campgrounds, and bathroom and shower buildings.

In FY20, the piping and delivery equipment between the fuel tanks and floating fuel dock at Camanche North Shore, and the Pardee Recreation Area coffee shop and store will be replaced.

Watershed Recreation Program

This program provides for protecting and enhancing the District's watershed lands including trails and recreation facilities in accordance with master plans and regulatory requirements.

In FY20-24, projects at the San Pablo and Lafayette Recreation Areas include picnic area, playground and restroom improvements; visitor center and cafe upgrades; marina and dock improvements; water and sewer system upgrades; repaving primary roadways; and replacing rental boats. Watershed projects include trail staging area upgrades; habitat and pond restoration; hazardous tree removal; replacement of old fire pumps and boundary fence; upgrades at the Orinda Watershed Headquarters; and replacing patrol boats.

In FY21-22, work at the Mokelumne Watershed Headquarters includes a new fuel station, a back-up generator, construction of a modular warehouse/shop building, and vehicle access and circulation improvements.

WATER QUALITY STRATEGY

This strategy furthers the District's objectives to operate and maintain facilities to surpass federal and state drinking water regulations, and to make system improvements that meet or surpass regulatory requirements. Work under this strategy focuses on making improvements to WTPs to improve water quality. The FY20-24 program strategy appropriations are as follows:

Appropriations (\$ Thousands)						
Programs	FY20	FY21	FY22	FY23	FY24	Total
Water Quality Improvement	1,200	200	1,050	0	0	2,450
Water Treatment Upgrade	150,200	31,610	630	652	675	183,767
Total	151,400	31,810	1,680	652	675	186,217

Water Treatment Upgrade Program

The Treatment Plant Upgrade Project addresses compliance with water quality regulations, and improves the operation and reliability of the five WTPs. In FY20-24, planned work includes:

Orinda WTP - install a filter air scour system, add an ultraviolet (UV) disinfection facility and chlorine contact basin to improve disinfection reliability, minimize disinfection by-products and improve chemical dosing.

Upper San Leandro WTP - install a 5th flocculation stage and replace the failing flocculation baffles; replace the cable-vac solids collection system in the sedimentation basins; rehabilitate the reclaim and solids handling systems; replace the clearwell roof and chlorine contact basin; and complete miscellaneous structural and mechanical improvements.

Sobrante WTP - replace the reclaim and solids clarifier systems; add a 5th flocculation stage and replace the failing flocculation basin walls; add a chlorine contact basin; repair/replace the leaking raw water isolation valves; and upgrade the controls systems.

Walnut Creek WTP - rehabilitate the old filters and design a new ozone pre-treatment system and solids removal system.

Lafayette WTP - upgrade the control system and make chemical system safety improvements.

Planned work in FY25-27 includes constructing the Walnut Creek WTP pre-treatment system to address taste and odor issues, and solids handling improvements to increase the amount of water that can be reclaimed from the sludge.

San Pablo WTP is only operated during Orinda WTP/Claremont Tunnel outages or to support drought operations. In support of the upcoming Orinda WTP shutdown to install chemical safety improvements, the San Pablo WTP control system will be upgraded and mechanical and structural issues resolved prior to operating the plant.

WATER SUPPLY STRATEGY

This strategy furthers the District's objectives to ensure a reliable, high quality water supply for the future; preserve current entitlements and augment the District's water supply; and reduce the demand for potable water through conservation and recycling. The immediate focus of this strategy is on maintaining the raw water aqueducts and water recycling projects. The FY20-24 program strategy appropriations are as follows:

Appropriations (\$ Thousands)						
Programs	FY20	FY21	FY22	FY23	FY24	Total
Aqueduct	6,060	25,522	19,778	20,374	37,305	109,039
Supply Reservoirs	1,157	4,953	759	3,068	1,124	11,061
Water Conservation	1,524	1,886	1,957	2,030	2,106	9,503
Water Recycling	11,071	5,897	14,419	8,853	9,596	49,836
Water Supply Management	983	0	38,082	0	0	39,065
Total	20,795	38,258	74,995	34,325	50,131	218,504

Aqueduct Program

This program evaluates and makes improvements to the raw water aqueduct system. Various portions of Mokelumne Aqueduct 1 will be recoated in FY20-22 to provide protection from the corrosive Delta environment.

The program also includes replacing the deteriorated cement lining in the Mokelumne Aqueducts that protects the steel pipeline from internal corrosion. FY20-22 work includes studying lining technologies; pilot testing lining materials; inspecting the interior of the entire Mokelumne Aqueduct 2 and above-ground section of Mokelumne Aqueduct 3; and constructing the raw water treatment improvements to minimize corrosion.

Design of the new lining will take place in FY22-24, with the relining of Mokelumne Aqueduct 2 expected to start in FY26 and continue for approximately six years, followed by the relining of Mokelumne Aqueduct 3.

The Raw Water Studies and Improvements Project evaluates and makes improvements to the raw water system, including the above-ground portions of the three Mokelumne Aqueducts across the Delta. In FY20-29, work includes continuing to repair Mokelumne Aqueduct 1 temperature anchors; completing the Mokelumne Aqueduct 3 foundation study; and completing repairs of the Mokelumne Aqueduct 3 base isolators.

In FY20-24, work also includes upgrading the Briones Center and the Moraga Raw Water PP. Beyond FY24, planned work includes making Pardee Tunnel access improvements; completing the Lafayette Aqueduct 1 relining; rehabilitating the Walnut Creek Raw Water PP 3; and making electrical, instrumentation and mechanical improvements at five wasteways.

A long-term strategy for protecting the raw water supply is to construct a tunnel across the Delta to protect the Mokelumne Aqueducts from flood damage and seismic events. In FY20-24, the planning and environmental studies for a Delta Tunnel are expected to be completed, with design of the tunnel starting in FY25.

Water Conservation Program

In 2016, the District adopted an updated Urban Water Management Plan that included water conservation programs to reduce potable water demand. Through FY18, customers have achieved substantial water savings based on their response to the recent drought and participation in District conservation incentives, water use and leak detection surveys, and education programs.

Going forward, conservation services will continue to move away from product rebates toward customer water use management services, including landscape water budgets, web and mobile self-service tools, and conservation research. Other areas of focus include water loss control programs and Advanced Metering Infrastructure (AMI).

Water Recycling Program

To help reduce potable water demand, the District has undertaken a variety of recycled water projects. The San Ramon Valley (SRV) Recycled Water Program is a joint program with the Dublin San Ramon Services District to supply recycled water to portions of San Ramon, Danville, Blackhawk and surrounding areas. Under this program, the pump station between San Ramon and Danville is expected to be completed in FY24, with distribution pipelines to be implemented and site retrofits completed in FY26. The Blackhawk West phase of the project is anticipated to be completed in FY29.

Upgrades to the North Richmond Water Recycling Plant (NRWRP) will maintain the facility and continue to meet the District's contractual obligations to the Chevron Richmond refinery. In FY20-24, work includes clarifier and thickener drive replacements, polymer improvements, potable water bypass, and other improvements.

Water Supply Management Program

As part of the Water Supply Management Program (WSMP 2040), water supply efforts are being pursued within or adjacent to the District's Mokelumne River facilities, including a potential partnership with San Joaquin County to develop a groundwater banking demonstration project.

Other projects include Bay Area Regional Reliability (BARR) partnerships with a variety of local agencies. During FY20-21, member agencies will embark upon projects and programs that were identified under the BARR Drought Contingency Plan, including development of a grant-funded Regional Water Market program. The District is also evaluating participation in the Los Vaqueros Reservoir Expansion Project.

NON-PROGRAM SPECIFIC STRATEGY

This strategy furthers the District's objective to maintain a strong financial position to meet both short and long-term needs. The Contingency Program focuses on making funds available for unanticipated needs, and for projects that are seeking grants to pay for a substantial portion of the project's cost.

Appropriations (\$ Thousands)						
Programs	FY20	FY21	FY22	FY23	FY24	Total
Contingency	5,502	3,062	23,000	0	0	31,564
Total	5,502	3,062	23,000	0	0	31,564

Contingency Program

Contingency provides funding for unanticipated needs that may arise before the next budget cycle, such as replacement or repairs to facilities and equipment as a result of failures or safety deficiencies, and new projects or the acceleration of planned projects requiring funding before the next budget cycle. Funds may also be set aside for projects where grants are being sought in the event that the grant application is successful as most grants require the District to fund the project and then apply for reimbursement of allowable costs.

In FY20, funds have been set aside for possible costs related to building two large scale photovoltaic (PV) projects up to 8 megawatts (MW) on District property, In FY20-21, funds have been set aside for possible costs related to the replacement of fleet and equipment for Aqueduct staff. In FY21-22, funds have been set aside for possible costs related to the development of additional office and warehouse space at the Oakport facility in Oakland.

Capital Appropriation Summary

This section provides a summary of the five-year appropriation for the Water System projects listed in the CIP, sorted by strategy and program. When the CIP is presented to the Board of Directors, the Board approves the overall five-year plan, but adopts just the first two years of the plan. The remaining three years are for planning purposes only and are subject to revision.

Department Abbreviations

The abbreviation for the Lead Department responsible for each capital project is as follows:

- CUS – Customer and Community Services Department
- ENG – Engineering Department
- FIN – Finance Department
- ISD – Information Systems Department
- MCD – Maintenance & Construction Department
- NRD – Natural Resources Department
- OSD – Operations & Maintenance Support Department
- WOD – Water Operations Department
- WRD – Water Resources Department
- WRP – Water Recycling Program

Capital Improvement Projects		Dept	Prior Approp	FY20-24 APPROPRIATIONS (IN 000's)					5 YR TOTAL
				FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	
EXTENSIONS AND IMPROVEMENTS									
Mapping									
CAD/CAM Mapping, Documentation	ENG	35,581	1,877	1,871	1,941	2,014	2,089	9,791	
Mapping Total		35,581	1,877	1,871	1,941	2,014	2,089	9,791	
OP/NET									
OP/NET System	MCD	31,378	1,083	1,017	1,902	1,968	1,801	7,771	
OP/NET Total		31,378	1,083	1,017	1,902	1,968	1,801	7,771	
Pressure Zone Improvements									
Almond/Fire Trail PZI	ENG	16,060	0	0	0	0	0	0	
Bryant PZ Improvement Projects	ENG	0	0	0	711	650	0	1,361	
Cent Oakland Hills Cascade PZI	ENG	30,125	872	0	12	597	3,223	4,704	
Colorados Pressure Zone Imprv	ENG	1,018	72	0	0	0	0	72	
Distribution System Upgrades	ENG	7,066	1,509	552	558	565	573	3,757	
Encinal Cascade PZI	ENG	8,507	17,034	0	0	0	0	17,034	
Enterprise Hyd WQ & Op Modi	ENG	785	889	0	0	0	0	889	
Leland Pressure Zone Impr	ENG	8,121	0	0	49,733	0	0	49,733	
Maloney PZ Improvements	ENG	47,689	31,075	0	0	21,006	0	52,081	
Pressure Zone Planning Program	ENG	3,680	1,118	552	0	0	0	1,670	
So Oakland Hills Cascades PZI	ENG	2,829	70	0	0	0	0	70	
Summit Pressure Zone Improve	ENG	40,259	0	0	0	0	0	0	
USL Pressure Zone Impr	ENG	722	0	30	0	280	0	310	
Water Demand Projection Update	ENG	1,490	546	0	0	0	0	546	
West of Hills Master Plan	ENG	92,973	14,871	89,439	10,863	0	23,972	139,145	
Pressure Zone Improvements Total		261,325	68,056	90,573	61,166	23,159	28,418	271,372	
WC-SRV In Zone Improvements									
Diablo PZ Improvements	ENG	13,555	0	0	0	0	0	0	
WC-SRV In Zone Improvements Total		13,555	0	0	0	0	0	0	
Water Trmt and Trans Impr									
Tice Pumping Plant	ENG	889	0	0	19,179	0	0	19,179	
WTTIP Distribution Improvs	ENG	38,980	6,433	0	2,809	0	0	9,243	
WTTIP WTP Improvements	ENG	22,114	34	3,439	0	174,946	1,900	180,319	
Water Trmt and Trans Impr Total		61,983	6,467	3,439	21,989	174,946	1,900	208,741	
EXTENSIONS AND IMPROVEMENTS TOTAL		403,823	77,483	96,900	86,998	202,087	34,208	497,676	

Capital Improvement Projects		Dept	Prior Approp	FY20-24 APPROPRIATIONS (IN 000's)					5 YR TOTAL
				FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	
FACILITIES, SERVC AND EQUIP									
Area Service Center/Bldg Prog									
Adm Bldg Modifications	ENG	43,024	3,223	1,203	180	1,874	595	7,075	
Buildings Assessment & Improve	ENG	23,384	9,558	1,247	4,518	505	2,270	18,099	
East Area Service Center	ENG	9,440	543	0	0	0	0	543	
Minor Facility Improvements	MCD	5,700	6,130	765	520	820	412	8,647	
Area Service Center/Bldg Prog Total		81,548	19,454	3,215	5,218	3,199	3,277	34,363	
Communications									
Data & Telecom Infrastructure	ISD	3,603	0	0	0	0	0	0	
FIS / MMIS Replacement	ISD	8,959	7,500	0	0	0	0	7,500	
HRIS Replacement	ISD	7,200	1,500	0	0	0	0	1,500	
Work Mgmt Systems Replacement	ISD	1,700	3,050	0	0	0	0	3,050	
Communications Total		21,462	12,050	0	0	0	0	12,050	
Security									
VA Security System Imprmts	MCD	26,697	906	511	1,668	2,124	2,530	7,739	
Security Total		26,697	906	511	1,668	2,124	2,530	7,739	
Vehicle/Equipment									
Diesel Engine Retrofit	MCD	16,528	0	0	0	0	0	0	
Fueling Facility Upgrades	MCD	9,266	2,765	565	100	0	0	3,430	
Veh & Hvy Equip Additions, Wtr	MCD	23,842	2,700	0	0	0	0	2,700	
Vehicle Replacements	MCD	94,749	5,000	3,371	2,875	3,869	2,656	17,770	
Vehicle/Equipment Total		144,384	10,465	3,936	2,975	3,869	2,656	23,900	
FACILITIES, SERVC AND EQUIP TOTAL		274,091	42,875	7,662	9,861	9,192	8,463	78,053	
MAINTAINING INFRASTRUCTURE									
Corrosion									
Aqueduct Cathodic Protection	ENG	3,392	62	464	482	500	519	2,027	
Dist Sys Corrosion Protection	ENG	12,049	4,771	1,824	4,459	6,183	6,415	23,652	
Trans Main Cathodic Protection	ENG	3,434	791	821	851	883	916	4,262	
Corrosion Total		18,875	5,624	3,109	5,792	7,566	7,850	29,941	
Electrical Hazard Prevent Pgm									
Electrical Hazard Prevention	ENG	2,676	145	315	383	344	407	1,594	
Electrical Hazard Prevent Pgm Total		2,676	145	315	383	344	407	1,594	
Pipelines/Appurtenances									
Hydrants Installed by DF	ENG	22,967	3,397	1,754	1,767	1,781	1,794	10,493	
New Service Installations	ENG	200,237	23,327	19,014	19,014	19,014	19,014	99,384	
Meter Replacements	MCD	49,984	4,092	4,129	4,273	4,421	4,523	21,437	

Capital Improvement Projects		Dept	Prior Approp	FY20-24 APPROPRIATIONS (IN 000's)					5 YR TOTAL
				FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	
Pipeline Appurtenances		MCD	15,777	1,238	1,275	1,313	1,350	1,350	6,526
Water Loss Control		OSD	0	8,989	1,749	52	65	68	10,923
Pipelines/Appurtenances Total			288,965	41,043	27,922	26,419	26,631	26,749	148,763
Pipelines/Regulators									
Large Diameter Pipelines		ENG	128,480	58,553	415	28,681	22,637	321	110,606
Pipeline Infrastruct Renewals		ENG	266,414	49,842	54,280	56,434	65,563	75,909	302,028
Pipeline Relocations		ENG	59,359	5,879	6,099	6,328	6,565	6,811	31,683
Pipeline System Extensions		ENG	62,634	0	0	7,333	12,672	13,116	33,121
Pipeline System Improvements		ENG	33,327	2,230	3,843	3,988	4,314	6,792	21,168
Rate Control Station Rehab		ENG	11,284	120	0	15,763	0	0	15,883
Regulator Rehabilitation		ENG	19,414	698	0	0	15,159	516	16,373
Pipelines/Regulators Total			580,912	117,321	64,638	118,526	126,910	103,465	530,861
Polybutylene Lateral Replcmt									
Service Lateral Replacements		ENG	207,731	24,844	16,116	16,052	14,124	13,385	84,521
Polybutylene Lateral Replcmt Total			207,731	24,844	16,116	16,052	14,124	13,385	84,521
Pumping Plant Rehabilitation									
Pumping Plant Rehabilitation		ENG	142,785	11,336	0	40	12,479	16,528	40,383
Small Capital Improvements		MCD	14,784	0	2,254	2,913	3,022	3,136	11,325
Pumping Plant Rehabilitation Total			157,569	11,336	2,254	2,953	15,501	19,664	51,708
Reservoir Rehab Program									
Open Cut Reservoir Rehab		ENG	93,648	10,635	0	0	5,202	0	15,837
Reservoir Rehab/Maintenance		ENG	144,721	38,376	16,010	18,794	16,948	14,293	104,421
Facility Paving Project		MCD	2,525	780	525	725	230	150	2,410
Reservoir Rehab Program Total			240,894	49,791	16,535	19,519	22,380	14,443	122,668
MAINTAINING INFRASTRUCTURE TOTAL			1,497,622	250,104	130,889	189,644	213,456	185,963	970,057
NON-PROGRAM SPECIFIC									
Non-Program Specific									
Contingency Project Water		FIN	44,650	5,502	3,062	23,000	0	0	31,564
Non-Program Specific Total			44,650	5,502	3,062	23,000	0	0	31,564
NON-PROGRAM SPECIFIC TOTAL			44,650	5,502	3,062	23,000	0	0	31,564
REGULATORY COMPLIANCE									
Dam Safety									
Dam Operational Upgrades		ENG	11,023	2,250	0	1,013	1,250	0	4,513
Dam Seismic Upgrades		ENG	39,041	1,915	0	0	0	0	1,915
Dam Surveillance Improvements		ENG	8,063	4,170	900	0	0	0	5,070

Capital Improvement Projects		Dept	Prior Approp	FY20-24 APPROPRIATIONS (IN 000's)				
				FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Reservoir Tower Modifications	ENG	33,882	0	0	0	0	0	0
San Pablo Dam Seismic Mods	ENG	82,588	0	0	0	0	0	0
Dam Safety Total		174,597	8,335	900	1,013	1,250	0	11,498
Penn Mine								
Penn Mine Remediation	OSD	18,221	0	0	0	0	85	85
Penn Mine Total		18,221	0	0	0	0	85	85
Remediation								
Upcountry WW Trmt Imprvmts	MCD	21,057	11,000	0	0	4,985	3,000	18,985
Remediation Total		21,057	11,000	0	0	4,985	3,000	18,985
Trench Spoils								
Trench Soils Storage Sites	ENG	33,408	10,756	1,058	1,098	1,440	1,346	15,698
Trench Spoils Total		33,408	10,756	1,058	1,098	1,440	1,346	15,698
REGULATORY COMPLIANCE TOTAL		247,284	30,091	1,958	2,111	7,675	4,431	46,266
RESOURCE MANAGEMENT								
Recreation Areas								
Camanche Rec Area Upgrades	ENG	6,176	0	0	0	0	0	0
Pardee/Cam Rec Areas Impr Plan	NRD	10,204	0	0	0	0	0	0
Recreation Areas Total		16,380	0	0	0	0	0	0
Watershed Recreation								
East Bay Watershed Rec Projs	NRD	13,183	1,250	240	527	412	855	3,284
F&W Projects and Mok Hatchery	NRD	4,211	325	1,275	475	295	115	2,485
Mokelumne Watershed Rec HQ	NRD	4,160	2,600	0	0	0	0	2,600
Mokelumne Watershed Rec Projs	NRD	5,841	225	200	200	150	150	925
Watershed Recreation Total		27,395	4,400	1,715	1,202	857	1,120	9,294
RESOURCE MANAGEMENT TOTAL		43,775	4,400	1,715	1,202	857	1,120	9,294
WATER QUALITY								
Water Quality Improvement								
Distrib Sys Wtr Quality Imprv	WOD	21,120	1,200	200	1,050	0	0	2,450
Water Quality Improvement Total		21,120	1,200	200	1,050	0	0	2,450
Water Treatment Upgrade								
Treatment Plant Upgrades	ENG	256,211	150,200	31,000	0	0	0	181,200
Minor WTP Capital Work	WOD	4,542	0	610	630	652	675	2,567
Water Treatment Upgrade Total		260,753	150,200	31,610	630	652	675	183,767
WATER QUALITY TOTAL		281,873	151,400	31,810	1,680	652	675	186,217

Capital Improvement Projects		Dept	Prior Approp	FY20-24 APPROPRIATIONS (IN 000'S)					5 YR TOTAL
				FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	
WATER SUPPLY									
Aqueduct Program									
	Mok Aqu No 2 & 3 Relining Proj	ENG	30,560	4,350	12,650	3,520	0	0	20,520
	Mokelumne Aqueduct Recoating	ENG	43,315	1,710	0	0	0	0	1,710
	Raw Water Studies and Improves	ENG	76,416	0	12,272	15,286	18,054	36,310	81,922
	Raw Wtr Ag O&M Imprvmts	WOD	48,368	0	600	972	2,320	995	4,887
	Aqueduct Program Total		198,659	6,060	25,522	19,778	20,374	37,305	109,039
Supply Reservoirs									
	Camanche WTP Improvement	WOD	7,519	0	0	0	0	0	0
	Enhanced Power Revenue	WOD	11,378	20	20	20	1,520	20	1,600
	Pardee Ctr Cap Maint & Imprvmt	WOD	1,845	321	203	227	316	271	1,338
	Powerhouse Improvements	WOD	9,673	250	4,428	26	937	381	6,022
	Rec Area Cap Maint & Imprvmt	WOD	3,546	450	194	366	207	349	1,565
	Wtr Supply Monitoring System	WOD	1,857	116	108	120	88	103	535
	Supply Reservoirs Total		35,817	1,157	4,953	758	3,068	1,123	11,060
Water Conservation									
	Water Conservation Project	CUS	71,349	1,524	1,886	1,957	2,030	2,106	9,503
	Water Conservation Total		71,349	1,524	1,886	1,957	2,030	2,106	9,503
Water Recycling									
	East Bayshore	WRD	60,075	9,674	4,004	5,516	7,246	362	26,803
	RARE Water Project	WRD	64,802	0	135	431	447	465	1,478
	SRV Recycled Water Program	WRD	88,392	0	0	5,040	0	416	5,456
	Water Recycling WSMP	WRD	16,998	540	50	2,955	415	6,059	10,019
	No Richmond Recy Wtr Fac Impr	WRP	15,059	857	1,708	477	745	2,294	6,081
	Water Recycling Total		245,327	11,071	5,897	14,418	8,853	9,597	49,836
Water Supply Mgmt Program									
	Addl Supplemental Supply Projs	WRD	110,985	0	0	36,500	0	0	36,500
	Bayside Groundwater Project	WRD	28,453	983	0	1,582	0	0	2,565
	Water Supply Mgmt Program Total		139,438	983	0	38,082	0	0	39,065
	WATER SUPPLY TOTAL		690,589	20,795	38,258	74,993	34,325	50,131	218,503

APPROPRIATIONS SUMMARY (IN 000'S)						
Prior	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	5 YR TOTAL
3,483,708	582,650	312,253	389,489	468,244	284,992	2,037,629

Operating Budget Impact of Capital Investments

The FY20-24 CIP includes various significant nonrecurring capital projects that will affect the operating budget and the services that the District provides. Such projects and their potential impacts include:

Administration Building HVAC Upgrades

The upgrades replace aging equipment and increase energy efficiency. Improvements to the Data Center include installation of an automatic transfer switch for emergency power during outages. Energy efficiency upgrades include lighting, window, solar gain reductions, HVAC controls, and replacing the aging central plant equipment (boilers, chillers, cooling towers) to reach an Energy Star rating of 75 or better.

This project is estimated to save \$0.2 million per year in energy cost and \$0.2 million per year in maintenance cost. It is also expected to reduce greenhouse gas emissions by roughly 700 metric tons of carbon dioxide equivalent per year.

Briones / Lafayette Tower Modifications

The Briones Tower requires upgrades to safely resist seismic loads. Design of the upgrades started in FY16, and will be followed by construction. The project also includes Lafayette Reservoir Tower modifications which include seismic and gate control upgrades, and modification of the tower to act as a spillway capable of handling the revised Probable Maximum Flood. Both retrofit projects are required by the California Division of Safety of Dams.

These tower modifications will not result in any significant costs or revenues, but will increase public safety in the event of an earthquake.

Financial / Materials Management Information System

This project will replace the 25-year old MMIS that is supported by a one person consulting firm with a new procurement and vendor management system. The PeopleSoft FIS is over 20 years old and no longer meets business needs. Accounts payable functionality is handled in MMIS so its replacement has been included with the FIS replacement to ensure such functionality is addressed. In addition, a new budget system will be implemented.

A new purchasing, accounting, inventory and budget system will reduce the risk of system failure, reduce vendor dependence, and greatly improve system integration. Replacement of these systems requires funding additional new positions on a limited-term basis (two to three years) to implement the new systems and conduct extensive testing and training.

Human Resource Information System

This project will replace the 20-year old PeopleSoft HRIS. Three key functional areas will be addressed: employee data, retirement and payroll. The District will use a best of breed strategy to ensure the appropriate solution will be selected to best meet the business needs now and into the future. Replacement of this system requires funding temporary construction positions to assess needs, select a solution, implement the new solution and conduct extensive testing.

Happy Valley/Sunnyside Pumping Plants

Work includes a new 3.2 MGD Happy Valley PP in Orinda, and 3,300 feet of 16-inch pipeline. The Las Aromas Pressure Zone (PZ) has a deficit of 2.9 MGD in pumping capacity. This project will resolve the deficiency and can be expanded to 4.2 MGD to meet future demands. The project also includes a new 1.5 MGD Sunnyside PP in Lafayette to resolve an existing 0.7 MGD pumping capacity deficit and improve hydraulic connectivity in the Valley View PZ.

Annual maintenance costs are estimated to be \$0.04 million for Happy Valley PP and \$0.03 million for Sunnyside PP. Annual electricity costs are estimated to be \$0.05 million for each PP.

Maloney Pumping Plant & Sobrante Water Treatment Plant Improvements

Pumping capacity in the Maloney Pressure Zone is inefficient. The project will increase pumping capacity from 30 to 45 MGD with standard electric pumps, allowing pumping to be done during off-peak times when energy costs are lower. Electrical improvements at Sobrante WTP are needed to address reliability issues at this critical treatment facility.

Overall operating and maintenance costs for these facilities are expected to decrease. While costs for increased pumping may rise in the future, maintenance costs will decrease significantly as the diesel driven pump, which historically required a high level of effort to maintain, will be removed from service.

Raw Water Treatment Facilities Improvement

The Pardee Chemical Improvements Project and the Inline Water Treatment Plant (WTP) Carbon Dioxide (CO₂) Injection System Improvements Project include the addition of treatment facilities to improve water chemistry to protect aqueduct lining materials.

The Pardee Chemical Improvements Project includes installation of a new lime storage and slaker facility; a new CO₂ storage, dissolution and injection system; a new operations and maintenance building; and development of chemical injection alternatives into the Pardee Tunnel at the Pardee Center Chemical Plant.

The Inline WTP CO₂ Injection System Improvements Project includes installation of a CO₂ system on the aqueducts at Walnut Creek, as well as at the three in-line WTPs (Lafayette, Orinda, and Walnut Creek).

These projects are anticipated to have a significant increase in upcountry operations, maintenance and utility costs, but minimal increase at the inline WTPs. Also, water chemistry will be improved to protect aqueduct lining materials.

San Pablo Clearwell Replacement

San Pablo Clearwell, a 5.4 MG open-cut reservoir located in Kensington, will be demolished and replaced with two 3.5 MG concrete reservoirs, along with replacement of the rate control station, pipelines, and chlorine contact baffles. The pre-cast concrete roof of the San Pablo Reservoir is structurally unsafe and has roof access restrictions. Also, the lining, outlet tower structure, valves, and extension stems require replacement.

Operational costs are anticipated to decrease incrementally as the new facilities will improve access for maintenance activities and require less emergency maintenance.

Seneca Reservoir Demolition

Seneca Reservoir, a 30 MG open-cut reservoir located in Oakland, will be demolished and the property offered for sale. The District expects to receive approximately \$3.7 million from the sale of the property.

Sobrante / Upper San Leandro / Walnut Creek Water Treatment Plants

Sobrante WTP projects include the replacement of the reclaim and solids clarifier systems. In addition, a mixing/oxygenation system will be installed at San Pablo Reservoir to reduce manganese and address taste and odor water quality issues.

Improvements to the USL WTP include replacement of the unreliable cable-vac solids collection system; rehabilitation of the reclaim and solids handling systems; installation of a filter-to-waste basin; replacement of the seismically deficient clearwell roof; rehabilitation of Filter 15 and capping of media on all filters; and installation of a 5th flocculation stage and replacement of the failing flocculation baffles.

Walnut Creek WTP projects will increase the robustness of the treatment train by installing a pretreatment system and rehabilitating Filters 1 through 4 with a modern underdrain system and updating the filter controls. The pretreatment system includes both a solids removal process and a system to address taste and odor issues for 80 MGD of WTP capacity. In addition, new solids handling improvements will be made to better thicken the sludge and reduce the number of truck loads required.

Changes to the operating costs at USL and Sobrante WTPs are uncertain. The volume and thus the cost of sewer waste discharge will be reduced, but the overall operating and maintenance impact has yet to be determined as the system has not been designed. The operating costs for the Walnut Creek WTP are expected to increase with the addition of pretreatment, as this is an added treatment process that will require energy and additional chemicals, but will improve water quality.

Sobrante and USL Water Treatment Plants Ozone

The existing ozone systems at Sobrante and USL WTPs use air to generate ozone with high operation and maintenance costs due to unreliable and obsolete ozone generators. The new ozone equipment will use oxygen to generate ozone and are much more reliable and energy efficient than the existing systems. Moreover, the new system will have a greater capacity to generate ozone to remove higher concentrations of taste and odor causing compounds that have been observed in the Sobrante and USL WTPs raw water in the past several years.

The total annual operational cost savings for the new ozone systems at these plants is estimated to be \$0.2 million, and the total annual maintenance cost savings is estimated to be \$0.5 million. Also, taste and odor issues will be reduced.

South Reservoir Replacement

South Reservoir, a 50 MG open-cut reservoir located in Castro Valley, was demolished and is being replaced with a new 9 MG concrete reservoir. The reservoir is being replaced due to water quality concerns, and pre-cast concrete roof panels that were structurally damaged.

Operational costs are expected to decrease slightly from when the 50 MG reservoir was in service. The new, smaller facility is anticipated to reduce the need for frequent reservoir treatments for water quality, and roof maintenance activities.

Summit Reservoir Replacement

The project replaces the 37 MG open-cut reservoir with a 3.5 MG concrete tank, a new flow control valve, and replacement of Woods and Shasta Pumping Plants at the same site. Construction was completed in FY19.

The smaller, appropriately sized reservoir will improve turnover and thus water quality, which will reduce or eliminate the need to manually chlorinate some reservoirs in the Berkeley hills. The project will also replace two aging pumping plants with new pumping plants, which will increase reliability and reduce the need for maintenance. The new landscape plan includes a larger landscaped area, removal of existing trees, and planting additional trees and shrubs, which may affect landscaping maintenance.

Transmission Main Corrosion Protection

This project will prioritize cathodic protection upgrades for transmission mains and large diameter pipelines, and reconfigure existing, but obsolete cathodic protection systems. Transmission mains and large diameter pipelines constitute the District's costliest pipelines. Many cathodic protection systems have reached the end of their useful life and need rehabilitation to continue to control pipeline corrosion and prevent leaks and breaks.

In FY20-24, the USL Raw Water Pipeline's and South 30 Aqueduct's cathodic protection systems will be replaced, and replacement of galvanic anodes on a District-wide basis will commence on plastic-coated steel transmission mains.

This project will decrease the likelihood of main breaks on steel pipelines by providing and maintaining cathodic protection. It is difficult to estimate the amount of savings, but the number of main breaks on steel pipelines will decrease, which will free maintenance staff from performing repairs on steel pipelines.

In addition, this project will introduce remote cathodic protection monitoring units into the transmission main system, which will save time for Corrosion Control staff. Remote monitoring units have the ability to take real-time measurements that can be reviewed online using satellite or cellular communication.

Upper San Leandro and Sobrante WTP Control System Upgrades

This project will replace the antiquated WTP controls systems with modern systems at the USL and Sobrante WTPs to resolve reliability/maintainability issues. Improvements will include the addition of local indication and controls to support manual operation, as well as Phase II upgrades at both Sobrante and USL WTPs.

The project is anticipated to decrease the operational and maintenance costs associated with fixing the antiquated Moore controllers.

FIVE-YEAR FINANCIAL FORECAST

SUMMARY

The five-year financial forecast presents the estimated impact of operations, debt service requirements and reserve balances on rate projections over the five-year period.

This forecast is built upon:

- Adopted District financial policies
- Capital investments in the FY20-FY24 CIP

This forecast identifies a series of rate increases for the Water System based on estimated increases in operating and capital expenditures to maintain service levels, meet mandated program requirements, and pay increased debt service to fund capital expenditures.

On average over the five-year period, revenues are forecast to increase 5.4 percent per year to cover the increases in operating and capital expenses, and maintain a minimum of 1.6 times coverage on revenue bond debt service. Forecasted operating expenses are expected to grow by 4.4 percent per year over the five-year period, while debt service grows 5.2 percent per year.

The key factors driving the need for increased Water System revenues are:

- Increasing labor and benefit costs
- Inflation on non-labor products and services
- Impact of lower customer water demand and revenue
- Increasing capital program costs

For all five years, the cash reserves exceed the cash reserve targets. Reserves in excess of those needed to meet financial reserve targets are available to pay for a significant portion of the capital program expenses with cash, a positive financial metric.

Capital cash flow spending, including the administration of capital, is projected at \$1.9 billion over the five-year period. Major programs to be undertaken during this period include Pipelines, Regulators and Appurtenances programs; Water Treatment Plant Upgrades; Raw Water Aqueduct Improvements; Pressure Zone Improvements; and Reservoir Rehabilitation.

The projected average percentage of capital funded from debt will be 49.4 percent over the five-year period significantly lower than the financial policy target maximum of 65 percent. In FY20 and FY21, the debt coverage ratio is projected at 1.88 and 1.89, respectively, and for all five years the ratio exceeds the target coverage ratio of 1.60.

OPERATIONS

The following table shows the financial forecast for the Water System operating budget based on projected operations and maintenance expenses and debt service requirements.

Water System Operating Budget Five-Year Financial Forecast (\$ Millions)							
	FY18 Actuals	FY19 Budget	Forecast				
			FY20	FY21	FY22	FY23	FY24
Beginning Balance	-	-	332.8	383.2	357.0	396.5	411.8
Water Charges	480.8	507.5	543.5	582.5	617.3	653.7	692.3
Property Taxes	34.7	30.7	35.0	35.8	36.7	37.6	38.5
Power Sales	7.0	3.7	5.0	5.0	5.0	5.0	5.0
Interest Income	7.5	7.4	9.3	9.6	9.8	10.5	11.1
SCC Revenue	69.3	28.0	40.0	40.0	40.0	40.0	40.0
Reimbursements	11.7	11.9	12.3	12.6	13.0	13.4	13.8
All Other Revenue	<u>19.8</u>	<u>18.1</u>	<u>18.2</u>	<u>18.4</u>	<u>18.6</u>	<u>18.8</u>	<u>19.0</u>
Total Operating Revenues	630.7	607.2	663.2	703.9	740.4	778.9	819.6
Revenue Funded Capital	115.3	101.1	105.4	197.0	140.8	178.4	175.1
Operations	251.0	292.5	299.3	315.4	328.3	341.9	356.0
Debt Service	<u>183.8</u>	<u>210.0</u>	<u>208.2</u>	<u>217.7</u>	<u>231.8</u>	<u>243.4</u>	<u>255.0</u>
Total Expenses	550.1	603.6	612.9	730.1	700.9	763.7	786.1
Ending Balance	-	-	383.2	357.0	396.5	411.8	445.3
Policy Reserves	-	-	182.2	191.2	204.5	217.9	231.4

The following table shows the key assumptions used to create the revenue forecast.

Water System Key Assumptions Five-Year Financial Forecast							
	FY18 Actuals	FY19 Budget	Forecast				
			FY20	FY21	FY22	FY23	FY24
Water Sales Volume (mgd)	144.5	141	141	143	144	146	147
% Rate Increase	9.25%	9.00%	6.50%	6.25%	5.00%	5.00%	5.00%
Average monthly single family residential bill based on 8 ccf/month	\$51.49	\$56.12	\$59.74	\$63.47	\$66.64	\$69.98	\$73.47
Debt Service Coverage Ratio	2.15	1.60	1.88	1.89	1.85	1.87	1.89

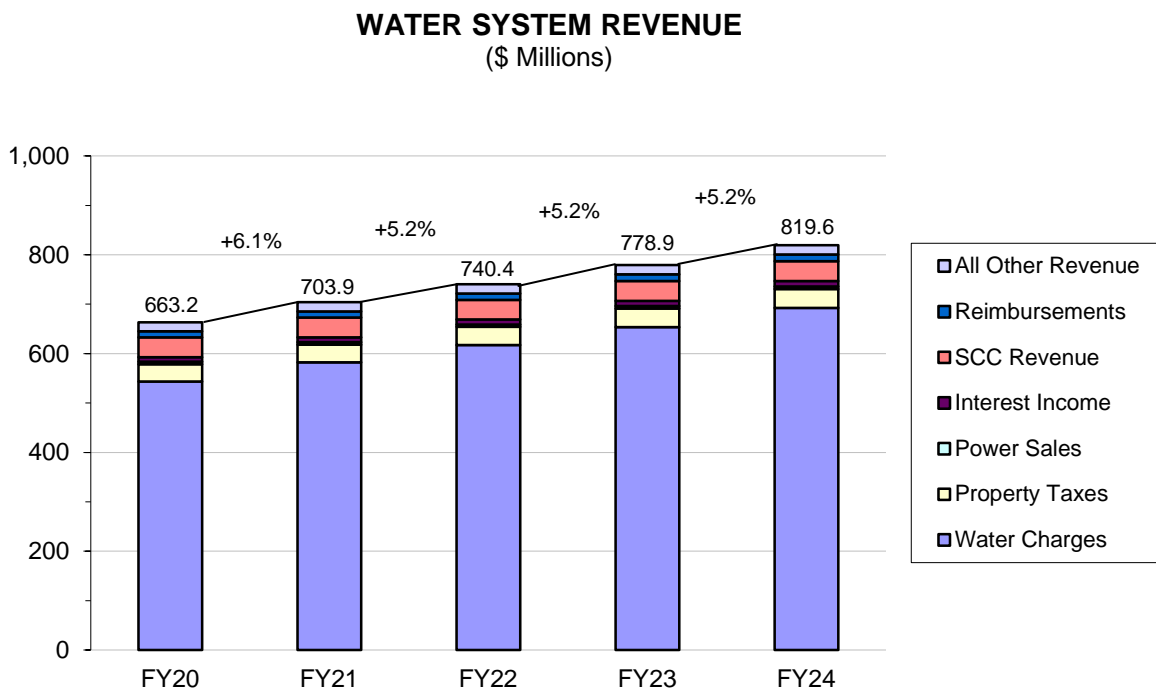
Five-Year Projection of Revenue

The key factors driving the need for increased Water System revenues are: increasing labor and benefit costs, inflation on non-labor products and services, the impact of the lower customer water use, and an increase in funding the capital program from revenue rather than debt. Water System revenues will be used to pay for an increasing amount of capital expenditures on a pay-as-you-go basis.

Projected annual operating revenues are expected to increase from \$663.2 million in FY20 to \$819.6 million by FY24, an increase of \$156.4 million or 5.4 percent per year. The increase in revenue over the five-year period is to cover increased costs in operations and maintenance, debt service requirements, and revenue funding for capital projects.

The major components of the increases in operating revenue over the five-year period are revenue from Water Charges which is projected to increase from \$543.5 million in FY20 to \$692.3 million in FY24 based on water rate increases; interest rate increases as they recover from historic lows; and increased property tax revenue.

The following chart shows projected Water System operating revenue by category for the next five years.



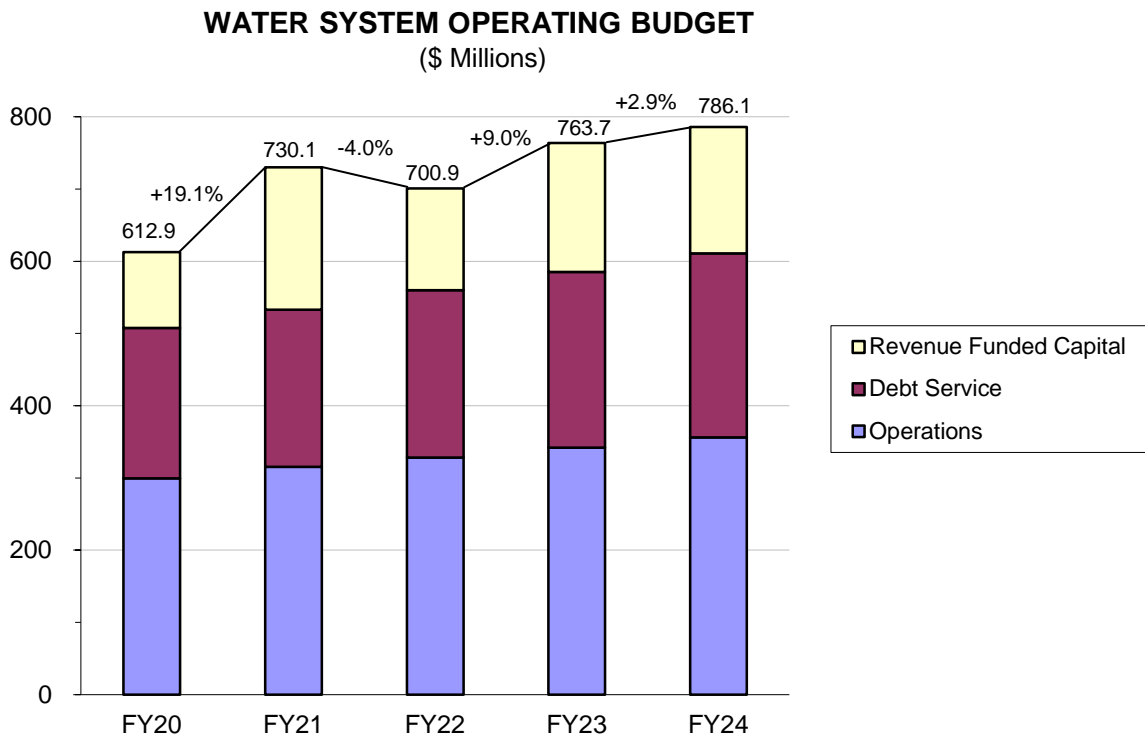
Five-Year Projection of Operating Budget

The Water System operations expenses are projected to increase from \$299.3 million in FY20 to \$356.0 million in FY24, an increase of 4.4 percent per year.

Debt service requirements are expected to increase from \$208.2 million in FY20 to \$255.0 million by FY24, an increase of 5.2 percent per year. The five-year increase results in \$956.5 million of new debt that will be issued to finance the Water System CIP.

The District uses rate revenue to cash fund a portion of its annual CIP expenses. The amount of revenue funded capital increases over the five-year period from \$105.4 million in FY20 to \$175.1 million in FY24, an increase of 66.1 percent. In FY22, the decrease in the operating budget is the result of less revenue funding of the capital program and use more bond proceeds in that year.

This chart summarizes projected Water System budget by category for the next five years.



Five-Year Projection of Reserves

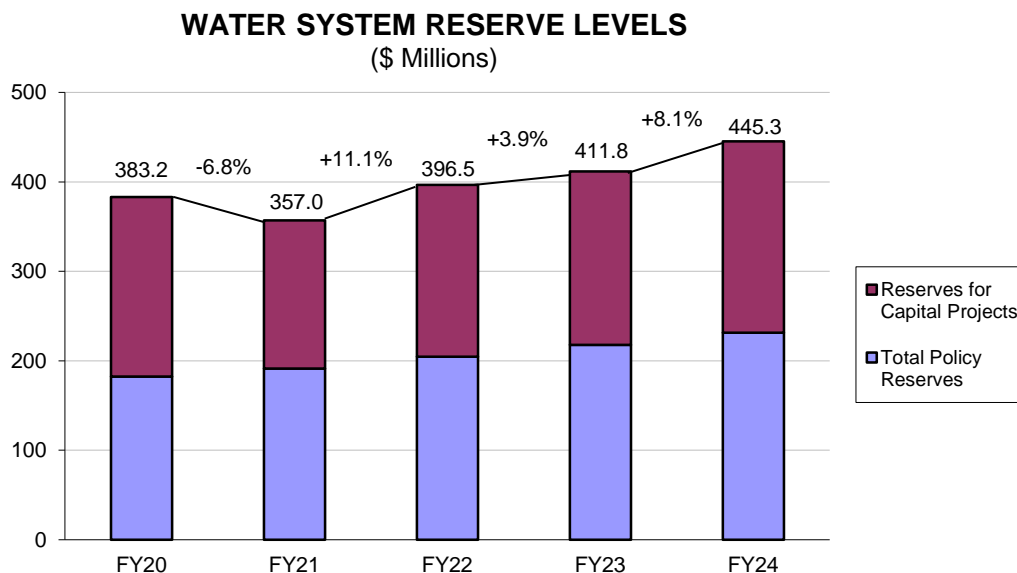
The operating reserves consist of:

- Working capital reserves equal to three months operating and maintenance expenses
- Self-Insured Liability reserve based on the actuarial Self-Insured Retention (SIR) funding recommendation
- Workers' Compensation reserve based on the actuarial SIR funding recommendation
- Rate stabilization reserve of a minimum of 20 percent of projected annual water volume revenues

The table below shows the changes to reserve components over the five-year period. Reserve balances meet or exceed the policy reserve levels for the entire period.

Water System Reserve Components (\$ Millions)					
	Forecast				
	FY20	FY21	FY22	FY23	FY24
Projected Operating Budget Reserves	383.2	357.0	396.5	411.8	445.3
Policy Reserves					
Working Capital	74.8	78.8	82.1	85.5	89.0
Self-Insured Liability Reserve	7.0	7.0	7.0	7.0	7.0
Workers' Compensation Reserves	5.4	5.4	5.4	5.4	5.4
Rate Stabilization Reserve	95.0	100.0	110.0	120.0	130.0
Total Policy Reserves	182.2	191.2	204.5	217.9	231.4
Reserves Available for Capital Projects	201.0	165.7	192.0	193.9	213.9

The following chart shows Water System reserve levels projected at the end of each fiscal year.



CAPITAL INVESTMENTS AND FINANCING

The Five-Year CIP outlines Water System capital investment plans, the estimated cost of these investments, and the sources of funds. Appropriations reflect the amount that is authorized and budgeted over a multi-year period for each program. Cash flows are the amounts estimated to be spent on each program in a given year. The five-year program for the Water System includes \$2.2 billion in capital project appropriations, including administration of capital expenses, and \$1.9 billion in projected cash flow spending.

The focus of the CIP is the five-year period from FY20-24. Capital needs have been estimated for a second five-year period from FY25-29, but given the long-term nature of these capital improvement plans, by necessity they are preliminary estimates only and will be revised as studies are completed, priorities are redefined, and as new needs emerge. Therefore, the budget focuses on the first five years of the CIP.

Funding for the CIP is drawn from the proceeds of revenue bond issues, commercial paper, grants, reimbursements from developers and other agencies, and current reserves and revenues.

For the FY20-24 CIP, an increasing amount of capital expenditures will be funded on a pay-as-you-go basis in accordance with the District's financial policies. Over the five-year period, the percentage of capital funded from debt will average 49.4 percent, under the target maximum of 65 percent contained in the District's debt policy, and debt service will grow by 5.2 percent per year. Water System total outstanding debt will increase \$422.2 million during the period. Total debt outstanding at the end of the five-year period will total \$2.9 billion.

In FY20 and FY21, the debt coverage ratio is projected at 1.88 and 1.89, respectively, and for all five years the ratio exceeds the target coverage ratio of 1.60.

The following table shows the cash flow spending on capital improvements anticipated for the next five years, along with the financial resources anticipated to fund the capital program.

Water System Capital Budget						
Five-Year Financial Forecast (\$ Millions)						
	Forecast					
	FY20	FY21	FY22	FY23	FY24	Total
Beginning Balance	0.0	0.0	0.0	0.0	0.0	-
Resources						
Revenue Funded Capital	105.4	197.0	140.8	178.4	175.1	796.7
New Bond Proceeds	200.4	156.8	228.3	172.5	179.3	937.4
Loans Proceeds	-	-	-	-	-	-
Grants	-	-	-	-	-	-
Reimbursements	32.0	31.7	30.6	34.2	33.4	161.8
Commercial Paper	-	-	-	-	-	-
Total Resources	337.7	385.5	399.7	385.1	387.8	1,895.9
Expenditures						
Capital Cash Flow	297.7	345.5	358.4	342.5	343.8	1,687.9
Administration of Capital	40.0	40.0	41.3	42.6	44.0	208.0
Total Expenditures	337.7	385.5	399.7	385.1	387.8	1,895.9
Ending Balance	0.0	0.0	0.0	0.0	0.0	-
Debt Percentage of Funding	59.3%	40.7%	57.1%	44.8%	46.2%	49.4%

Projected new bond issues, outstanding debt, and debt service are shown in the following table.

Outstanding Debt and Debt Service at End of Fiscal Year (\$ Millions)					
	Forecast				
	FY20	FY21	FY22	FY23	FY24
Beginning of Year Outstanding Debt	2,347.3	2,483.8	2,571.2	2,725.0	2,815.3
Debt Retired	68.1	72.6	79.2	85.7	92.3
New Bond Issues and Commercial Paper	204.5	160.0	233.0	176.0	183.0
Total Outstanding Debt	2,483.8	2,571.2	2,725.0	2,815.3	2,906.0
Debt Service, Existing Debt	190.0	189.0	188.7	188.8	188.5
Debt Service, New Debt	13.3	23.7	38.9	50.3	62.2
Debt Servicing Costs	4.9	5.0	4.2	4.3	4.3
Total Debt Service	208.2	217.7	231.8	243.4	255.0

CHAPTER 4: WASTEWATER SYSTEM

This chapter provides a detailed description of the Wastewater System including discussions of the following topics:

- Fund Summary
- Sources of Funds
- Use of Funds
- Staffed Department Operations
- Debt Service and Financing
- Capital Improvement Program
- Five-Year Financial Forecast



Digester

The Wastewater System Fund is an enterprise fund consisting of an operating and a capital budget. The function of the Wastewater System is the treatment of wastewater from residences and industries in the communities of Alameda, Albany, Berkeley, Emeryville, Oakland, Piedmont, and the Stege Sanitary District. The Wastewater System receives administrative, financial, and other support services from the Water System.

The following are key projections and assumptions utilized in the FY20 and FY21 budget.

Wastewater System Fund – Key Assumptions		
	FY20	FY21
% Rate Revenue Increase	4.0%	4.0%
Average monthly single family residential bill based on 6 ccf/month	\$22.15	\$23.02



Main Wastewater Treatment Plant

FUND SUMMARY

The fund summary illustrates the beginning and ending fund balances as well as revenues, expenditures, and other financing sources/uses. The following table shows the fund balance, and projected revenues and expenditures for the Wastewater System for FY20 and FY21.

Wastewater System Fund Summary						
Operating and Capital Budgets (\$ Millions)						
	FY20			FY21		
	Operating	Capital	Balance	Operating	Capital	Balance
Beginning Balance (Projected)	103.0	0.0	103.0	89.4	0.0	89.4
Sources of Funds						
Operating Revenues						
Treatment Charges	77.8		77.8	80.9		80.9
Resource Recovery	10.0		10.0	10.0		10.0
Wet Weather Facilities Charge	27.5		27.5	28.5		28.5
Property Taxes	5.4		5.4	5.6		5.6
Ad Valorem Bond Levy	-		-	-		-
Interest Income	2.4		2.4	2.1		2.1
Laboratory Services	4.4		4.4	4.5		4.5
Reimbursements	1.5		1.5	1.5		1.5
Permit Fees	1.6		1.6	1.6		1.6
Capacity Charges	4.0		4.0	4.0		4.0
All Other Revenue	5.7		5.7	5.7		5.7
Total Operating Revenues	140.2		140.2	144.4		144.4
Capital Funding Sources						
New Bond Proceeds		-	-		-	-
Loans Proceeds		-	-		-	-
Grants		-	-		-	-
Reimbursements		-	-		-	-
Commercial Paper		-	-		-	-
Total Capital Sources		0.0	0.0		0.0	0.0
Revenue Funded Capital	(48.5)	48.5	-	(46.0)	46.0	-
Total Sources of Funds	91.7	48.5	140.2	98.4	46.0	144.4
Use of Funds						
Operations	75.1		75.1	78.6		78.6
Debt Service	30.2		30.2	29.8		29.8
Capital Cash Flow	-	48.5	48.5	-	46.0	46.0
Total Use of Funds	105.3	48.5	153.8	108.4	46.0	154.4
Ending Balance *	89.4	0.0	89.4	79.4	0.0	79.4

* Includes reserves for working capital, self-insurance, worker's compensation, contingency, rate stabilization, and capital projects.

SOURCES OF FUNDS

The Wastewater System has a variety of revenue sources that are used to fund operations, and a portion of the capital expense. The remaining capital expense is funded primarily by bonds and reimbursements.

The table below displays FY18 actuals, FY19 budget, and projections for operating revenue and capital funding sources.

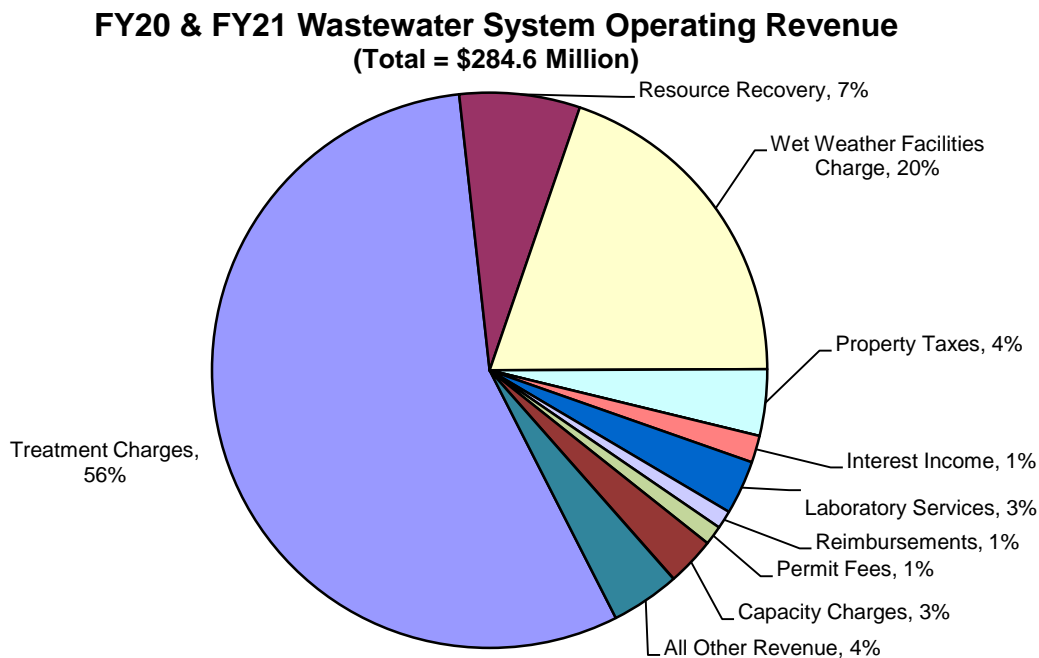
Wastewater System Sources of Funds (\$ Millions)				
	FY18 Actuals	FY19 Budget	FY20 Budget	FY21 Budget
Operating Revenues				
Treatment Charges	73.1	75.3	77.8	80.9
Resource Recovery	11.8	8.0	10.0	10.0
Wet Weather Facilities Charge	24.3	25.2	27.5	28.5
Property Taxes	5.4	4.9	5.4	5.6
Ad Valorem Bond Levy	1.3	0.0	0.0	0.0
Interest Income	0.9	1.5	2.4	2.1
Laboratory Services	4.4	4.3	4.4	4.5
Reimbursements	1.3	1.4	1.5	1.5
Permit Fees	1.7	1.6	1.6	1.6
Capacity Charges	11.7	1.9	4.0	4.0
All Other Revenue	5.9	5.7	5.7	5.7
Total Operating Revenues	141.8	129.9	140.2	144.4
Revenue Funded Capital	(20.9)	(25.8)	(48.5)	(46.0)
Capital Funding Sources				
Revenue Funded Capital	20.9	25.8	48.5	46.0
New Bond Proceeds	21	13.7	0.0	0.0
Loans Proceeds	-	-	-	-
Grants	-	-	-	-
Reimbursements	-	-	-	-
Commercial Paper	-	-	-	-
Construction Fund	-	-	-	-
Total Capital Funding Sources	41.4	39.5	48.5	46.0
Total Wastewater Sources	162.3	143.6	140.2	144.4

Operating Revenue

Wastewater System operating revenues for FY20 are budgeted to increase \$10.3 million or 8.0 percent compared to FY19, for a total of \$140.2 million. The Treatment Charges total \$77.8 million, an increase of \$2.5 million compared to the FY19 budget. Resource Recovery revenue is increasing \$2.0 million to more closely reflect most recent actuals. Wet Weather Facilities Charge revenue in FY20 is projected to increase \$2.3 million from the FY19 budgeted amount. Property Tax revenue is increasing \$0.5 million to reflect projected collections. Interest Income is increasing \$0.9 million due to higher projected interest rates. Reimbursement income from the Water System is increasing \$0.1 million due to work done by Wastewater staff on the recycled water programs that benefit water system customers. Capacity Charge revenue is increasing \$2.1 million compared to FY19 due to continued building activity in the service area.

In FY21, Wastewater System operating revenues are budgeted to increase \$4.2 million, or 3.0 percent for a total of \$144.4 million. This increase is comprised primarily of the additional \$4.1 million from rate increases in the Treatment and Wet Weather Facilities Charges.

The figure below illustrates the various sources of revenue and the relative percentage each contributes to the total. Wastewater Treatment Charges revenue is the largest source of revenue comprising 56 percent of FY20 and FY21 total revenues. The second largest source of revenue is the Wet Weather Facilities Charge at 20 percent.



Operating Revenue Descriptions

The following are descriptions of the sources of operating revenue, including information about the projected revenues for FY20 and FY21.

Treatment Charges

The District provides treatment for discharges collected through city-owned sewers and transported through District interceptors and pump stations to the Main Wastewater Treatment Plant (MWWTP). Treatment Charges for all customers are based on the volume and strength of the wastewater discharged plus a service charge, and are collected on the water service bill. The revenue generated by the various Treatment Charges is projected to increase by 3.3 percent for FY20 and an additional 4.0 percent for FY21. The District completed a wastewater cost of service study in 2019 that resulted in small relative changes to the FY20 Treatment Charges and the Wet Weather Facilities Charge. After the rate changes for FY20, the Treatment Charge will total \$77.8 million, which is 3.3 percent higher than FY19. For FY21, the Treatment Charge will be \$80.9 million, an increase of \$3.1 million or 4.0 percent.

Resource Recovery

Excess capacity at the MWWTP is utilized by accepting trucked waste. The Resource Recovery Program is projected to generate \$10.0 million in FY20 and in FY21.

Wet Weather Facilities Charge

In June 1987, the Board of Directors established the Wet Weather Facilities Charge to pay for the costs associated with the District wet weather facilities. This charge is assessed on a per parcel basis and, while it is not a tax, the charge is collected on the county property tax bill. The charge is projected to collect approximately \$27.5 million in FY20, a 9.1 percent increase over the FY19 budget. In FY21, the projected revenue is \$28.5 million, a 3.6 percent increase.

Property Taxes

The District receives a portion of the one percent county levy on properties within District boundaries. For FY21, revenues are projected to be \$5.6 million or \$0.2 million.

Interest Income

The District places funds not needed for current expenditures in short-term investments, following the same procedures as the Water System. Interest Income in FY20 is projected to be \$2.4 million, an increase of \$0.9 million over the FY19 budgeted amount due to an increase in the projected interest rates. Interest Income in FY21 is projected to be \$2.1 million. Interest earned is assumed to be 2.5 percent in FY20 and in FY21.

Laboratory Services

The Wastewater laboratory provides testing and analysis services for the Water and Wastewater Systems and several outside agencies. The Water and Wastewater Systems share in the joint costs of operating the lab. Revenues from the Water System and outside agencies are projected to be \$4.4 million for FY20 and \$4.5 million for FY21.

Reimbursements

The Wastewater System is reimbursed from the Water System for work performed by Wastewater staff on the recycled water programs. In FY20 and in FY21, the estimated revenue from reimbursements is \$1.5 million.

Permit Fees

The District collects fees to fund its pollution prevention programs and the discharge permit programs. In FY20 and in FY21, the estimated revenue from these permit fees will be \$1.6 million.

Capacity Charges

Wastewater Capacity Fees (WCF) are collected from customers requesting new wastewater service. WCF revenue for FY20 and FY21 is projected at \$4.0 million each year, which is a \$2.1 million increase from the amount budgeted for FY19. Due to the increase in building development activity in the service area, the WCF revenue collected has been over \$8.0 million in each of the past three years. The budgeted WCF revenue of \$4.0 million assumes that the level of building development activity will remain higher than normal, but below the trend of the past three years.

All Other Revenue

Included in this category are lease revenue of District properties, reimbursements from the U.S. Treasury under the Build America Bonds program, revenue from energy sales at the Power Generation Station (PGS), and private sewer lateral fees. All Other revenue is expected to remain at \$5.7 million for FY20 and FY21.

Capital Funding

The following are descriptions of the sources of capital funding. The Capital Improvement Program (CIP) will be funded with wastewater revenue and reserves; there is no anticipated issuance of bonds to pay for capital in FY20 and FY21. Revenue and reserves fund the \$48.5 million of capital projects in FY20 and \$46.0 million of capital projects in FY21.

New Bond Proceeds

The District has the ability to issue long-term bonds to fund its capital program. The proceeds of the bond sales can be used to pay for capital expenses over several years. The repayment of the bonds is generally over 30 years and is paid from wastewater rate revenues.

Commercial Paper Issues

In addition to issuing long-term bonds to fund its capital program, the District has used short-term borrowing in the form of commercial paper to raise revenues for capital expenses. The term of commercial paper can be up to 270 days. The repayment of commercial paper is paid from wastewater rate revenues.

Grants and Loans Proceeds

The District pursues federal and state grants and low-interest loans to fund some of its capital projects when they meet the conditions of the grant and loan programs.

Reimbursements

Some of the capital projects in the Wastewater System are performed at the request of other agencies, and the District is reimbursed for its expenses. An example would be the relocation of a portion of the sewer interceptor at the request of a city or state agency.

Revenue Funded Capital

Annual capital expenses that are not paid from debt funding, grants, loans or reimbursements must be paid from revenues, either from current year revenues or from reserves.

Please refer to the section Debt Service and Financing for additional details on debt funding of capital projects.

USE OF FUNDS

The Wastewater System has three types of expenditures:

Operations, or the annual costs of providing all wastewater services;

Debt Service, or the repayment of bonds for making capital investments in the wastewater system; and

Capital cash flow, or the annual costs of the CIP for long-term projects.

The following table shows the breakdown of expenses for operations, debt service, and capital cash flow.

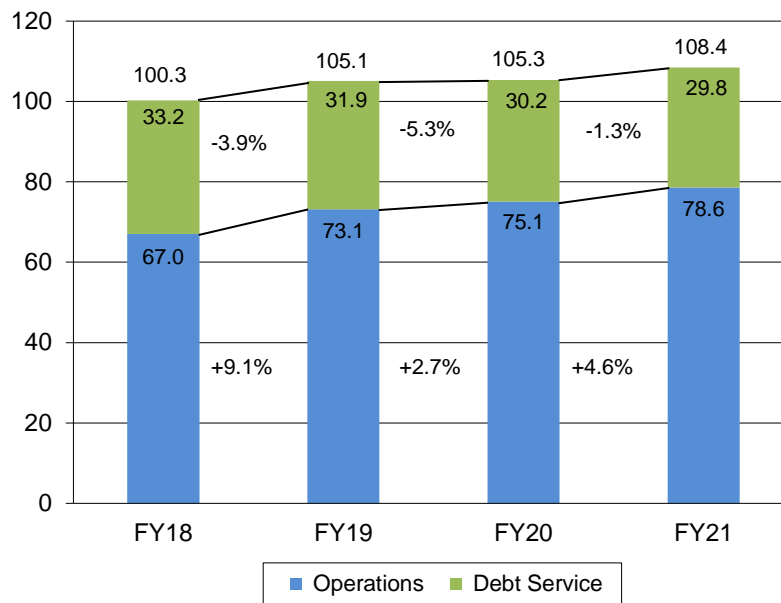
Use of Funds (\$ Millions)				
Expenditure Type	FY18 Actuals	FY19 Budget	FY20 Budget	FY21 Budget
Operations	67.0	73.1	75.1	78.6
Debt Service	33.2	31.9	30.2	29.8
Capital Cash Flow	<u>35.1</u>	<u>39.5</u>	<u>48.5</u>	<u>46.0</u>
Total Expenditures	135.4	144.6	153.8	154.4

Operating Budget

This section contains charts and tables which explain the major components of the Wastewater System operations budget. Typical operations expenditures include, but are not limited to labor, benefits, chemicals, energy, spoils/sludge disposal, parts, materials, and fees and licenses.

In FY20, the operations and debt service budget is increasing \$0.2 million or 0.2 percent over the FY19 budget, and in FY21 will increase \$3.1 million or 2.9 percent as shown below.

FY18-FY21 Operations and Debt Service
(\$ Millions)



The operations budget is also shown on the following pages.

Department Operating Budget

The operations portion of the Wastewater System budget is divided into three departments which are staffed, contingency, and administration of capital. The staffed department includes all employees assigned to work in the Wastewater department. The staffed department budget funds the day-to-day operations of the Wastewater System, and includes funding for labor, benefits, outside contract services and other non-labor expenses such as chemicals, energy, spoils and sludge disposal, parts and materials, and fees and licenses. A detailed description of the staffed department is included later in this chapter.

A small number of departments do not have personnel assigned to them and are referred to as non-staffed departments. The impact on the budget by each of the following departments varies:

Contingency - Funds are budgeted each fiscal year to cover projected labor-related expenses such as the employee cost of living adjustment which is based upon each year's February Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) in the San Francisco-Oakland-Hayward area. The contingency budget also includes funding for unanticipated needs which may arise before the next budget cycle.

Administration of Capital - The administration of capital represents those costs that are not directly attributable to specific capital projects but are more generalized indirect support of the CIP. The administration of capital in the operations budget will decrease operating expense by a like amount and reallocate the costs to the capital budget.

The following table presents the total FY20 and FY21 Wastewater System operating budget by department.

Operating Budget by Department (\$ Millions)						
Departments	FY18 Actuals	FY19 Budget	FY20		FY21	
			Budget	% Chg	Budget	% Chg
Wastewater	70.5	76.4	75.4	-1.4%	77.1	2.3%
Staffed Department	70.5	76.4	75.4	-1.4%	77.1	2.3%
Contingency	0.2	(0.3)	2.7	-	4.5	-
Administration of Capital	(3.6)	(3.0)	(3.0)	0.0%	(3.0)	0.0%
Operations	67.0	73.1	75.1	2.7%	78.6	4.6%
Debt Service	33.2	31.9	30.2	-5.3%	29.8	-1.3%
Total Operating	100.3	105.1	105.3	0.2%	108.4	2.9%

Department Operations Budget Highlights

The Wastewater System is comprised of one staffed department that performs all aspects of wastewater system operations. This section details the department's labor and non-labor budget, department goals and staffing.

Labor and Benefits

Labor and benefits are allocated between the staffed department and contingency for cost of living adjustments. Cost of living adjustments are not shown in the staffed department's FY20 and FY21 labor and benefits budget since it is based on the CPI-W index and the amount is not known until the index is published annually. Once the index is published, and if funds are needed, contingency would be transferred to the department. The details of the department's labor and benefits budget are shown later in this chapter.

Additional positions have been funded over the prior biennial budget. A number of complex drivers impact the labor and benefits budget beyond funding additional positions. One of the major complex drivers is a slower than projected rise in benefit costs which offset rising labor costs compared to the prior biennial budget. In FY20, total labor and benefits compared to FY19 represent a decrease of 0.7 percent. Despite the upward pressures of funding additional positions, overtime and standby, the resulting decrease in total labor and benefits is primarily offset by a slower than projected rise in benefits cost. In FY21, total labor and benefit costs increase by 1.2 percent compared to FY20 primarily for scheduled step increases.

Unlike the Water System, the Wastewater System has only one staffed department as mentioned earlier. Therefore, the department's labor and benefits are explained in greater detail in the budget highlights later in this chapter.

Non-labor

The Wastewater staffed department non-labor costs are budgeted to decrease \$1.0 million or 3.2 percent in FY20 and will increase \$1.2 million or 3.8 percent in FY21 compared to the prior fiscal year. A detailed explanation of the significant changes is shown in the department budget highlights section later in this chapter.

Department Operations by Budget Category

The table below depicts the Wastewater System staffed department operations by expense category. It does not include capital labor; however, capital labor by department is shown later in this chapter.

FY20 & FY21 Department Operations by Categories (\$ Millions)								
Department	FY20				FY21			
	Labor	Cont Svc	Other	Total	Labor	Cont Svc	Other	Total
Wastewater	44.0	4.5	26.8	75.4	44.5	4.5	28.0	77.1
Total	44.0	4.5	26.8	75.4	44.5	4.5	28.0	77.1

STAFFED DEPARTMENT OPERATIONS

This section describes the staffed department and includes the following topics:

Overview provides an overall statement about the key responsibilities of the department within the larger mission of the District as a whole.

Description of Services Provided describes the responsibilities of the department, by unit (division) or by function, including services required to meet regulatory or legal requirements.

FY20 & FY21 Goals highlight the highest priority tasks or projects related to the budget, and the District Strategic Plan.

Department Budget Summary is a reference table that shows the Department's operating budget expenditures by category (Labor and Benefits, Contract Services, Other Costs). It also includes capital labor to detail a more comprehensive view of the departmental budgets.

Budget Highlights shows changes in cost relative to the previous fiscal year and describes reasons for those changes. This section focuses on the significant budget change.

Staffing Summary is a reference table that shows the Full-Time Equivalency (FTE) for the department by appointment type (full-time, part-time, etc.).

Staffing Changes is a section included only if the department has position changes that require Board approval. It includes a table that enumerates position changes, followed by a brief description of the changes. The change in cost is determined by comparing the annual cost of the salaries and benefits of the current classification with the annual cost of the new classification at the top salary step.

WASTEWATER DEPARTMENT (WAS)

OVERVIEW

The Wastewater Department operates and maintains District wastewater treatment facilities to comply with environmental and public health requirements. The primary goal of the department is to ensure public health and safety by meeting or surpassing federal, state and local regulations regarding air, biosolids and water quality. The department strives to protect the environment by reducing or eliminating the discharge of toxic and noxious substances to the air, land and San Francisco Bay and recovering water, energy and nutrients from waste.

DESCRIPTION OF SERVICES PROVIDED

The department includes the Wastewater Treatment, Wastewater Engineering, Laboratory Services, and Environmental Services divisions, as well as Infiltration/Inflow Control and Nutrient Management. These groups work together to operate and maintain the wastewater interceptor system, MWWTP, water recycling facilities, and three wet weather facilities. The department plans for future regulatory changes, such as those related to nutrient management; plans, designs and manages the construction of capital projects; monitors discharges from all wastewater customers; issues commercial and industrial discharge permits; manages the Regional Private Sewer Lateral Program and implements projects to reduce infiltration and inflow; and tests water and wastewater samples and reports analytical results.

FY20 & FY21 GOALS

The department has a key role in the Water Quality and Environmental Protection, Long-Term Infrastructure Investment, and Long-Term Financial Stability Strategic Plan goals. Key department goals include:

- Initiating planning activities to cost-effectively balance long-term infrastructure renewal needs with future regulatory requirements;
- Rehabilitating infrastructure to maximize utilization of existing capital investments and to ensure operational reliability for protecting public health and the environment;
- Reducing environmental impacts on the San Francisco Bay during wet weather events through reducing inflow and infiltration and constructing facilities to improve wet weather flow management;
- Continuing a regional leadership role to ensure a collaborative, science-based approach to address potential nutrient impairment in San Francisco Bay; and
- Pursuing opportunities to grow the Resource Recovery Program to recover energy and nutrients from wastes.

DEPARTMENT BUDGET SUMMARY (WAS)

The department's projected spending is compared to prior years in the table below.

Category (\$ Thousands)	FY18	FY19	FY20		FY21	
	Actuals	Budget	Budget	% Chg	Budget	% Chg
Total Labor and Benefits	50,830	54,775	54,406	-0.7%	55,061	1.2%
Less: Capital Labor and Benefits	<u>(9,334)</u>	<u>(10,723)</u>	<u>(10,370)</u>	-3.3%	<u>(10,512)</u>	1.4%
Operating Labor and Benefits	41,496	44,052	44,036	0.0%	44,549	1.2%
Contract Services	5,060	4,413	4,517	2.4%	4,531	0.3%
Other Costs	<u>23,917</u>	<u>27,983</u>	<u>26,832</u>	-4.1%	<u>28,001</u>	4.4%
Operating Total	70,474	76,448	75,385	-1.4%	77,082	2.3%

BUDGET HIGHLIGHTS

The department's total operating budget in FY20 is decreasing \$1.1 million or 1.4 percent compared to FY19. In FY21, the budget will increase \$1.7 million or 2.3 percent compared to the prior fiscal year. Significant budget changes include:

FY20

Total labor and benefits costs are projected to decrease \$0.4 million due to employees with lower starting salaries than employees they replaced and a slower than projected rise in benefits cost. Capital labor and benefit costs are decreasing \$0.4 million primarily due to the shift in labor to operating and a slower than projected rise in benefits cost. Contract services are increasing \$0.1 million primarily to support the Electrical Integrity Program (EIP). Other costs are decreasing \$1.2 million primarily for lower planned use of chemicals due to optimization but are offset by increases for spoils/sludge disposal, reimbursable costs to the Water System, fees/licenses, and equipment/vehicle rentals.

FY21

Total labor and benefits costs are projected to increase \$0.7 million primarily due to scheduled salary step increases. Other costs will increase \$1.2 million primarily due to chemical costs, reimbursable expense to the Water System, spoils/sludge disposal, facility parts/materials, energy, vehicle usage, and additional drivers such as insurance premiums and license fees.

STAFFING SUMMARY

The table below summarizes the transfers that have occurred among departments. There are no other staffing changes.

Position Type	FY18	FY19	FY20	FTE Chg	FY21	FTE Chg
Full-Time	283.0	284.0	283.0	(1.0)	283.0	0.0
Limited-Term / Temp Construction	4.0	5.0	5.0	0.0	5.0	0.0
Intermittent	0.0	0.0	0.0	0.0	0.0	0.0
Temporary / Part-Time	0.5	0.5	0.5	0.0	0.5	0.0
Total FTE	287.5	289.5	288.5	(1.0)	288.5	0.0

In FY20, one full-time FTE has been reassigned from the Inflow & Infiltration Program to the Inter-Governmental Affairs Office in the Water System.

STAFFING

Appointment Types

The majority of the workforce is comprised of full-time civil service or full-time civil service exempt positions. Limited-term positions are intended to augment regular staff to accomplish extra work or other operational programs or activities of a limited duration, with appointments for a maximum of 4 years. Temporary construction positions are also of a limited and specified duration typically associated with capital projects. Intermittent positions represent the smallest number of appointment types and typically work 32 hours instead of 40 hours per week. Part-time positions are normally restricted to 832 hours per year. Temporary positions are limited to a 6-month duration, and are full-time during that duration.

The table below provides the full-time equivalent (FTE) by department and compares the changes from year-to-year. Depending upon the appointment type, the FTE value will be different. Full-time, limited-term and temporary construction appointment types are equivalent to 1.0 FTE; intermittent appointment types are equivalent to 0.75 FTE; part-time and temporary appointment types are equivalent to 0.5 FTE.

FY20 & FY21 Department Staffing (FTE)					
	FY19 Budget	FY20 Budget FTE Chg		FY21 Budget FTE Chg	
Wastewater System Total	289.5	288.5	(1.0)	288.5	0.0

In FY20, the Wastewater System has one less FTE than in FY19. In FY21, there are no changes in FTE for Wastewater System.

Bargaining Unit Changes

Tables below show the net change in bargaining unit status of authorized FTEs represented by different unions, Management/Confidential, non-represented groups, and civil service exempt positions. The tables reflect Board of Directors authorized additions and deletions.

FY20 vs. FY19 Net Change in Bargaining Unit Status (FTE)							
Department	Local 2019	Local 444	Local 21	Local 39	MGR/ CNF	NRP	EXMPT
Wastewater					(1)		
Total Net Change	0	0	0	0	(1)	0	0

FY21 vs. FY20 Net Change in Bargaining Unit Status (FTE)							
Department	Local 2019	Local 444	Local 21	Local 39	MGR/ CNF	NRP	EXMPT
Wastewater							
Total Net Change	0	0	0	0	0	0	0

DEBT SERVICE AND FINANCING

This section describes the Wastewater System's current and projected debt obligations, current credit ratings, and adherence to the District's debt financing policies.

The District incurs debt to finance projects or purchase, repair or replace assets which will have useful lives equal to or greater than the related debt. Issuance of revenue supported debt is authorized by the Board of Directors, subject to a referendum process. Individual revenue bond issues are authorized by the Board of Directors.

The annual debt service principal and interest payments are charged to the operating budget. However, debt is only issued to finance capital investment activities.

Outstanding Debt

The Wastewater System has a projected total outstanding debt of \$384.7 million as of June 30, 2019. The District's debt issues are summarized below and discussed in detail thereafter.

Outstanding Debt (\$ Thousands) As of June 30, 2019				
Issue	Date of Issue	Last Maturity	Amount Issued	Debt Outstanding
LONG-TERM DEBT				
Revenue Bond				
Series 2010A	10/20/2010	6/1/2029	58,095	2,680
Series 2010B (Build America Bonds)	10/20/2010	6/1/2040	150,000	150,000
Series 2012A	10/10/2012	6/1/2037	20,000	20,000
Series 2014A	8/28/2014	6/1/2031	82,150	62,935
Series 2015A	3/3/2015	6/1/2038	68,370	68,370
Series 2015B	3/3/2015	6/1/2030	2,795	2,145
Series 2017A	6/14/2017	6/1/2045	69,420	63,575
Total Revenue Bonds			450,830	369,705
General Obligations Bonds			0	0
Total Long-Term Debt			450,830	369,705
SHORT-TERM DEBT				
Extendable Commercial Paper	Various	Various	N/A	15,000
TOTAL OUTSTANDING DEBT				384,705

The District does not plan to issue additional new wastewater revenue bonds in FY20 or FY21. However, the District has a pending loan application with the California Clean Water State Revolving Fund. If this application is accepted, the District may enter into a new loan agreement during the two-year budget period.

Debt Service

The Wastewater System total outstanding debt will cost the District approximately \$250.0 million in interest payments over the next 26 years, as detailed in the table below. The principal payments below do not include payment of extendable commercial paper (ECP) principal, as there is no final maturity associated with the notes.

Interest rates on ECP are projected at 3.0 percent for FY20 and thereafter.

Projected Debt Service on Current Outstanding Debt			
(\$ Thousands)			
Fiscal Year	Principal	Interest	Debt Service
2020	10,860	18,854	29,714
2021	10,955	18,370	29,325
2022	11,480	17,826	29,306
2023	12,010	17,257	29,267
2024	12,575	16,660	29,235
2025	13,155	16,036	29,191
2026	13,760	15,382	29,142
2027	14,220	14,698	28,918
2028	14,925	13,990	28,915
2029	15,670	13,247	28,917
2030	16,445	12,475	28,920
2031	17,255	11,661	28,916
2032	18,115	10,805	28,920
2033	19,010	9,909	28,919
2034	19,955	8,963	28,918
2035	20,945	7,972	28,917
2036	21,985	6,933	28,918
2037	23,075	5,842	28,917
2038	24,365	4,697	29,062
2039	26,250	3,441	29,691
2040	27,610	2,082	29,692
2041	940	653	1,593
2042	975	616	1,591
2043	1,015	577	1,592
2044	1,055	536	1,591
2045	1,100	494	1,594
TOTAL	369,705	249,976	619,681

The debt service in the table above differs from amounts for debt in the budget. Budgeted figures include additional costs associated with the debt portfolio including re-marketing fees and debt service administration.

Debt Ratings

Credit risk is the risk that the issuer of an investment, such as a revenue bond, will not fulfill its obligation to the holder of the investment. Credit ratings are assigned to bonds by Nationally Recognized Statistical Credit Rating Organizations (NRSROs) based on published methodologies. The ratings reflect the organizations' opinions about the issuer's ability and willingness to meet its financial obligations on time and in full.

The District's strong credit ratings provide tangible benefits to ratepayers in the form of reduced debt service cost. A strong credit rating provides better access to capital markets, lower interest rates, better terms on debt, and access to a greater variety of debt products. Prudent financial management policies have contributed to the District's strong ratings shown in the table below.

As of January 1, 2019, ratings on the Wastewater System's debt were as follows:

Wastewater System Debt Ratings			
Debt by Type	Standard & Poor's	Moody's Investors Service	Fitch
Fixed Rate Revenue Bonds	AAA	Aa2	AA+
Extendable Commercial Paper	A-1+	P-1	F1+

Debt Management Policy and Debt Service Coverage

The District is subject to legal debt limits prescribed in the Municipal Utility District (MUD) Act. The MUD Act describes three types of legal limitations: general debt limits, revenue bond limits, and short-term borrowing limits.

The District's general debt indebtedness cannot exceed the ordinary annual income and revenue of the District without a two-thirds approval of the voters. However, revenue bonds are not included in general debt limits.

The District is authorized to issue revenue bonds with the approval of a resolution from the Board of Directors, subject to a 60-day referendum period. The resolution specifies the maximum principal amount of bonds that may be issued pursuant to the authorization. The Board of Directors also approves individual series of revenue bonds issued under the broader authorization.

The MUD Act authorizes the District to issue short-term indebtedness without an election of the voters. The amount of short-term borrowing cannot exceed the lesser of 1) the annual average total revenue of the three preceding years or 2) 25 percent of the District's total outstanding bonds. This provision is substantially the same as the District's internal policy discussed below.

The District has also established its own policy regarding debt management (Policy 4.02: Cash Reserves and Debt Management – see Appendix). The purpose of the debt policy is to maintain a balance between current funding sources and debt financing over each five-year plan horizon in order to retain the District's financing flexibility and achieve the lowest cost of financing.

The District's debt management policy is to:

- a) maintain an annual revenue bond debt service coverage ratio of at least 1.6 times;
- b) limit debt-funded capital to no more than 65 percent of the total capital program over each five-year planning period; and
- c) limit commercial paper/variable rate debt to 25 percent of outstanding long-term debt.

Debt Service Coverage Ratio

The debt service coverage policy ensures that the District has sufficient annual operating revenues to pay its operating expenses and meet its debt service obligations on its revenue bonds and other parity debt. The revenue bond debt service coverage ratio is defined as the District's net operating revenue (current year's operating revenue less the current year's operating expenses) divided by the current year's debt service on all revenue bonds and other parity debt. Net revenues are reduced by any Rate Stabilization Fund deposits and increased by any withdrawals. For the Wastewater System, Build America Bonds subsidies are treated as an offset to debt service and are excluded from the net operating revenue for the purpose of the ratio calculation. In FY20 and FY21, the projected debt coverage ratios are 2.34 and 2.40, respectively.

Debt-Funded Capital

The percentage of the capital program that is funded by debt over the five-year planning period FY20-24 is projected at 20.1 percent, which is below the financial policy maximum target of 65 percent. The debt percentage funding levels for FY20 and FY21 are shown in the table below.

Projected Debt Percentage of Funding		
(\$ Millions)		
	FY20	FY21
Expenditures		
Capital Cash Flow	45.5	43.0
Administration of Capital	<u>3.0</u>	<u>3.0</u>
Total Expenditures	48.5	46.0
Project Funding		
New Bond Proceeds	-	-
Loans Proceeds	-	-
Commercial Paper	-	-
Construction Fund	<u>-</u>	<u>-</u>
Total Resources	0.0	0.0
Debt Percentage of Funding	0.0%	0.0%

Commercial Paper and Variable Rate Debt Ratio

The District has authorized a short-term ECP borrowing program consistent with the MUD Act and the District's debt management policy. Under this program, the District may issue commercial paper notes at prevailing interest rates for periods of not more than 120 days from the date of issuance with the option by the District to extend the maturity for another 150 days. The program is not supported by any liquidity or revolving credit agreement. The Wastewater System ECP is secured by a pledge of the Wastewater System's net revenues, subordinate to the System's revenue bonds.

As of June 30, 2019, \$15.0 million of Wastewater ECP is projected to be outstanding under the program. Wastewater System ECP will comprise 3.9 percent of the approximately \$384.7 million in total outstanding debt.

Other than the ECP, the Wastewater System has no additional variable rate debt outstanding.

CAPITAL IMPROVEMENT PROGRAM

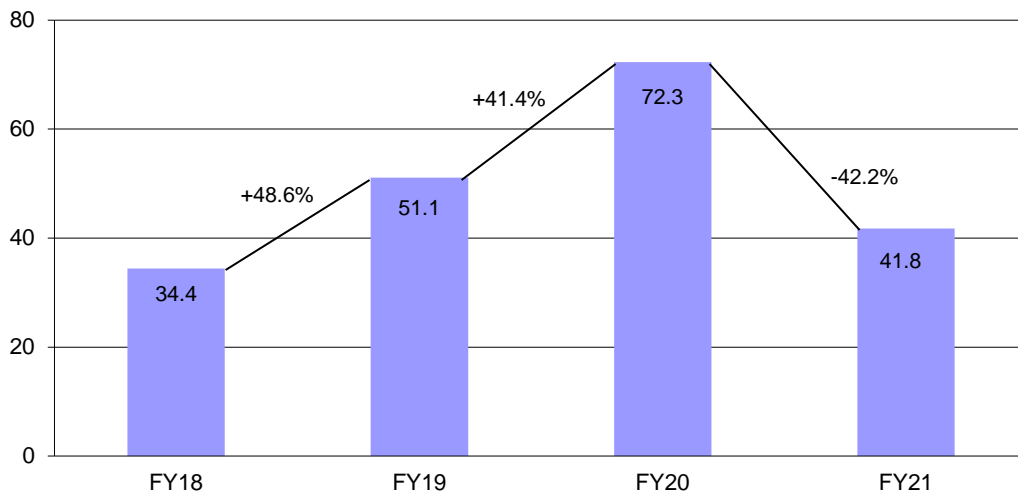
The CIP consists of projects that typically result in the construction of new facilities, or the rehabilitation or upgrade of existing facilities. Project costs include all expenditures required to study, plan, design, construct or upgrade new or existing facilities. Projects can also include large equipment purchases and the creation or replacement of computer systems.

Capital Appropriation

Capital appropriations are the amounts approved by the Board to be spent on projects in the CIP. Since these appropriations are often spent over multiple years, the amounts appropriated for each fiscal year will vary depending upon project scope and timing, and any unspent appropriation a project may already have.

The Wastewater System's FY20 appropriation totals \$72.3 million, an increase of \$21.2 million or 41 percent from FY19. In FY21, the appropriation totals \$41.8 million, a decrease of \$30.5 million or 42 percent from FY20. The Wastewater System appropriations for FY20 and FY21 and the prior two years are summarized below.

Four-Year Summary Capital Appropriation
(\$ Millions)



The FY20-24 Wastewater System CIP requires \$286.2 million in project appropriations, an increase of \$127.0 million or 80 percent from the FY18-22 CIP. The increase is primarily due to increased appropriation needs in the Maintaining Infrastructure Strategy for improving the infrastructure at the MWWTP.

The Wastewater System appropriations focus on the Maintaining Infrastructure Strategy, which comprises 94 percent of the CIP appropriations. All Wastewater System appropriations by strategy are summarized below.

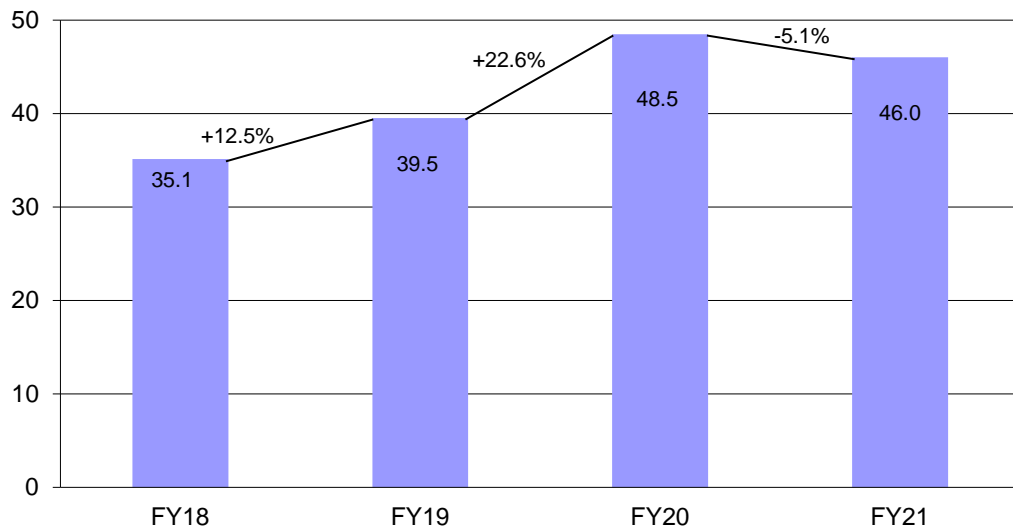
FY18-22 vs. FY20-24 Appropriation				
Capital Improvement Program by Strategy (\$ Thousands)				
Strategy	Appropriation		\$ Chg	% Chg
	FY18-22	FY20-24		
Maintaining Infrastructure	122,369	254,538	132,169	108%
Regulatory Compliance	17,956	16,068	(1,888)	-11%
Non-Program Specific	3,300	-	(3,300)	-100%
Strategy Subtotal	143,625	270,606	126,981	88%
Administration of Capital	15,551	15,598	47	0%
Total Wastewater	159,176	286,204	127,028	80%

Capital Cash Flow

Capital cash flows are the amounts projected to be spent each fiscal year on projects in the CIP. The amount of cash flow spending varies each year as projects progress from one phase to another, such as from planning to design and then construction, and as existing projects are completed and new ones started.

The Wastewater System's FY20 cash flow totals \$48.5 million, an increase of \$9.0 million or 23 percent from FY19. In FY21, the cash flow totals \$46.0 million, a decrease of \$2.5 million or 5 percent from FY20.

Four-Year Summary Capital Cash Flow
(\$ Millions)



The FY20-24 CIP identifies \$234.5 million in projected cash flow spending, an increase of \$46.8 million or 25 percent compared to the FY18-22 CIP. The increase is primarily attributable to the Maintaining Infrastructure Strategy for improving the infrastructure at the MWWTP including rehabilitation of concrete basins, power generation and electrical system, first generation digesters, and the administration building and laboratory. Under the Regulatory Compliance Strategy, decreases are associated with deferring the Nutrient Management Project to evaluate a range of nutrient reduction alternatives, as part of an integrated master planning effort to proactively address increasingly stringent environmental regulations and aging infrastructures.

All Wastewater System cash flows by strategy are summarized below.

FY18-22 vs. FY20-24 Cash Flows				
Capital Improvement Program by Strategy (\$ Thousands)				
Strategy	Cash Flows		\$ Chg	% Chg
	FY18-22	FY20-24		
Maintaining Infrastructure	153,253	205,868	52,615	34%
Regulatory Compliance	18,878	13,003	(5,875)	-31%
Non-Program Specific	-	-	-	0%
Strategy Subtotal	172,131	218,872	46,741	27%
Administration of Capital	15,551	15,598	47	0%
Total Wastewater	187,682	234,469	46,787	25%

In accordance with the District's ten-year capital planning horizon, approximately \$245.0 million of work has been tentatively identified for FY25-29. These estimates will be revised based on studies, redefined priorities, and as new needs emerge. Therefore, the focus is on the first five years of the CIP.

Select programs and projects are discussed in more detail in the following pages. In addition, a description of each project including recent accomplishments and future work is provided in a supplemental volume of this budget book for every project that has work planned in FY20-24.

Capital Labor

The capital labor component of the CIP totals over \$10 million per fiscal year. The following table shows the capital labor and benefits budget.

Capital Labor By Department (\$ Thousands)						
	FY18 Actuals	FY19 Budget	FY20 Budget	% Chg	FY21 Budget	% Chg
Wastewater	9,334	10,723	10,370	-3.3%	10,512	1.4%
Total Department	9,334	10,723	10,370	-3.3%	10,512	1.4%

The Wastewater Department capital labor budget is decreasing \$0.4 million in FY20 compared to FY19 primarily due to a shift in personnel costs from capital to the operating budget. In FY21, the capital labor budget will increase 1.4 percent primarily due to scheduled salary step increases.

Capital Program Highlights

All Wastewater System FY20-24 appropriations are shown below by strategy and program, with select programs and projects discussed in more detail to provide a sense of the work that is projected to take place over the next ten years.

MAINTAINING INFRASTRUCTURE STRATEGY

This strategy furthers the District's objectives to improve, rehabilitate and replace aging infrastructure in a cost effective manner to ensure sustainable delivery of reliable, high quality service at both the MWWTP and remote facilities. Work under this strategy focuses on rehabilitating the digesters, concrete structures, and treatment process facilities at the MWWTP; upgrading the resource recovery receiving station; rehabilitating sections of the sewer interceptors; expanding and improving the PGS; and retrofitting various structures at the MWWTP. The FY20-24 program strategy appropriations are as follows:

Appropriations (\$ Thousands)						
Program	FY20	FY21	FY22	FY23	FY24	Total
Wastewater Infrastructure Program	61,278	38,753	30,035	53,515	70,957	254,538
Total	61,278	38,753	30,035	53,515	70,957	254,538

Wastewater Infrastructure Program

The Treatment Plant Infrastructure Projects provide for the cyclical replacement and rehabilitation of various treatment process facilities at the MWWTP. Work planned in FY20-24 includes leveling the weirs at the primary sedimentation tanks and secondary clarifiers to improve the wastewater treatment process; replacing equipment at the grit handling building and the aerated grit tanks; replacing the roof, HVAC and fire system at the administration building and operations center; making improvements to the dewatering sludge well; correcting deficiencies in the influent and effluent magnetic flow meters and valves; repairing the interior pipe & coating for the eight secondary reactors; replacing the two underground storage tanks that hold waste oil with one larger above ground tank; replacing the influent screens and sensors; repairing and replacing pipes in the plant drain system through FY26; and replacing the reversing heat exchangers and control systems at both oxygen plants through FY26.

Work planned in FY25-29 includes replacing aging motors and variable frequency drives (VFDs), and rebuilding the four main pumps at the Effluent Pump Station; replacing aging motors and VFDs for the main pumps at the Influent Pump Station; installing a scum capture and control system in the mixed liquor channel, along with a controlled hydrodynamic cavitation unit for the destruction of nocardia bacteria that creates operational challenges; and rehabilitating the remaining 10 of 12 clarifiers from FY22 through FY29.

The Digester Upgrade Project will rehabilitate several digesters which perform a key role in stabilizing wastewater solids prior to disposal. Interior coatings applied to some digesters are experiencing failure. The cause of the failure is being investigated and the coatings will be repaired over time in FY20-29. In FY19-22, the floating covers on Digester 3 and 4, and the membrane on Digester 2 will be replaced while seismic upgrades, mechanical piping work, and associated electrical and control upgrades are made. Additional digester work is scheduled for FY27-29 including the addition of external pump mixing for the second-stage digesters, replacing the digester control building roof, and electrical upgrades.

The Concrete Rehabilitation Project addresses critical concrete structures, channels and gates at the MWWTP as sulfides and other constituents in the wastewater accelerate corrosion. Repair of the primary tank channels is being conducted in phases and includes replacement of valves, gates and control panels. Phases 5 and 6 are scheduled to take place in FY19-24. Repairs to the secondary aeration reactor basins will be completed in four phases with the repair of eight tanks starting in FY20 and continuing through FY28.

The Interceptor Rehabilitation Program includes several projects to rehabilitate portions of the interceptor system that are approximately 60 years old. In FY19-21, the second phase to rehabilitate a 4,700 foot portion of the 105 inch diameter Oakland South Interceptor along 3rd Street will be completed. In FY20-23, repairs will be made to various sections of the South Interceptor pipe, along with manholes and flow control structures. In FY22-25, a new pipe across the Alameda Channel will be installed. In FY23-26, a 6,000 foot portion of the Alameda Interceptor will be rehabilitated, and in FY24-27, a 1,900 foot portion of the Oakland South Interceptor along the Embarcadero will be rehabilitated.

The Pump Station Improvements Program includes upgrades to various pump stations such as the replacement of sump pumps and flow meters; the addition of programmable logic controllers and software; access improvements; and replacement of discharge piping. In FY20-24, work is scheduled for Pump Station M in Alameda and Pump Station L in Oakland. In FY25-29, work is scheduled for Pump Station C in Alameda, Pump Stations H and J in Oakland and Pump Station A in Albany.

The Resource Recovery Program was developed to accept a wide variety of solid and liquid wastes delivered by truck to the MWWTP. Work in FY20-24 includes new equipment and upgrades to the fat, oils and grease trucked waste receiving station; a new storage tank, piping and accessories to process additional brine wastes for discharge to the Effluent Channel; and repairing the concrete and recoating the solid/liquid waste receiving tanks.

The Power Generation Station Expansion Project includes work to improve the reliability of this renewable energy source by replacing aging gas piping and mechanical equipment, and rehabilitating the original four flares in FY20-23.

The Seismic Retrofits Project will make improvements to various facilities at the MWWTP. In FY20-23, improvements will be made to the power distribution system to protect electrical and fuel lines. In FY24-29, proposed work includes retrofits to various facilities and structures at the MWWTP including the Influent Pump Station.

REGULATORY COMPLIANCE STRATEGY

This strategy furthers the District's objectives to operate and maintain facilities to meet all water discharge, air emission, and land disposal requirements; ensure protection and stewardship of San Francisco Bay; and implement preventative and corrective maintenance programs. Work under this strategy focuses on upgrading the dechlorination facilities to protect the San Francisco Bay; upgrading the Wet Weather Treatment Facilities (WWFs) and sewer interceptors to maintain reliable operations; and developing strategic nutrient management solutions to meet potential future regulatory requirements. The FY20-24 program strategy appropriations are as follows:

Appropriations (\$ Thousands)						
Program	FY20	FY21	FY22	FY23	FY24	Total
Regulatory Compliance Program	7,997	0	923	7,148	0	16,068
Total	7,997	0	923	7,148	0	16,068

Regulatory Compliance Program

The Dechlorination Facility Improvements Project will upgrade the existing dechlorination facilities which ensure the continuous dechlorination of effluent prior to discharge to San Francisco Bay. Work in FY20-24 includes seismic upgrades to the Injector Building and standby power; modifications of the Distributed Control System controls; automation of the dechlorination process; and replacement of the Sodium Bisulfite System storage tanks.

The Pump Station Q (PS Q) Project located in Berkeley includes modifications to portions of the North Interceptor to allow dual-mode operation of PS Q as either a gravity relief sewer (north to south flow) or a forcemain (south to north flow). Based on wet weather flow modeling, discharges from the wet weather facilities may be reduced by operating the PS Q forcemain as a gravity sewer with relatively minor modifications. Work began in FY17 and is expected to be completed in FY20.

The Wet Weather Plant Improvements Project includes instrumentation upgrades at Point Isabel (Richmond) in FY19-21, and concrete rehabilitation and liner repairs at Point Isabel and Oakport (Oakland) in FY22-25. New wash-down monitors/water cannons will be installed at Point Isabel in FY23-24.

The Nutrient Management Project includes the development of strategic nutrient management solutions to meet potential future regulatory requirements as nutrient discharge to the San Francisco Bay continues to be a key area of concern for regulators. This project includes the development of a master plan to identify and evaluate a range of cost-effective alternatives to achieve nutrient reductions for the MWWTP that provide broad environmental and public health benefits.

NON-PROGRAM SPECIFIC STRATEGY

This strategy, when used, furthers the District's objective to maintain a strong financial position to meet both short and long-term needs. The Contingency Program focuses on making funds available for unanticipated needs, and for projects that are seeking grants to pay for a substantial portion of the project's cost.

Appropriations (\$ Thousands)						
Program	FY20	FY21	FY22	FY23	FY24	Total
Contingency Program	0	0	0	0	0	0
Total	0	0	0	0	0	0

Contingency Program

Contingency provides funding for unanticipated needs that may arise before the next budget cycle, such as replacement or repairs to facilities and equipment as a result of failures or safety deficiencies, and new projects or the acceleration of planned projects requiring funding before the next budget cycle. Funds may also be set aside for projects where grants are being sought in the event that the grant application is successful as most grants require the District to fund the project and then apply for reimbursement of allowable costs.

At this time, no additional appropriations are needed since sufficient funds are available to meet wastewater needs.

Capital Appropriation Summary

This section provides a summary of the five-year appropriation for the Wastewater System projects listed in the CIP, sorted by strategy and program. When the CIP is presented to the Board of Directors, the Board approves the overall five-year plan, but adopts just the first two years of the plan. The remaining three years are for planning purposes only and are subject to revision.

Department Abbreviations

The abbreviation for the Lead Department responsible for each capital project is as follows:

WAS – Wastewater Department

Capital Improvement Projects		Dept	Prior Approp	FY20-24 APPROPRIATIONS (IN 000's)					5 YR TOTAL
				FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	
MAINTAINING INFRASTRUCTURE									
WW Infrastructure Program									
3rd St Sewer Interceptor Rehab	WAS	24,286	4,000	0	0	0	14,000	18,000	
Biosolids Improvements Project	WAS	500	0	0	0	0	0	0	
Centrifuge Replacement	WAS	22,403	0	0	0	0	11,726	11,726	
Collection System Master Plan	WAS	0	0	0	0	0	200	200	
Concrete Rehab at SD1	WAS	40,682	1,950	184	1,900	3,610	0	7,644	
DCS Upgrades	WAS	10,237	275	0	0	4,000	0	4,275	
Digester Upgrade	WAS	126,495	2,000	0	0	0	0	2,000	
Interceptor Corrosion Prevent	WAS	8,221	409	0	6,900	11,764	0	19,073	
Lab Improvements & Equip't	WAS	4,072	2,156	85	100	100	100	2,541	
MWWTP Master Planning	WAS	19,827	1,600	0	0	0	0	1,600	
MWWTP Pwr Dist Sys Upgrade	WAS	15,139	913	0	0	0	0	913	
Motor Control Center Repl	WAS	2,529	0	0	0	1,350	0	1,350	
North Interceptor Rehab	WAS	0	0	0	0	0	0	0	
Odor Control Improvements	WAS	23,881	0	0	0	0	0	0	
Outfall Investigation Project	WAS	4,085	0	0	0	0	0	0	
PGS Engine Overhaul	WAS	9,829	0	0	0	1,800	0	1,800	
PGS Expansion	WAS	50,541	3,276	0	3,400	0	0	6,676	
Plant Pipe Replacement	WAS	7,178	4,538	143	0	0	0	4,681	
Procure Emerg Response Equipmt	WAS	1,875	0	0	0	0	0	0	
Pump Station A Improvements	WAS	0	0	0	0	0	0	0	
Pump Station C Upgrades	WAS	1,864	0	0	0	0	0	0	
Pump Station H Imprvrmts	WAS	6,134	0	0	0	0	0	0	
Pump Station J Upgrades	WAS	0	0	0	0	0	4,250	4,250	
Pump Station L Improvement	WAS	1,490	0	0	0	0	0	0	
Pump Station M Imprvrmts	WAS	5,898	1,200	0	0	0	0	1,200	
Pump Station Rehab and Upgrade	WAS	181	0	60	600	0	0	660	
Resource Recovery Project	WAS	36,838	5,637	0	2,387	0	0	8,024	
Routine Cap Equip Replacement	WAS	32,787	2,500	2,500	2,500	2,500	2,500	12,500	
Seismic Retrofits	WAS	0	4,884	0	0	0	36,800	41,684	
Treatment Plant Infra Ph 2	WAS	20,379	14,410	21,818	6,422	27,251	0	69,901	
Treatment Plant Infrastructure	WAS	56,415	8,522	13,963	5,646	1,140	1,381	30,652	
Vehicle & Equip Additions, WW	WAS	1,237	27	0	0	0	0	27	
WW Energy Management	WAS	2,990	0	180	0	0	0	180	

Capital Improvement Projects	Dept	Prior Approp	FY20-24 APPROPRIATIONS (IN 000's)					
			FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	5 YR TOTAL
WW Information System Upgrades	WAS	2,160	2,981	0	0	0	0	2,981
West End Property Development	WAS	1,382	0	0	0	0	0	0
WW Infrastructure Program Total		541,534	61,278	38,753	30,035	53,515	70,957	254,538
MAINTAINING INFRASTRUCTURE TOTAL		541,534	61,278	38,753	30,035	53,515	70,957	254,538
NON-PROGRAM SPECIFIC								
WW Non-Program Specific								
Contingency Project Wastewater	WAS	18,719	0	0	0	0	0	0
WW Non-Program Specific Total		18,719	0	0	0	0	0	0
NON-PROGRAM SPECIFIC TOTAL		18,719	0	0	0	0	0	0
REGULATORY COMPLIANCE								
WW Regulatory Compliance								
Dechlorination Facility Imprmts	WAS	4,357	4,077	0	0	0	0	4,077
Infiltration/Inflow Contrl Prj	WAS	27,012	1,900	0	0	0	0	1,900
NPDES Compliance	WAS	8,643	1,200	0	0	6,090	0	7,290
Nutrient Management	WAS	5,300	0	0	0	0	0	0
PS Q FM Dual-Mode Operation	WAS	15,308	0	0	0	0	0	0
Wet Weather Plant Imprmts	WAS	9,267	820	0	923	1,058	0	2,801
WW Regulatory Compliance Total		69,887	7,997	0	923	7,148	0	16,068
REGULATORY COMPLIANCE TOTAL		69,887	7,997	0	923	7,148	0	16,068

APPROPRIATIONS SUMMARY (IN 000'S)						
Prior	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	5 YR TOTAL
630,139	69,275	38,753	30,958	60,663	70,957	270,606

Operating Budget Impact of Capital Investments

The FY20-24 CIP includes various significant nonrecurring capital projects that will affect the operating budget and the services that the District provides. Such projects and their potential impacts include:

Digester Upgrades - Phase 3

This work rehabilitates and improves Digesters 2, 3, and 4. Floating covers on Digester 3 and 4 will be replaced with new fixed covers and the existing cover on Digester 2 will be replaced; these digesters will also be seismically upgraded to restrain the walls at the base; other work includes piping upgrades and improved mixing; and associated electrical and controls upgrades. Digester coatings will be repaired for Digester 7.

The increase in gas storage for energy production from the new fixed covers may increase energy sales slightly and is also anticipated to reduce the need for flaring. Operational costs are expected to decrease slightly once the improved piping and mixing systems are operational based on better access for maintenance and improved reliability. Seismic improvements will improve reliability and resiliency, and reduce future repair or replacement costs following a major earthquake.

Resource Recovery Odor, Grit and Miscellaneous Improvements

This project includes new equipment and upgrades to the fats, oils, and grease (FOG) Trucked Waste Receiving Station to improve odors, equipment reliability, and safety. A new odor control treatment system is planned to reduce odor complaints. New grit removal equipment will be tested to minimize grit from trucked wastes that cause excessive damage to downstream solids handling equipment and to minimize the amount of grit entering the digesters; FOG station safety improvements are included.

Operating costs for the new odor control system will be slightly less compared to the current costs for maintaining the existing equipment. Reliability and performance will significantly improve. Detailed costs will be determined during the design phase. This portion of the project is currently in the planning phase.

Operating costs for the new grit removal system at the blend tanks will significantly decrease operating and maintenance costs for repairing damaged pumps and equipment.

Main Wastewater Treatment Plant Administrative Building Improvements

This project includes HVAC, roofing and fire protection improvements for the Administration Building and Laboratory at the MWWTP. Phase 1 includes replacement for the main chiller for the cooling system. Phases 2 and 3 include roof replacement, HVAC air handler replacement/rehabilitation, water distribution piping replacement, HVAC management system upgrades, and fire protection system upgrades.

Once implemented, these improvements will decrease operating costs due to an anticipated 15 to 20 percent reduction in power demand. Maintenance costs for roof repairs will also be reduced since the roof is at the end of its useful life.

Power Generation Station Reliability Improvements - Phase 3

This project includes piping replacements and improvements to the gas conditioning system to provide redundancy in order to reduce unplanned outages of the PGS. Operating costs for the improvements are not anticipated to significantly change; however, long term reliability and resiliency will improve.

MWWTP Hypochlorite Pipe Replacement - Phase 2

This project replaces and upgrades the existing PVC piping for sodium hypochlorite at the MWWTP in continuation of the work done under Phase 1 of the same project. The existing PVC piping requires periodic replacement due to a limited lifespan when used for sodium hypochlorite service. New piping will use a chemically resistant HDPE material, providing a significantly longer service life compared to PVC for this chemical service.

Operating costs for this project are not anticipated to significantly change. However, long-term maintenance and replacement costs are anticipated to decrease with the reduction of system leaks and associated equipment damage with the existing PVC piping.

Pump Station M and Force Main Improvements

This project rehabilitates Wastewater Pump Station M in Alameda. Mechanical work includes refurbishing the main pumps, pipes, ventilation system and odor control system. Electrical work includes replacing the old electrical equipment with new above-grade equipment and upgrading the controls for improved remote monitoring. Structural improvements include new access stairs to the dry well for improved safety. The existing sodium hypochlorite storage tank and chemical feed system used for odor control will be replaced, possibly with a new ozone feed system that would eliminate the need for routine chemical use. Operating costs should reduce slightly from eliminating chemical costs for sodium hypochlorite at the facility.

FIVE-YEAR FINANCIAL FORECAST

SUMMARY

The five-year financial forecast presents the estimated impact of operations, debt service requirements and reserve balances on rate projections over the five-year period.

This forecast is built upon:

- Adopted District financial policies
- Capital investments in the FY20-FY24 CIP

This forecast identifies rate increases for the Wastewater System based on estimated increases in operating and capital expenditures to maintain service levels, meet mandated program requirements, and fund increased capital expenditures.

On average over the five-year period, revenues are forecast to increase by 3.5 percent per year to cover the increases in operating and capital expenses, and maintain a minimum of 1.6 times coverage on revenue bond debt service. Forecasted operating expenses are expected to grow by 4.1 percent per year over the five-year period. Debt service increases slightly by 2.2 percent per year over the five-year period.

The key factors driving the need for increased Wastewater System revenues are:

- Increasing labor and benefit costs
- Inflation on non-labor products and services

For all five years, the cash reserves exceed the cash reserve targets. Reserves in excess of those needed to meet financial reserve targets are available to pay for a significant portion of the capital program expenses with cash, a positive financial metric.

Capital cash flow spending, including administration of capital expenses, is projected at \$234.5 million over the five-year period. Major projects to be undertaken during this period include: Treatment Plant Infrastructure, Digester Upgrades, 3rd Street Sewer Interceptor Rehabilitation, Concrete Rehabilitation, and Resource Recovery Improvements.

The projected average percentage of capital funded from debt will be 20.1 percent over the five-year period significantly lower than the financial policy maximum target of 65 percent. In FY20 and FY21, the debt coverage ratio is projected at 2.34 and 2.40, respectively, and for FY20 through FY24, the ratio exceeds the target coverage ratio of 1.60.

OPERATIONS

The following table shows the financial forecast for the Wastewater System operating budget based on projected operations and maintenance expenses and debt service requirements.

Wastewater System Operating Budget Five-Year Financial Forecast (\$ Millions)							
	Actuals	Budget	Forecast				
	FY18	FY19	FY20	FY21	FY22	FY23	FY24
Beginning Balance	-	-	103.0	89.4	79.4	89.3	95.3
Treatment Charges	73.1	75.3	77.8	80.9	84.8	88.5	92.3
Resource Recovery	11.8	8.0	10.0	10.0	10.0	10.0	10.0
Wet Weather Facilities Charge	24.3	25.2	27.5	28.5	29.7	30.9	32.2
Property Taxes	5.4	4.9	5.4	5.6	5.7	5.8	6.0
Ad Valorem Bond Levy	1.3	0.0	0.0	0.0	0.0	0.0	0.0
Interest Income	0.9	1.5	2.4	2.1	2.1	2.3	2.4
Laboratory Services	4.4	4.3	4.4	4.5	4.7	4.8	4.9
Reimbursements	1.3	1.4	1.5	1.5	1.6	1.6	1.7
Permit Fees	1.7	1.6	1.6	1.6	1.6	1.6	1.6
Capacity Charges	11.7	1.9	4.0	4.0	4.0	4.0	4.0
All Other Revenue	5.9	5.7	5.7	5.7	5.7	5.7	5.7
Operating Revenues Total	141.8	129.9	140.2	144.4	149.8	155.2	160.7
Revenue Funded Capital	20.9	25.8	48.5	46.0	27.4	32.5	33.0
Operations	67.0	73.1	75.1	78.6	81.6	84.8	88.1
Debt Service	33.2	31.9	30.2	29.8	30.9	31.9	32.9
Expenses Total	121.2	130.9	153.8	154.4	139.9	149.2	154.1
Ending Balance	-	-	89.4	79.4	89.3	95.3	102.0
Policy Reserves	-	-	44.9	45.8	46.5	47.3	48.1

The following table shows the key assumptions used to create the revenue forecast.

Wastewater System Key Assumptions Five-Year Financial Forecast							
	Actuals	Budget	Forecast				
	FY18	FY19	FY20	FY21	FY22	FY23	FY24
% Rate Revenue Increase	5.0%	5.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Average monthly single family residential bill based on 6 ccf/month	\$20.89	\$21.95	\$22.15	\$23.02	\$23.94	\$24.90	\$25.89
Debt Service Coverage Ratio	2.65	1.81	2.34	2.40	2.40	2.39	2.39

Excludes Wet Weather Facilities Charge

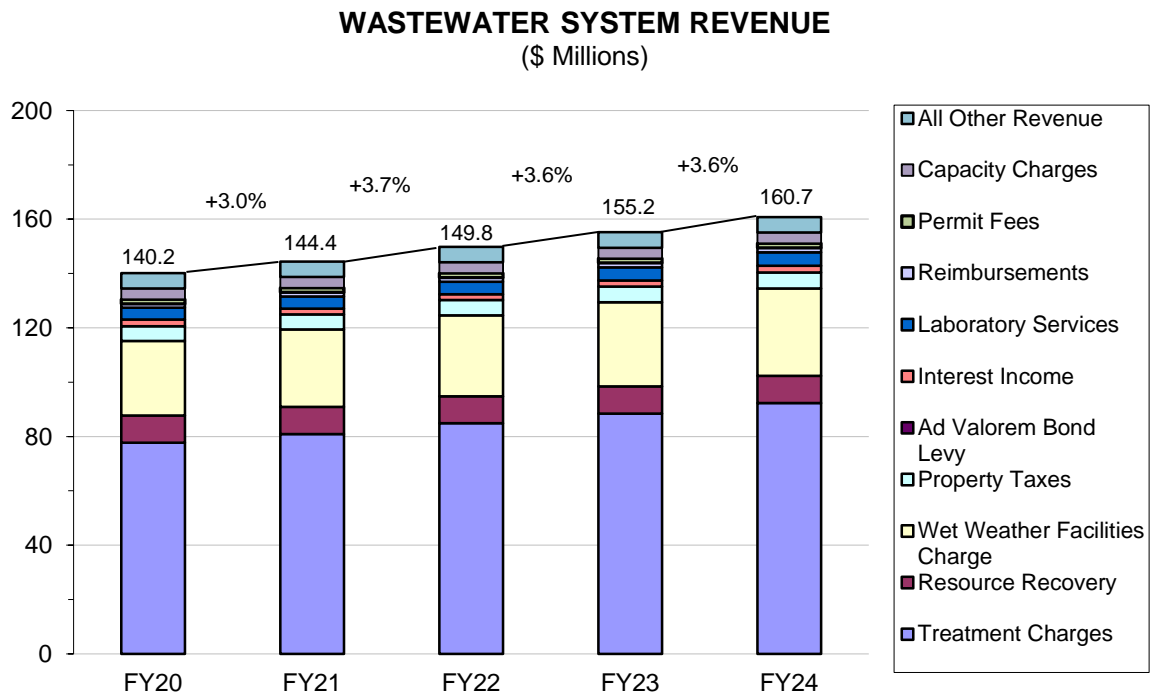
Five-Year Projection of Revenue

The key factors driving the need for increased Wastewater System revenues are: increasing labor and benefit costs, inflation on non-labor products and services, projected reductions in treatment revenue due to lower customer water use, and increasing capital expenditures.

Projected annual operating revenues are expected to increase from \$140.2 million in FY20 to \$160.7 million by FY24, an increase of \$20.5 million or 3.5 percent per year. The increase in revenue over the five-year period is to cover increased costs in operations and maintenance, debt service requirements, and revenue funding for capital projects.

The major components of the increases in operating revenue over the five-year period are Treatment Charges which are projected to increase from \$77.8 million in FY20 to \$92.3 million in FY24 and increases in revenue from the Wet Weather Facilities Charge from \$27.5 million in FY20 to \$32.2 million in FY24.

The following chart shows projected Wastewater System operating revenue by category for the next five years.



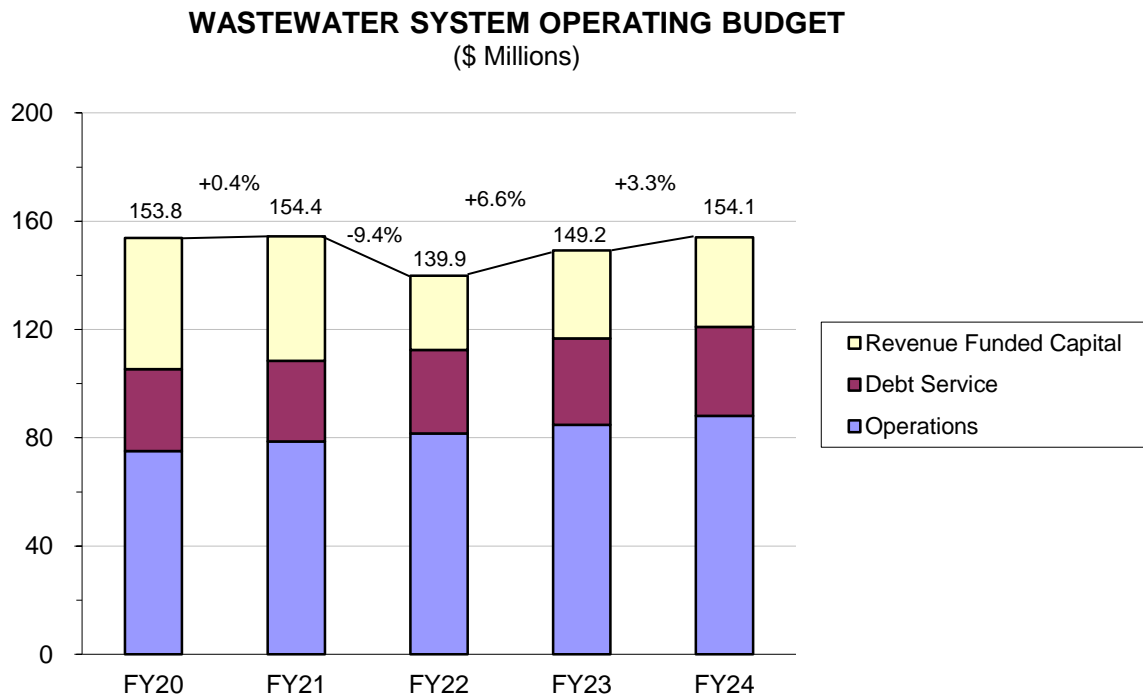
Five-Year Projection of Operating Budget

The Wastewater System operations expenses are projected to increase from \$75.1 million in FY20 to \$88.1 million in FY24, an increase of 4.1 percent per year.

Debt service requirements are projected to increase from \$30.2 million in FY20 to \$32.9 million by FY24, an increase of 2.2 percent per year.

The District uses rate revenue to cash fund a portion of the annual capital improvement expenses. The amount of revenue funded capital decreases over the five-year period from \$48.5 million in FY20 to \$33.0 million in FY24, a decrease of 9.2 percent per year.

This chart summarizes projected Wastewater System budget by category for the next five years.



Five-Year Projection of Reserves

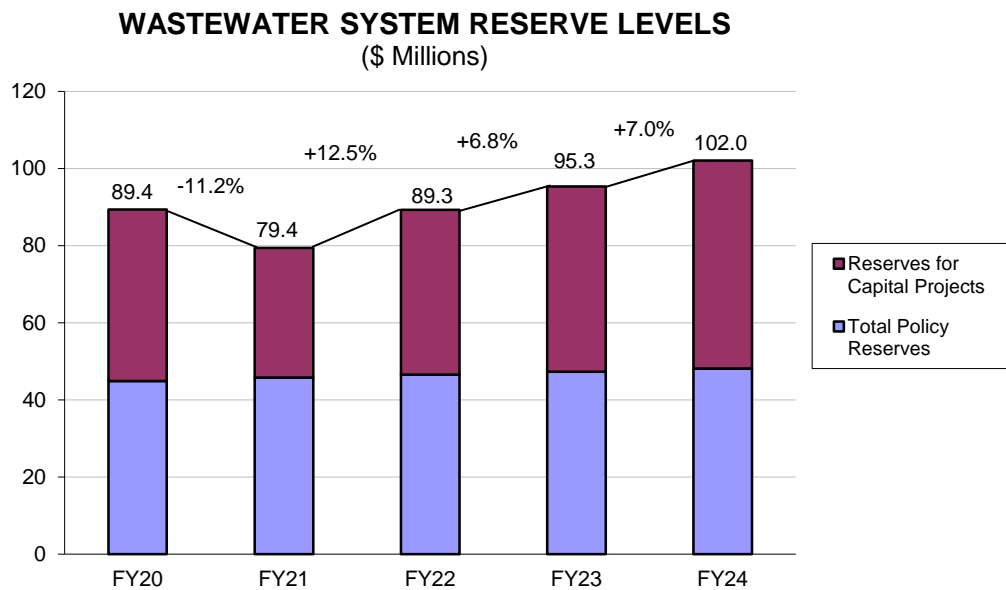
The operating reserves consist of:

- Working capital reserves equal to three months operating and maintenance expenses
- Self-Insured Liability reserve based on the actuarial Self-Insured Retention (SIR) funding recommendation
- Workers' Compensation reserve based on the actuarial SIR funding recommendation
- Rate stabilization reserve of a minimum of 5 percent of operating and maintenance expenses

The table below shows the changes to reserve components over the five-year period. Reserve balances meet or exceed the policy reserve levels for the entire period.

Wastewater System Reserve Components (\$ Millions)					
	Forecast				
	FY20	FY21	FY22	FY23	FY24
Projected Operating Budget Reserves	89.4	79.4	89.3	95.3	102.0
Policy Reserves					
Working Capital	18.8	19.6	20.4	21.2	22.0
Self-Insured Liability Reserve	1.1	1.1	1.1	1.1	1.1
Workers' Compensation Reserves	0.9	0.9	0.9	0.9	0.9
Rate Stabilization Reserve	24.1	24.1	24.1	24.1	24.1
Total Policy Reserves	44.9	45.8	46.5	47.3	48.1
Reserves Available for Capital Projects	44.5	33.6	42.8	48.0	53.9

The following chart shows Wastewater System reserve levels projected at the end of each fiscal year.



CAPITAL INVESTMENTS AND FINANCING

The Five-Year CIP outlines the Wastewater System capital investment plan for the next five-year period, the estimated cost of these investments and the sources of funds. Appropriations reflect the amount that is authorized and budgeted over a multi-year period for each program. Cash flows are the amounts estimated to be spent on each program in a given year. The five-year program for the Wastewater System includes \$286.2 million in capital project appropriations, including administration of capital expenses, and \$234.5 million in projected cash flow spending.

The focus of the CIP is the five-year period from FY20-24. Capital needs have been estimated for a second five-year period from FY25-29, but given the long-term nature of these capital improvement plans, by necessity they are preliminary estimates only and will be revised as studies are completed, priorities are redefined, and as new needs emerge. Therefore, the budget focuses on the first five years of the CIP.

Funding for these projects is drawn from the proceeds of revenue bond issues, commercial paper, grants, and current reserves and revenues.

For the FY20-24 CIP, an increasing amount of capital expenditures will be funded on a pay-as-you-go basis in accordance with the District's financial policies. Over the five-year period, the percentage of capital funded from debt will average 20.1 percent, less than the target maximum of 65 percent contained in the District's debt policy, and debt service will increase \$2.7 million as additional revenue bonds are issued. Wastewater System total outstanding debt will decrease \$0.5 million during the period. Total debt outstanding at the end of the five-year period will total \$358.3 million.

In FY20 and FY21, the debt coverage ratio is projected at 2.34 and 2.40, respectively, and for FY22 through FY24, the ratio exceeds the target coverage ratio of 1.60.

The following table shows the cash flow spending on capital improvements anticipated for the next five years, along with the financial resources anticipated to fund the capital program.

Wastewater System Capital Budget						
Five-Year Financial Forecast (\$ Millions)						
	Forecast					
	FY20	FY21	FY22	FY23	FY24	Totals
Beginning Balance	0.0	0.0	0.0	0.0	0.0	-
Resources						
Revenue Funded Capital	48.5	46.0	27.4	32.5	33.0	187.4
New Bond Proceeds	0.0	0.0	15.7	15.7	15.7	47.0
Loans Proceeds	-	-	-	-	-	-
Grants	-	-	-	-	-	-
Reimbursements	-	-	-	-	-	-
Commercial Paper	-	-	-	-	-	-
Total Resources	48.5	46.0	43.1	48.2	48.7	234.5
Expenditures						
Capital Cash Flow	45.5	43.0	40.0	45.0	45.4	218.9
Administration of Capital	3.0	3.0	3.1	3.2	3.3	15.6
Total Expenditures	48.5	46.0	43.1	48.2	48.7	234.5
Ending Balance	0.0	0.0	0.0	0.0	0.0	-
Debt Percentage of Funding	0.0%	0.0%	36.4%	32.6%	32.2%	20.1%

Projected new bond issues, outstanding debt, and debt service are shown in the following table.

Outstanding Debt and Debt Service at End of Fiscal Year (\$ Millions)					
	Forecast				
	FY20	FY21	FY22	FY23	FY24
Beginning of Year Outstanding Debt	369.7	358.8	347.9	352.2	355.7
Debt Retired	10.9	11.0	11.7	12.5	13.3
New Bond Issues and Commercial Paper	-	-	16.0	16.0	16.0
Total Outstanding Debt	358.8	347.9	352.2	355.7	358.3
Debt Service, Existing Debt	29.7	29.3	29.3	29.3	29.2
Debt Service, New Debt	0.0	0.0	1.0	2.1	3.1
Debt Servicing Costs	0.5	0.5	0.5	0.5	0.6
Total Debt Service	30.2	29.8	30.9	31.9	32.9

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STATISTICAL AND SUPPLEMENTAL INFORMATION

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STATISTICAL AND SUPPLEMENTAL INFORMATION

The following provides additional statistical and supplemental information about the District.

Form of Government

The East Bay Municipal Utility District is a California Special District with water provision and wastewater treatment as its primary functions. It has corporate and tax powers but lacks the police powers of general purpose government. More detailed information can be found in the Introduction: District Overview section, including the names and roles of elected and appointed officials. The Board of Directors is the body responsible for approving the biennial budget, and their appointed officials are responsible for developing and implementing the budget.

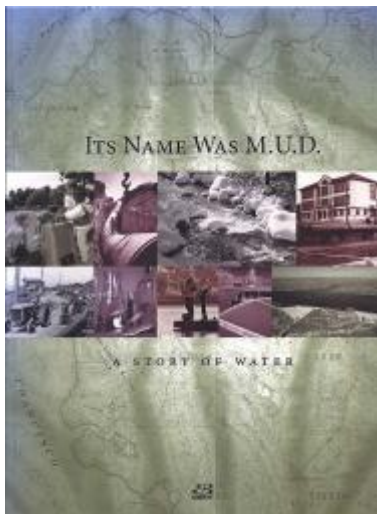
Geography

The location of the Water service area and Wastewater service area are shown on a map in the Introduction section. EBMUD's service area enjoys a Mediterranean climate and includes four modestly different climate zones (14-17) as defined by the Sunset Western Garden Book. The local climate impacts demand for water usage; the winter months are the coolest and are when almost all precipitation occurs, and the summer months are warm to hot but include almost no rainfall. Likewise, most of EBMUD's historical water supply falls as snow and rain in the Western Sierra Nevada range during the winter.

Community Profile

A short historical narrative of the District is provided in the Introduction section.

A timeline of the District's history is located at www.ebmud.com/about-us/who-we-are/mission-and-history/.

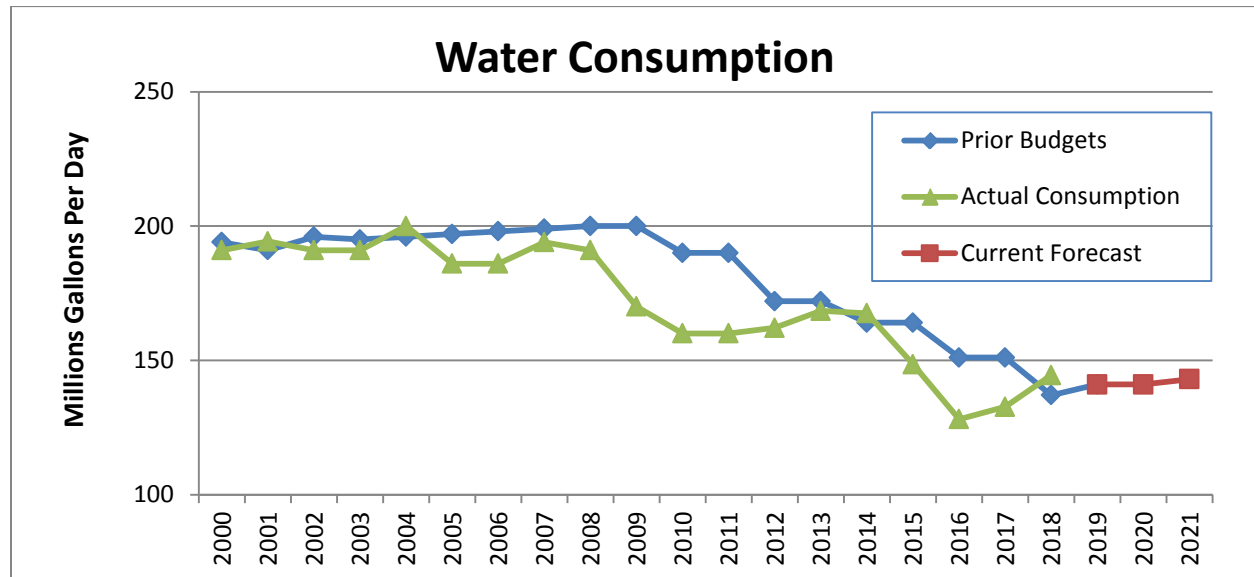


An additional publication providing specific historical details and photos of the District's legacy can be found in Its Name was M.U.D. - A Story of Water, which can be purchased online at www.ebmud.com/store/books/its-name-was-mud.

Demographics and Economics

Population and Water Consumption

As shown in the Introduction, population trend data for the past 35 years is an upward trend for the region. Despite the population growth, per capita water usage has dropped recently as shown in the chart below.



Customer Accounts

The Water System has 383,311 active accounts. Over 90% of water system active service connections are residential accounts, which make up approximately 52% of total water usage.

Water System Accounts			
Customer Type	Accounts	Consumption (MGD)	% of Usage
Residential	347,949	74.5	51.5%
Commercial	32,079	48.3	33.4%
Industrial	1,180	15.3	10.6%
Other	2,103	6.5	4.5%

The Wastewater System has 176,947 connections.

Wastewater System Accounts	
Customer Type	Accounts
Residential	158,697
Commercial	16,803
Industrial	717
Other	730

Water Smart Business Certification

The WaterSmart Business Certification was established by the Board of Directors to showcase businesses that have achieved a high level of water conservation and water use efficiency.

The program is open to EBMUD commercial, industrial, and institutional customers, including commercial landscape irrigators. Assessments include water uses in offices and retail trade, food service and hospitality, cleaning and wash down, cooling, industrial process water use, and landscape irrigation, among others. Certification is awarded to individual sites/facilities or through an incremental certification process to businesses or institutions with multiple sites/facilities.



Certified applicants are invited to an annual recognition event and are granted the use of the WaterSmart logo for display, web posting, and advertising. EBMUD may feature certified businesses in publication materials and online. Whether or not certification is awarded, participating businesses learn how to reduce operating costs and how to obtain rebates for water efficiency improvements. EBMUD staff complete a water use assessment, recommend cost-effective water saving measures and provide resources for implementing water-efficiency upgrades, including technical reports and conservation incentives.

WaterSmart Partners

A WaterSmart Partner distinction is awarded to businesses, organizations, agencies, or individuals that have championed water conservation or efficiency in their mission and through their actions in partnership with the District.

This new recognition program, launched in 2018, is honored to present the first Partner awards to the following entities:

- Alameda County Green Business Program
- UC Master Gardener Program of Alameda and Contra Costa Counties
- ReScape California
- StopWaste



2018 WaterSmart Business Certification Recipients

The EBMUD Board of Directors recognized 33 businesses and institutions for outstanding water use efficiency in 2018. Each business worked with EBMUD to assess their water use, implement water saving measures at their facilities, and make ongoing water management a priority. As these businesses learned, water efficiency doesn't have to be complicated or expensive. Making small changes in infrastructure such as installing aerators or reducing watering times for landscape can yield great results. Since the beginning of the program in 2010, WaterSmart recipients have saved over 100 million gallons per year.

- Accent on Languages, Berkeley
- Anasa Yoga, Oakland
- Anaviv Catering, Richmond
- AutoMate Scientific, Berkeley
- Beneficial State Bank and Foundation, Oakland
- Berkeley Design Center, Berkeley
- Berkeley Hills Realty, Berkeley
- Chez Panisse, Berkeley
- Church on the Corner, Albany
- Coe Studios, Berkeley
- Cole Hardware, Oakland
- Corduroy Media, Oakland
- DNV GL, Oakland
- DRAGA Design, Oakland
- East Bay Regional Park District – Main Office, Oakland
- Energy Solutions, Oakland
- Gerlind Institute for Cultural Studies, Oakland
- Head-Royce School, Oakland
- Interactive Resources, Richmond
- MedShare, San Leandro
- Minutemen Press AKA General Printing, Berkeley
- Nia House Learning Center, Berkeley
- Nina Designs, Berkeley
- Northgate Environmental Management, Oakland
- Oil Changers #403, Berkeley
- Paladin Law Group LLP, Walnut Creek
- PGAdesign, Oakland
- Sun Light & Power, Berkeley
- Temple Sinai, Oakland
- The Punchdown, Oakland
- Transcendentist, Berkeley
- Unwired Ltd., Berkeley
- Wood Environment & Infrastructure Solutions, Inc., Oakland

Major Employers

The economy of the Bay Area has continued to rebound since the recession, and growth is expected to continue in the FY20 and FY21 time period. The following two charts show major employers within the EBMUD service area for each county.

ALAMEDA COUNTY MAJOR EMPLOYERS (JUNE 2018)

Employer Name	Industry
Kaiser Permanente Medical Group Inc.	Health Care
Sutter Health	Health Care
Tesla	Electric Vehicle Manufacturer
County of Alameda	Local Government
Safeway Inc.	Supermarkets & Other Grocery
John Muir Health	Health Care
Chevron Corp.	Energy
PG&E Corporation	Energy
Wells Fargo Bank	Financial Services
UPS	Trucking/Shipping/Freight

CONTRA COSTA COUNTY MAJOR EMPLOYERS (JUNE 2018)

Employer Name	Industry
Chevron Corporation	Energy
Bay Alarm Co.	Security
St. Mary's College	Colleges, Universities & Professional Schools
Bio-Rad Laboratories, Inc.	Research & Development in Biotechnology
Job Connections	Job Training Services
John Muir Medical Center	General Medical & Surgical Hospitals
Kaiser Permanente	General Medical & Surgical Hospitals
La Raza Market	Supermarkets & Other Grocery
Martinez Medical Offices	General Medical & Surgical Hospitals
USS-POSCO Industries	Manufacturing

Source: 2018 County of Alameda and County of Contra Costa, Comprehensive Annual Financial Reports

Unemployment

The EBMUD service area economy is diversified, and unemployment is below that for the State of California.

UNEMPLOYMENT RATES Seven Largest Cities in Service Area Alameda and Contra Costa Counties and California

City/County/State	2017	2016	2015	2014
Alameda	3.3%	3.6%	4.1%	5.1%
Berkeley	3.7%	3.4%	3.8%	4.7%
Oakland	4.8%	5.3%	5.9%	7.3%
Richmond	4.6%	5.1%	5.8%	7.1%
San Leandro	3.5%	4.6%	5.1%	6.3%
San Ramon	1.9%	3.0%	3.3%	4.1%
Walnut Creek	3.3%	3.0%	3.4%	4.2%
Alameda County	3.6%	4.2%	4.7%	5.9%
Contra Costa Co	3.8%	4.4%	5.0%	6.1%
California	4.8%	5.4%	6.2%	7.5%

Source: California Employment Development Department
www.labormarketinfo.edd.ca.gov
Annual average by year. Data not seasonally adjusted.

BOARD OF DIRECTORS' RESOLUTIONS

BOARD OF DIRECTORS' RESOLUTIONS

This section includes the Board of Directors' Resolutions for the Fiscal Years 2020 and 2021 Biennial Budget relating to rates, charges, and fees, budgets, and staffing positions.

**Rates, Charges and Fees
Resolution**

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RESOLUTION NO. 35142-19

ADOPTING WATER SYSTEM SCHEDULE OF RATES AND CHARGES AND
WASTEWATER SYSTEM SCHEDULE OF RATES AND CHARGES SUBJECT TO
PROPOSITION 218 FOR FISCAL YEAR 2020 AND FISCAL YEAR 2021; APPROVING AN
EXEMPTION UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT; AND
DIRECTING STAFF TO FILE A NOTICE OF EXEMPTION

Introduced by Director **Mellon** ; Seconded by Director **McIntosh**

WHEREAS, the Board of Directors is adopting the Fiscal Year 2020 and Fiscal Year 2021 Operating and Capital Biennial Budget for expenditures necessary and advisable for the proper conduct of the activities of the East Bay Municipal Utility District (District), including funding for needed capital projects and the operation of the water and wastewater systems, and to provide an adequate level of financial reserves and debt service coverage; and

WHEREAS, in November 2013, the District retained Raftelis Financial Consultants to perform an independent Cost of Service (COS) study for the water and wastewater systems, including a study of the proposed Drought Surcharges, to ensure that the District's rates and charges are compliant with the requirements of Proposition 218 (article XIII D, section 6 of the California Constitution); and

WHEREAS, in April 2015, Raftelis Financial Consultants completed the District's COS study and identified adjustments to individual water and wastewater rates and charges to conform to Proposition 218 cost of service principles, and substantiated the District's proposed Drought Surcharges as being consistent with Proposition 218; and

WHEREAS, in May 2019, Raftelis Financial Consultants completed a COS study for the District's wastewater system that found the District's charges to be generally consistent with Proposition 218 cost of service principles, and also recommended some adjustments to the wastewater system's rates and charges;

WHEREAS, in accordance with Section 14401 of the California Public Utilities Code, on May 14, 2019, the General Manager filed with the Board of Directors the Biennial Report and Recommendation of the General Manager Fiscal Years 2020 & 2021 ("Biennial Report"), recommending revisions to the water and wastewater rates and charges to meet the District's revenue requirements for Fiscal Year 2020 (FY20) and Fiscal Year 2021 (FY21) including: (1) water service charges and flow charges for single family residential, multi-family residential, commercial, and industrial customers; (2) wastewater treatment service charges and flow charges; (3) Revised Schedule A, Rate Schedule for Water Service; (4) Revised Wastewater System Schedule A (Rates for Treatment Service) and Schedule B (Wet Weather Facilities Charge) to update the respective wastewater charges; and

WHEREAS, the April 2015 COS study has been updated to reflect the proposed and projected FY20 and FY21 expenditures, revenues and water sales, and has been incorporated and reflected in the Biennial Report, and in the recommended revisions to the water system's rates and charges for FY20 and FY21; and

WHEREAS, the May 2019 COS study's recommended adjustments has been incorporated and reflected in the Biennial Report, and in the recommended revisions to the wastewater system's rates and charges for FY20 and FY21; and

WHEREAS, the rate structure for the water service charges has five customer classes: (1) Single Family Residential, (2) Multi-Family Residential, (3) Non-residential, (4) Nonpotable/Recycled, and (5) Private Fire Customers; and has five components: (1) Water Flow Charge, (2) Water Service Charge, (3) Elevation Surcharge, (4) Private Fire Service Charge, and (5) Drought Surcharge when a Stage 2, Stage 3, or Stage 4 water shortage has been declared by the Board of Directors; and

WHEREAS, as evidenced by the COS studies and Biennial Report, the water rates and charges are structured to proportionately allocate and recover the costs of providing water service among the various customer classes; and

WHEREAS, the wastewater rates and charges have three customer classes: (1) Single-Family Residential; (2) Multi-Family Residential; and (3) Non-Residential, which are further classified based on the type of business operated; and

WHEREAS, the rates for the wastewater service fees have five components, the first four of which are collected on the water bill: (1) Treatment Service Charge, (2) Treatment Strength Charge, (3) Treatment Flow Charge, (4) San Francisco Bay Pollution Prevention Charge, and (5) Wet Weather Facilities Charge; and

WHEREAS, because the Wet Weather Facilities Charge (WWFC) is a fixed charge that is based on the size of the property and unrelated to water or wastewater usage at the property, the District collects the WWFC on the property tax rolls of Alameda and Contra Costa Counties, pursuant to its authority under California Health & Safety Code (H&SC) section 5471, et seq., for all parcels that have connections to the local wastewater collection systems within the District's wastewater service area; and

WHEREAS, H&SC section 5473 requires approval by two-thirds of the members of the Board (i.e., by at least five (5) Board members) for the WWFC to be collected on the property tax roll; and

WHEREAS, for entities that are exempt from property taxes, the WWFC is collected through the District's billing process; and

WHEREAS, in accordance with H&SC section 5471(c), revenues from the WWFC will be used to fund capital expenses for District facilities required to handle peak wet weather flows that are in excess of normal discharges from wastewater customers; and

WHEREAS, together, as evidenced by the COS studies and Biennial Report, the wastewater rates and charges are structured to proportionately allocate and recover the costs of providing wastewater service among the various customer classes; and

WHEREAS, as evidenced by the COS studies and Biennial Report, the revenues derived from the water and wastewater rates and charges will not exceed the funds required to provide water and wastewater services and shall be used exclusively for the water and wastewater systems; and

WHEREAS, the water and wastewater rates and charges will not exceed the proportional cost of the services attributable to each parcel upon which they are imposed; and

WHEREAS, the water and wastewater rates and charges will not be imposed on a parcel unless the water and wastewater services are actually used by, or immediately available to, the owner of the parcel; and

WHEREAS, California Constitution article XIII D, section 6 (“Article XIII D”) requires that prior to imposing any increase to the water and wastewater service rates and charges, the District shall provide written notice (Notice) by mail of: (1) the proposed increases to such rates and charges to the record owner of each parcel upon which the rates and charges are proposed for imposition and any tenant directly liable for payment of the rates and charges; (2) the amount of the rates and charges proposed to be imposed on each parcel; (3) the basis upon which the rates and charges were calculated; (4) the reason for the rates and charges; and (5) the date, time, and location of a public hearing (Hearing) on the proposed rates and charges; and

WHEREAS, pursuant to Article XIII D such Notice is required to be provided to the affected property owners and any tenant directly liable for the payment of the rates and charges not less than forty-five days (45) prior to the Hearing on the proposed rates and charges; and

WHEREAS, the District did provide such Notice to the affected property owners and tenants of the proposed water and wastewater rates and charges in compliance with Article XIII D; and

WHEREAS, public workshops were conducted on January 22 and March 26, 2019, and a public hearing, noticed in the manner and for the time required by law, was conducted by the Board of Directors on June 11, 2019, at which times all interested persons were afforded an opportunity to be heard on matters pertaining to revision of the water and wastewater rates and charges; and

WHEREAS, at the Hearing the Board of Directors heard all oral testimony, and considered all written materials and written protests concerning the establishment and imposition of the proposed rate increases for the rates and charges for water and wastewater services, and at the close of the Hearing the District did not receive written protests against the establishment and imposition of the proposed rates and charges for the water and wastewater services from a majority of the record owners of the parcels upon which the rates and charges are proposed for imposition or the tenants directly liable for the payment of the water and wastewater rates and charges; and

WHEREAS, all comments, objections, and protests to the Biennial Report have been given full opportunity to be heard by the Board of Directors, and the Board of Directors has fully considered the Biennial Report; and

WHEREAS, the changes to the rates and charges as described above and as further set forth in this Resolution are subject to and comply with Chapter 11.5 of the Municipal Utility District Act; and

WHEREAS, the Board of Directors now desires to adopt and impose the proposed water and wastewater rates and charges; and

WHEREAS, the District, as the lead agency under the California Environmental Quality Act (CEQA), in consultation with the District's legal counsel, prepared a Preliminary Exemption Assessment for the adoption of the water and wastewater rates and charges in order to evaluate its potential impacts. The Board of Directors determined that adoption of the rates and charges set forth in this Resolution is exempt from CEQA review under Public Resources Code section 21080(b)(8) and State CEQA Guidelines section 15273 because the water and wastewater rates and charges are necessary and reasonable to fund the administration, operation, maintenance, and improvements of the water and wastewater systems and will not result in the expansion of the water and wastewater systems. This exemption determination is supported by the COS study, Biennial Report, and foregoing Recitals. Further, the adoption of the rates and charges set forth in this Resolution is also exempt from the requirements of CEQA as an action with no possibility of causing a significant effect on the environment;

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors hereby finds and determines the following:

1. The foregoing Recitals are true and correct, and by this reference are incorporated herein and made a part hereof.
2. Pursuant to California Constitution article X, section 2, that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare, and the use of water in excess of year-round indoor water consumption is primarily for uses outside the home and further finds such uses to be more discretionary in character than interior uses.
3. A tiered water rate structure proportionately allocates the costs of providing water service to those who place the greatest demands on District's water system and water supplies, and indirectly provides a conservation incentive to most users throughout the year to efficiently and reasonably use and not waste water.

4. The rates and charges for water service promote maximum beneficial use of the limited water resources available to the District to meet current and future demands consistent with state and federal policy and water conservation best management practices. The Board of Directors also finds and determines that these rate structures are reasonably calculated to proportionately recover normal District costs and to achieve overall revenue neutrality for the entire rate structure.
5. The District's COS studies, completed in April 2015 (and updated in 2019 to reflect current costs) and in May 2019, support the COS to each customer class based on their respective demand characteristics, while being revenue neutral, and making no geographical differentiation except with respect to the Elevation Surcharge, based on the elevation of the property receiving service, as described in the following Section 6.
6. The rates for the water Elevation Surcharge adopted herein are imposed to recover the costs to the District of pumping and delivering water to higher elevations.
7. The rates and charges for water service are reasonable and appropriate, proportionately allocate the cost of providing water service, and will meet the Board of Directors' goal of overall revenue neutrality.

BE IT FURTHER RESOLVED:

8. The WWFC funds the capital expenses of the District's infiltration and inflow (I&I) facilities that are required to handle wet weather flows that enter the wastewater system. The amount of wet weather flows that enter the wastewater system is proportional to the size of the collection system to serve each property, and accordingly, the WWFC will be based on the customer's lot size to reflect the potential amount of I&I entering into the wastewater system from a customer's lot. Three categories of lot size will be used to calculate the WWFC: 0-5,000 square feet ("sq. ft."); 5,001-10,000 sq. ft.; >10,000 sq. ft.
9. The rates and charges for wastewater service are reasonable and appropriate, proportionately allocate the cost of providing wastewater service, and will meet the Board of Directors' goal of overall revenue neutrality.

BE IT FURTHER RESOLVED:

10. At the close of the Hearing held on June 11, 2019, the District did not receive written protests against the establishment and imposition of the proposed rates and charges for the water and wastewater services from a majority of the record owners of parcels upon which the rates and charges are proposed for imposition or tenants directly liable for the payment of the water and wastewater rates and charges.
11. The Board of Directors finds and determines that the water system rates and charges and wastewater system rates and charges recommended in the Biennial Report are designed to recover the estimated cost of providing the services for which the rates are charged.

BE IT FURTHER RESOLVED:

12. All objections and protests to the Biennial Report are hereby overruled and denied and the Biennial Report is hereby accepted and approved.
13. The revised Schedule A of the Water System Schedule of Rates, Charges, and Fees for Customers of the District, beginning FY20 contained in Chapter 5(a) of the Biennial Report is attached hereto as Exhibit A, and is hereby adopted, and the rates and charges and provisions therein contained are hereby fixed and established to be effective July 1, 2019; provided however that the revised water system rates and charges set forth in Schedule A shall take effect with billing cycles commencing on or after July 1, 2019 for services rendered on or after July 1, 2019, and will be prorated if a portion of the bill is for services rendered prior to July 1, 2019.
14. The revised Schedule A of the Water System Schedule of Rates, Charges, and Fees for Customers of the District, beginning FY21 contained in Chapter 5(b) of the Biennial Report is attached hereto as Exhibit A, and is hereby adopted, and the rates and charges and provisions therein contained are hereby fixed and established to be effective July 1, 2020; provided however that the revised water system service charges and consumption charges set forth in Schedule A shall take effect with billing cycles commencing on or after July 1, 2020 for services rendered on or after July 1, 2020, and will be prorated if a portion of the bill is for services rendered prior to July 1, 2020.
15. The revised Schedules A and B of the Wastewater System Schedule of Rates, Charges, and Fees for Customers of the District beginning FY20 contained in Chapter 5(a) of the Biennial Report, attached hereto as Exhibit B, are hereby adopted, and the wastewater treatment charges and Wet Weather Facilities Charges therein contained, are hereby fixed and established to be effective July 1, 2019 for services rendered on or after July 1, 2019; provided however that the revised wastewater treatment charges set forth in wastewater Schedule A shall take effect with billing cycles commencing on or after July 1, 2019, and will be prorated if a portion of the bill is for services rendered prior to July 1, 2019.
16. The revised Schedules A and B of the Wastewater System Schedule of Rates, Charges, and Fees for Customers of the District beginning FY21 contained in Chapter 5(b) of the Biennial Report, attached hereto as Exhibit B, are hereby adopted, and the wastewater treatment charges and Wet Weather Facilities Charges therein contained, are hereby fixed and established to be effective July 1, 2020 for services rendered on or after July 1, 2020; provided however that the revised wastewater treatment charges set forth in wastewater Schedule A shall take effect with billing cycles commencing on or after July 1, 2020, and will be prorated if a portion of the bill is for services rendered prior to July 1, 2020.
17. As set forth more fully above and as evidenced by the COS studies and Biennial Report, the aforesaid actions constitute modification and approval of rates and other charges for the purpose of meeting operating expenses, including employee wage rates and fringe benefits; purchasing or leasing supplies, equipment, or material; meeting financial reserve needs and requirements; or obtaining funds for capital projects necessary to maintain service in the existing service area; and the Board of Directors therefore determines that

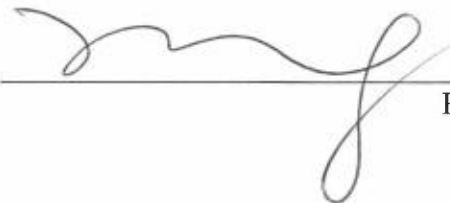
its aforesaid actions are exempt from the requirements of CEQA. The Board of Directors further determines that these actions are exempt from the requirements of CEQA because there is no possibility that adoption of the rates and charges set forth herein will have a significant effect on the environment. Therefore, the Board of Directors hereby directs the Secretary of the District to file a Notice of Exemption in accordance with applicable statutes and regulations with the County Clerks of Alameda and Contra Costa Counties.

BE IT FURTHER RESOLVED:

18. The appropriate officers of the District are hereby authorized and directed to take such actions as shall be necessary to impose, enforce and collect the rates and charges.
19. The Board of Directors hereby declares that it would have adopted each section irrespective of the fact that any one or more subsections, subdivisions, sentences, clauses, or phrases be declared unconstitutional, invalid, or ineffective, and should any portion of this Resolution be invalidated by order of a court of competent jurisdiction, all other portions of this Resolution shall remain in full force and effect until modified or superseded by action of this Board of Directors.
20. This Resolution shall supersede all other previous District resolutions and ordinances that may conflict with, or be contrary to, this Resolution.


ADOPTED this 11th day of June, 2019 by the following vote:

AYES: **Directors Katz, McIntosh, Mellon, Patterson, and President Young.**
NOES: **Director Coleman.**
ABSENT: **Director Linney.**
ABSTAIN: **None.**



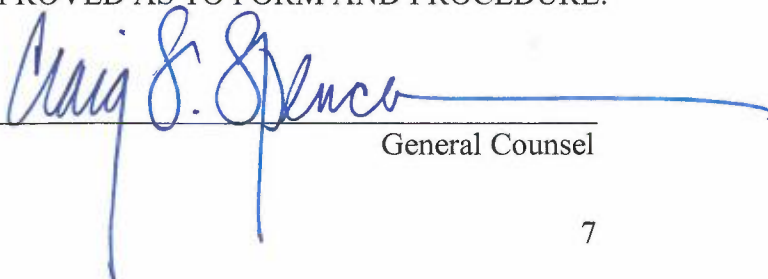
President

ATTEST:



Secretary

APPROVED AS TO FORM AND PROCEDURE:



General Counsel

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RESOLUTION NO. 35143-19

ADOPTING REVISED REGULATIONS AND REVISED WATER AND WASTEWATER SYSTEMS SCHEDULES OF RATES, CHARGES, AND FEES NOT SUBJECT TO PROPOSITION 218 FOR FISCAL YEAR 2020 AND FISCAL YEAR 2021, INCLUDING SYSTEM CAPACITY CHARGE, WASTEWATER CAPACITY FEE, RECREATION USE FEES, PUBLIC RECORDS ACT FEES, REAL PROPERTY USE APPLICATION FEES; APPROVING AN EXEMPTION UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT, AND DIRECTING STAFF TO FILE A NOTICE OF EXEMPTION

Introduced by Director **McIntosh** ; Seconded by Director **Patterson**

WHEREAS, the Board of Directors is adopting the Fiscal Year 2020 (FY20) and Fiscal Year 2021 (FY21) Operating and Capital Biennial Budget for expenditures necessary and advisable for the proper conduct of the activities of the East Bay Municipal Utility District (District), including funding for needed capital projects and for operation of the water and wastewater systems and to provide an adequate level of financial reserves and debt service coverage; and

WHEREAS, on May 14, 2019, the General Manager filed with the Board of Directors the Biennial Report and Recommendation of the General Manager Fiscal Years 2020 & 2021 (“Biennial Report”), recommending revisions to the rates and charges to meet the District’s revenue requirements for FY20 and FY21, including: (1) Capacity charges for the water and wastewater systems, installation and service charges and fees for single-family residential, multi-family residential, commercial, and industrial customers; (2) Schedules B, C, D, E, F, G, and J of the Water System Schedules of Rates, Charges, and Fees for Customers of the East Bay Municipal Utility District; (3) Schedules C, D, E, F, G, and H of the Wastewater System Schedules of Rates, Charges, and Fees for Customers of the East Bay Municipal Utility District; (4) Section 12 of the Regulations Governing Water Service of the East Bay Municipal Utility District clarifies that customers shall not attach any equipment or devices to District meter boxes without prior authorization from the District, and prohibits customers from interfering with or impeding the District’s ability to provide water services to the premises; (5) Recreation Use Fees for the upcountry (Pardee and Camanche recreation areas and Camanche Hills Hunting Preserve) and local (Lafayette and San Pablo) watershed recreation areas; (6) duplication and computer programming fees related to Public Records Act requests; and (7) various Real Property Use Application Fees related to evaluating and allowing use of District property by other public agencies or private entities; and

WHEREAS, the changes to rates, charges, and fees as described above and as further set forth in this Resolution are not subject to Proposition 218 (article XIII D, section 6 of the California Constitution), but are subject to the public notice and hearing requirements stated in Chapter 11.5 of the Municipal Utility District Act; and

WHEREAS, public workshops held on January 22 and March 26, 2019, and a public hearing held on June 11, 2019, noticed in the manner and for the time required by law, were conducted by the Board of Directors, at which times all interested persons were afforded an opportunity to be heard on matters pertaining to revision of the rates and charges; and

WHEREAS, all comments, objections, and protests to the Biennial Report have been given full opportunity to be heard by the Board of Directors, and the Board of Directors has fully considered said Biennial Report; and

WHEREAS, other proposed changes to the District's Water and Wastewater Systems Schedules of Rates, Charges, and Fees, which are subject to and comply with the notice and hearing requirements of Proposition 218, are included in separate rate resolutions and a Proposition 218 public hearing was conducted by the Board of Directors on June 11, 2019, to consider the proposed water and wastewater systems rates and charges subject to Proposition 218;

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors hereby finds and determines the following:

1. The foregoing Recitals are true and correct, and by this reference are incorporated herein and made a part hereof.
2. The service charges adopted herein are imposed to recover the cost of special services provided by the East Bay Municipal Utility District to the customer or fee payor and were determined based upon District estimates of the costs of providing the relevant services. The water System Capacity Charge (SCC) and Wastewater Capacity Fee (WCF) are levied only as a condition of extending or initiating service upon the request of a customer. The charges adopted herein are not imposed upon real property or upon a person as an incident of property ownership and were not calculated or developed on the basis of any parcel map, including an assessor's parcel map.
3. The purpose of the SCC is to finance facilities necessary to provide service to new development that will be served by the District. The SCC is a charge for public facilities in existence at the time the charge is imposed or a charge for new public facilities to be acquired or constructed in the future that are of proportional benefit to the person or property being charged, including supply or capacity contracts for rights or entitlements, real property interests, and entitlements and other rights of the District involving capital expense relating to its use of existing or new public facilities. The SCC methodology that combines the incremental cost and "buy-in" methodologies recovers the cost of many existing District facilities, which provide benefits to new users.
4. The facts and evidence presented to the Board of Directors establish that there is a reasonable relationship between the need for the identified facilities and the impacts of the types of development for which the SCC is charged, and there is a reasonable relationship between the use of those fees to finance facilities necessary to provide a supply of water to new development and the type of development for which the fees are charged. The District's methodology appropriately allocates to the SCC the costs related to augmenting the District's water supplies to satisfy increased demand associated with future development within the District's existing service area.
5. The revisions to the SCC, set forth in Schedule J of the Water System Schedule of Rates, Charges, and Fees, clarify the circumstances under which the standard SCC rate tables can and cannot be used for non-residential service connections for meters less than two inches.

6. The purpose of the WCF is to recover costs of providing wastewater treatment capacity for new or expanded system use. The WCF is a charge for public facilities in existence at the time the charge is imposed that are of proportional benefit to the person or property being charged, including supply or capacity contracts for rights or entitlements, real property interests, and entitlements and other rights of the District involving capital expense relating to its use of existing or new public facilities. The WCF is based on a “buy-in” or an equity approach, whereby new users “buy-in” to a wastewater system that has adequate capacity to serve both existing demands and new growth. The WCF reflects the findings and recommendations of the WCF study completed in May 2019 by Raftelis Financial Consultants.
7. The facts and evidence presented to the Board of Directors establish that there is a reasonable relationship between the need for the identified facilities and the impacts of the types of development for which the WCF is charged, and there is a reasonable relationship between the use of those fees to finance facilities to new development and the type of development for which the fees are charged.
8. The Water and Wastewater Systems Rates, Charges, and Fees herein described and recommended in the Biennial Report, and the recommended Real Property Use Application Fees, Recreation Use Fees and Public Records Act-related fees, are designed to recover the estimated cost to provide the services for which the fees are charged, as determined by the District based upon evidence regarding such costs.
9. The revisions to Section 12 of the Regulations Governing Water Service to Customers of the District clarifies that customers shall not attach any equipment or devices to District meter boxes without prior authorization from the District, and prohibits customers from interfering with or impeding the District’s ability to provide water services to the premises.
10. The water, wastewater, real property, recreation, and Public Records Act rates, charges, and fees are imposed for specific products, services, benefits, and privileges provided, for entrance to and use of property, and/or for rental or lease of property, and those rates, charges, and fees do not exceed the reasonable costs to the District of providing those products, benefits, privileges and services to the payors, or in the case of fees for entrance to and use of property and/or for rental or lease of property, the fees do not exceed the reasonable value of the property interest provided. These rates, charges, and fees were determined by the District based upon evidence regarding such costs.

BE IT FURTHER RESOLVED:

11. All objections and protests to the Biennial Report are hereby overruled and denied and said Biennial Report is hereby accepted and approved.
12. The revised Schedules B, C, D, E, F, G, and J of the Water System Schedules of Rates, Charges, and Fees for Customers of the East Bay Municipal Utility District, beginning FY20, and the revised Section 12 of the Regulations Governing Water Service to Customers of the District, contained in Chapter 5(a) of the Biennial Report, attached hereto as Exhibit A, are hereby adopted and the charges and provisions therein contained

are hereby fixed and established to be effective July 1, 2019 for services rendered on or after July 1, 2019.

13. The revised Schedules C, D, E, F, G, and H of the Wastewater System Schedules of Rates, Charges, and Fees for Customers of the District beginning FY20, and contained in Chapter 5(a) of the Biennial Report, attached hereto as Exhibit B, are hereby adopted and the charges and provisions therein contained are hereby fixed and established to be effective July 1, 2019 for services rendered on or after July 1, 2019.
14. The revised Schedules C and D of the Wastewater System Schedules of Rates, Charges, and Fees for Customers of the District beginning FY21, and contained in Chapter 5(b) of the Biennial Report, attached hereto as Exhibit B, is hereby adopted and the charges and provisions therein contained are hereby fixed and established to be effective July 1, 2020 for services rendered on or after July 1, 2020.
15. The revised Recreation Use Fees beginning Calendar Year 2020, and contained in Chapter 5(a) of the Biennial Report, attached hereto as Exhibit C, are hereby fixed and established to be effective January 1, 2020 for the Calendar Year 2020 charges, and January 1, 2021 for the Calendar Year 2021 charges.
16. The revised duplication and computer programming fees related to Public Records Act requests, contained in Chapter 5(a) of the Biennial Report, and attached hereto as Exhibit D, are hereby fixed and established to be effective July 1, 2019 for services rendered on or after July 1, 2019.
17. The revised Real Property Use Application Fees contained in Chapter 5(a) of the Biennial Report, and attached hereto as Exhibit E, are hereby fixed and established to be effective July 1, 2019 for services rendered on or after July 1, 2019.
18. The District, as lead agency under the California Environmental Quality Act (CEQA), has evaluated the potential environmental impacts of adopting the fees and charges set forth herein. As the decision making body for the East Bay Municipal Utility District, the Board of Directors has reviewed and considered the information contained in the administrative record for the adoption of the fees and charges. Based on information in the administrative record, including the District's evidence-based estimates of the costs of providing the relevant services, the Board of Directors finds that the aforesaid actions constitute modification and approval of charges for the purpose of meeting operating expenses, including employee wage rates and fringe benefits; purchasing or leasing supplies, equipment, or material; meeting financial reserve needs and requirements; or obtaining funds for capital projects necessary to maintain service in the District's existing service area; and the Board of Directors therefore determines that its aforesaid actions are exempt from the requirements of the CEQA, and hereby directs the Secretary of the District to file a Notice of Exemption in accordance with applicable statutes and regulations with the County Clerks of Alameda, Amador, Calaveras, Contra Costa, and San Joaquin Counties.

BE IT FURTHER RESOLVED:

- 19. If any section, subsection, clause or phrase in this Resolution or the application thereof to any person or circumstances is for any reason held invalid, the validity of the remainder of this Resolution or the application of such provisions to other persons or circumstances shall not be affected thereby and shall remain in full force and effect until modified or superseded by action of this Board of Directors. The Board of Directors hereby declares that it would have passed this Resolution and each section, subsection, sentence, clause, or phrase thereof, irrespective of the fact that one or more sections, subsections, sentences, clauses or phrases or the application thereof to any person or circumstance be held invalid.

BE IT FURTHER RESOLVED:

- 20. The appropriate officers of the East Bay Municipal Utility District are hereby authorized and directed to take such actions as shall be necessary to impose, enforce and collect said fees, rates, charges, and regulations.

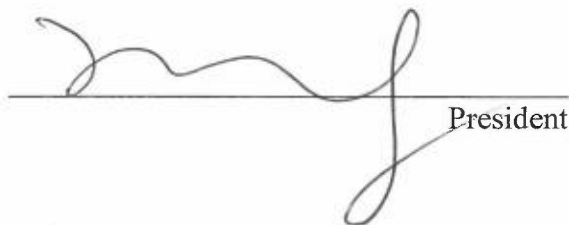
ADOPTED this 11th day of June, 2019 by the following vote:

AYES: **Directors Coleman, Katz, McIntosh, Mellon, Patterson, and President Young.**

NOES: **None.**

ABSENT: **Director Linney.**

ABSTAIN: **None.**




President

ATTEST:



Secretary

APPROVED AS TO FORM AND PROCEDURE:



General Counsel

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**Operating and Capital Budget
Resolution**

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RESOLUTION NO. 35144-19

APPROVING THE BUDGET OF THE EAST BAY MUNICIPAL UTILITY DISTRICT
WATER AND WASTEWATER SYSTEMS FOR FISCAL YEAR 2020 AND
FISCAL YEAR 2021 AND ESTABLISHING THE TERMS AND CONDITIONS
FOR THE PAYMENT OF DEMANDS AGAINST THE DISTRICT

Introduced by Director **Patterson** ; Seconded by Director **Mellon**

WHEREAS, the General Manager has prepared an estimate of all expenditures necessary and advisable for the proper conduct of the activities of the East Bay Municipal Utility District (District) and submitted the estimate to the Board of Directors in the Proposed Biennial Budget Fiscal Years 2020 and 2021 (“Proposed Biennial Budget”); and

WHEREAS, the Proposed Biennial Budget reflects proposed regular rate increases. The proposed regular rate increases for the Water System are 6.50% and 6.25% for Fiscal Year 2020 (FY20) and Fiscal Year 2021 (FY21), respectively. The proposed regular rate increases for the Wastewater System for FY20 have been adjusted to reflect the recommendations from the Wastewater Cost of Service (COS) study which was completed by Raftelis Financial Consultants in May 2019, and has resulted in some wastewater rates and charges decreasing and others increasing in FY20. The proposed rates for FY21 wastewater system charges are an additional 4.0% increase over the proposed FY20 rates; and

WHEREAS, the FY20 and FY21 Proposed Biennial Budget does not include an appropriation for drought contingency expenditures; and

WHEREAS, Drought Surcharges will continue to remain available as a contingency and will be up to 8.0%, 20.0%, and 25.0% for drought stages 2, 3, and 4, respectively, which would apply to each unit of potable water consumed if the Board of Directors declares a water shortage emergency or a water shortage, or the State of California mandates reduced water use. Prior to implementing any Drought Surcharge, the District will update its drought related costs and propose a drought contingency appropriation for consideration by the Board of Directors; and

WHEREAS, workshops were held on January 22 and March 26, 2019, at which time the Board of Directors and members of the public were provided an opportunity to review and ask questions about the recommended budget prepared by the General Manager; and

WHEREAS, the Board of Directors has considered all the oral and written information presented to it;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the East Bay Municipal Utility District as follows:

1. The budget for FY20 and FY21 presented by the General Manager is hereby approved and adopted as the FY20 and FY21 budget for the East Bay Municipal Utility District. Copies of the budget documents are on file in the Office of the Secretary and are made a part of this Resolution as though set forth in full.

2. For the purposes of complying with Section 11891.5 of the Public Utilities Code, the FY20 and FY21 budget is expressed in major groups of accounts as indicated below. The following amounts are hereby appropriated for expenditure:

WATER SYSTEM:	<u>FY20</u>	<u>FY21</u>
Operating Budget	\$299,288,793	\$315,365,410
Debt Service	208,194,596	217,710,113
Capital Budget	<u>622,650,000</u>	<u>352,253,000</u>
Total Water System	<u>\$1,130,133,389</u>	<u>\$885,328,523</u>

WASTEWATER SYSTEM		
Operating Budget	\$75,092,236	\$78,578,740
Debt Service	30,228,258	29,839,038
Capital Budget	<u>72,275,000</u>	<u>41,753,000</u>
Total Wastewater System	<u>\$177,595,494</u>	<u>\$150,170,778</u>

3. The General Manager is authorized to approve the payment of demands against the District in FY20, without further Board of Directors' authorization, so long as the demands are incurred for purposes and within the amounts set forth in the projection of the District's operations set forth above with respect to FY20. Projection of the District's operations with respect to FY21 will be resubmitted to the Board of Directors in June 2020 for review and approval, consistent with Public Utilities Code section 11891.5.
4. The General Manager is authorized for FY20 and FY21 to transfer funds between the Capital Budget and the Operating Budget in both the Water and Wastewater Systems budgets as required, but not to exceed a variance of 5.0% and provided that the total budget for each of the two systems remains unchanged.
5. Subject to compliance with Section 12751 of the Public Utilities Code, authority is hereby delegated to incur obligations for the purposes and within the amounts specified for such purposes in the budget hereby approved under such terms and conditions as the General Manager shall establish.
6. In order to provide for completion of work on projects authorized but not completed as of the close of the fiscal year, balances remaining at the close of Fiscal Year 2019 and Fiscal Year 2020, respectively, are hereby appropriated for expenditure in the subsequent fiscal year, in addition to the applicable fiscal year appropriations for capital and operating expenditures.
7. The Director of Finance is hereby authorized and directed to distribute the FY20 and FY21 appropriations to the various accounts of the District in accordance with generally accepted accounting principles and consistent with the purposes and objectives identified in the approved budget. The Director of Finance is further authorized to apply surplus revenues above the targeted reserve levels identified in the approved budget to retire currently outstanding bonds where it is cost-effective to do so, fund capital expenditures in FY20 and FY21, or set aside revenues in a restricted fund to fund capital expenditures. Directors and department head managers are authorized to transfer unexpended funds to

other approved operations or capital projects, provided that the total Capital Budget and Operating Budget for the Water and Wastewater Systems remain unchanged, except for the 5.0% variance authorized for the General Manager in this Resolution. An annual report of the transferred capital unexpended funds will be submitted by the Budget Office to the General Manager.

8. Any monies received during FY20 and FY21 as a consequence of a grant approved for acceptance by the Board of Directors are hereby appropriated for the purposes for which the grant has been approved. Such appropriation includes authorization for the General Manager to expend such monies and for the Director of Finance to make payments therefore in accordance with the terms and conditions and for the purposes of the grant.
9. The Board of Directors hereby declares the District's intent to reimburse itself with the proceeds of one or more issues of tax-exempt bonds, commercial paper notes or other indebtedness (Obligations) for a portion of the costs of the District's capital improvement program for its Water and Wastewater Systems, as set forth above in the District's Capital Budget for FY20 and FY21. The maximum principal amount of the Obligations expected to be issued to finance the costs of such capital improvement program, as set forth in the District's Capital Budget is \$622.7 million in FY20 and \$352.3 million in FY21 in the Water System, and \$72.3 million for FY20 and \$41.8 million in FY21 for the Wastewater System. The District reasonably expects on the date hereof that it will reimburse certain expenditures paid pursuant to the District's Capital Budget with the proceeds of the Obligations.

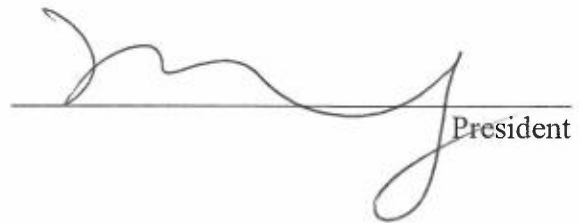
ADOPTED this 11th day of June, 2019 by the following vote:

AYES: **Directors Coleman, Katz, McIntosh, Mellon, Patterson, and President Young.**

NOES: **None.**

ABSENT: **Director Linney.**

ABSTAIN: **None.**



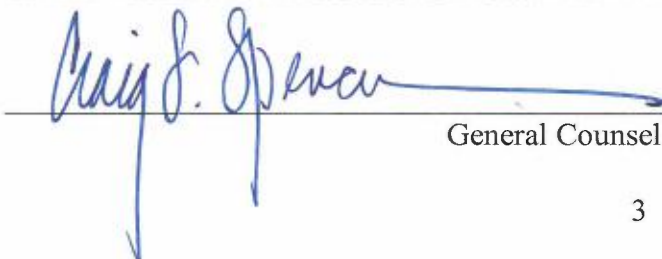
President

ATTEST:



Secretary

APPROVED AS TO FORM AND PROCEDURE:



General Counsel

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**Staffing
Resolution**

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RESOLUTION NO. 35145-19

AUTHORIZING THE NUMBER AND CHARACTER OF POSITIONS
AND AUTHORIZING THE GENERAL MANAGER TO TAKE
ACTION IN CONNECTION THEREWITH

Introduced by Director **Katz** ; Seconded by Director **Patterson**

WHEREAS, the Board of Directors of the East Bay Municipal Utility District is charged with the responsibility to determine and create the number and character of positions required to carry on the functions of the District; and

WHEREAS, the General Manager has filed a report with the Board of Directors recommending that 2,154.75 full-time equivalent (FTE) positions be authorized to carry on the functions of the District in Fiscal Year 2020 and 2,152.75 FTE positions be authorized to carry on the functions of the District in Fiscal Year 2021;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the East Bay Municipal Utility District as follows:

1. That 2,154.75 FTE positions be and hereby are authorized for Fiscal Year 2020 and 2,152.75 FTE positions be and hereby are authorized for Fiscal Year 2021, and that said positions are hereby converted, reallocated, created, deleted, and/or flexibly staffed in accordance with Exhibits A, B1, B2 and C, which are attached hereto and incorporated herein by this reference, and that the character of the positions (Full-Time Civil Service, Full-Time Civil Service Exempt, Limited Term, Temporary Construction, Temporary, Intermittent, and Part-Time) so authorized shall be as set forth in said Exhibits.
2. That the necessary amounts for salaries and benefits for the positions authorized in Section 1 of this Resolution for Fiscal Year 2020 and Fiscal Year 2021, which include the classification plan changes set forth in Exhibit C, are hereby authorized and appropriated, and that the salary schedules and monthly salary or wage rates for the positions authorized in this Resolution are approved.
3. That the Board of Directors hereby authorizes the General Manager to determine the specific classification and organizational placement within the District for each of the authorized positions and authorizes the General Manager to reallocate, flexibly staff, reassign and/or transfer said existing positions and personnel within the District, provided that: (1) the total number of positions that are represented remains unchanged for each fiscal year; (2) the character of the positions as enumerated above and as set forth in Exhibits A, B1, B2 and C is not changed provided, however, that the General Manager is authorized to flexibly staff regular full-time civil service positions with intermittent civil service positions consistent with procedures adopted by the General Manager for that purpose; (3) the total approved salaries and benefits for Fiscal Year 2020 and Fiscal Year

2021 are not exceeded; (4) this authority is exercised in accordance with applicable District rules, regulations, policies and procedures, including those adopted to implement the District's civil service system set forth at Section 12051, *et seq.* of the Municipal Utility District Act and any applicable provisions of relevant Memoranda of Understanding between the District and AFSCME Local 444, AFSCME Local 2019, IFPTE Local 21, and Stationary Engineers Local 39; and (5) the General Manager posts notice of such proposed changes in a conspicuous place at the District, and also notifies the Board of Directors, AFSCME Local 444, AFSCME Local 2019, IFPTE Local 21, and Stationary Engineers Local 39 of such proposed changes at least seven (7) calendar days prior to making any such change.

4. That the continuing operational need for any and all Limited Term and Temporary Construction positions included in the budget for Fiscal Year 2020 and Fiscal Year 2021 be evaluated and reported on by departments as part of their budget request for Fiscal Year 2020 and Fiscal Year 2021. Departments are responsible for ensuring that Limited Term and Temporary Construction positions are terminated at the end of their assigned project and are not reassigned without obtaining approval from the General Manager and the Board of Directors.
5. That all other resolutions or motions or parts thereof in conflict with this Resolution are revoked, provided that the authority of the General Manager or the General Manager's designee to create special replacement positions (Section 4, Resolution No. 30950-84; Section 3, Resolution No. 31904-87, and Section 4, Resolution No. 32084-88 as amended by Resolution No. 33425-04) and to transfer functions and positions (Section 5, Resolution No. 30950-84) and to approve special replacement positions/classifications for Limited Term and Temporary Construction positions (Section 3, Resolution No. 31303-85) and to temporarily replace full-time employees who are absent or are on approved leave as a result of participation in the District's drug and alcohol testing program, not to exceed a maximum of six (6) months and in accordance with applicable District Civil Service Rules (Section 8, Resolution No. 32926-95) and to designate the classification, organizational assignment, duration, and appointments for up to ten (10) Workforce Transition (WT) positions to mitigate near term retirements (Resolution 33676-08) in accordance with applicable District Civil Service Rules shall remain in full force and effect.

BE IT FURTHER RESOLVED by the Board of Directors of the East Bay Municipal Utility District that, in accordance with Exhibit C, attached hereto and incorporated herein:

6. The following classification shall be added: Paving Raker C.
7. The following classifications shall be deleted: Administrative Services Supervisor II, Supervising Telephone Radio Operator, Concrete Finisher IA, Concrete Finisher IIA, Dispatcher, Paving Raker, Assistant Capital Projects Coordinator, and Meals and Lodging Coordinator.

BE IT FURTHER RESOLVED that this Resolution shall become effective July 1, 2019.

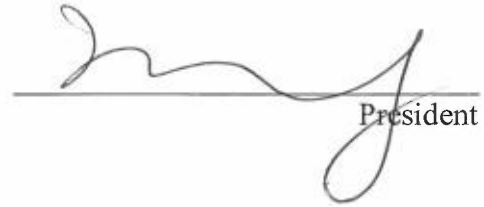
ADOPTED this 11th day of June, 2019 by the following vote:

AYES: **Directors Coleman, Katz, McIntosh, Mellon, Patterson,
and President Young.**

NOES: **None.**

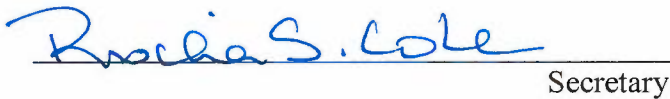
ABSENT: **Director Linney.**

ABSTAIN: **None.**



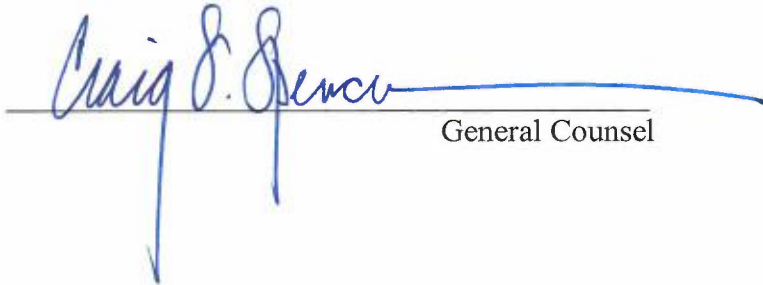
President

ATTEST:



Secretary

APPROVED AS TO FORM AND PROCEDURE:



General Counsel

EXHIBIT A
SUMMARY OF STAFF CHANGES
(July 1, 2019)

Group/Department	FY19	FY20	FY20	FY20	FY21	FY21
	Amended Staff Years	Recommended Staff Years ⁽²⁾	Recommended Staff Years ⁽²⁾	Net Change	Recommended Staff Years ⁽²⁾	Net Change
ADMINISTRATION	<u>2</u>	<u>2</u>	<u>2</u>	<u>0</u>	<u>2</u>	<u>0</u>
CUSTOMER AND COMMUNITY SERVICES	<u>152.5</u>	<u>152.5</u>	<u>152.5</u>	<u>0</u>	<u>152.5</u>	<u>0</u>
ENGINEERING AND CONSTRUCTION	<u>275.5</u>	<u>285.5</u>	<u>285.5</u>	<u>10</u>	<u>285.5</u>	<u>0</u>
FINANCE	<u>196.5</u>	<u>198.5</u>	<u>198.5</u>	<u>2</u>	<u>198.5</u>	<u>0</u>
Finance	99.5	101.5	101.5	2	101.5	0
Information Systems	97	97	97	0	97	0
HUMAN RESOURCES	<u>60</u>	<u>61</u>	<u>61</u>	<u>1</u>	<u>60</u>	<u>-1</u>
OFFICE OF THE GENERAL COUNSEL	<u>17</u>	<u>17</u>	<u>17</u>	<u>0</u>	<u>17</u>	<u>0</u>
OFFICE OF THE GENERAL MANAGER	<u>25.5</u>	<u>26.5</u>	<u>26.5</u>	<u>1</u>	<u>26.5</u>	<u>0</u>
MAINTENANCE AND CONSTRUCTION	<u>742.5</u>	<u>767.5</u>	<u>767.5</u>	<u>25</u>	<u>767.5</u>	<u>0</u>
OPERATIONS & MAINTENANCE SUPPORT	<u>54</u>	<u>54</u>	<u>54</u>	<u>0</u>	<u>54</u>	<u>0</u>
WATER OPERATIONS	<u>186.5</u>	<u>188.75</u>	<u>188.75</u>	<u>2.25</u>	<u>187.75</u>	<u>-1</u>
WATER AND NATURAL RESOURCES	<u>105.5</u>	<u>105</u>	<u>105</u>	<u>-0.5</u>	<u>105</u>	<u>0</u>
Water Resources	37	37.5	37.5	0.5	37.5	0
Natural Resources	68.5	67.5	67.5	-1	67.5	0
WATER RECYCLING PROGRAM	<u>8</u>	<u>8</u>	<u>8</u>	<u>0</u>	<u>8</u>	<u>0</u>
WATER SYSTEM TOTAL	<u>1825.5</u>	<u>1866.25</u>	<u>1866.25</u>	<u>40.75</u>	<u>1864.25</u>	<u>-2</u>
WASTEWATER	<u>289.5</u>	<u>288.5</u>	<u>288.5</u>	<u>-1</u>	<u>288.5</u>	<u>0</u>
DISTRICT-WIDE TOTAL IN FTEs⁽³⁾	<u>2115*</u>	<u>2154.75</u>	<u>2154.75</u>	<u>39.75</u>	<u>2152.75</u>	<u>-2</u>

Notes ⁽¹⁾, ⁽²⁾, ⁽³⁾, * - See page 2

EXHIBIT A
SUMMARY OF STAFF CHANGES
(July 1, 2019)

TOTAL POSITIONS AUTHORIZED BY TYPE OF STATUS	FY20 Positions	FY20 Net Change	FY21 Positions	FY21 Net Change
Full-Time	2057	43	2057	0
Temporary	48	-1	48	0
Part-Time	16	-1	16	0
Intermittent	5	1	5	0
Temporary Construction and Limited-Term	62	-3	60	-2
DISTRICT-WIDE TOTAL IN POSITIONS⁽³⁾	2188	39	2186	-2

Notes to Exhibit A:

- (1) Amended staffing applies mid-year Board actions, changes to the FY19 position Resolution under the General Manager's authority, position transfers, and administrative corrections.
 - (2) Regular Full-Time, Temporary Construction, and Limited Term Positions = 1.0 staff year
Part-Time and Temporary = .5 staff year
Intermittent = .75 staff year
 - (3) The District-wide full-time equivalent (FTE) total takes into account that temporary, part-time and intermittent positions are valued at less than 1.0 staff years each. The District-wide position total does not make that distinction.
- * The Board authorized the addition of two positions during the off-cycle on December 12, 2017, which increased the number of authorized positions for FY19 to 2115. However, staff inadvertently did not reflect the addition of those two positions in the 2018 Mid-Cycle Resolution (Resolution No. 35097-18) and the FY19 Amended Staff Years was incorrectly reported as 2113 FTE's. Thus, the number of positions authorized for FY19 is 2115 FTE's.

EXHIBIT B1
FY20
POSITION ADDITIONS/DELETIONS/CONVERSIONS/REALLOCATIONS/FLEX STAFFING
(July 1, 2019)

240

Engineering

ORG	FTE Change	From	To	Monthly Salary Range	Representation Change						Explanation	
					2019	444	21	39	MC	NR/ Exempt		
524	1.0	None	1.0 Associate Civil Engineer	76	1.0							Pipeline Rebuild
531	1.0	None	1.0 Associate Civil Engineer	76	1.0							Pipeline Rebuild
535	3.0	None	3.0 Engineering Designer I/II	67	3.0							Pipeline Rebuild.
559	None	1.0 TC Assistant Engineer	1.0 Assistant Engineer	72	X							Due to the successful pilot of the Commissioning Group, position will be converted to REG for baseline work to support Pipeline Rebuild.
559	None	1.0 TC Assistant Engineer/TC Senior Construction Inspector/TC Junior Engineer	1.0 Assistant Engineer/Senior Construction Inspector/Junior Engineer	72	X							Due to the successful pilot of the Commissioning Group, position will be converted to REG for baseline work.
559	None	1.0 TC Associate Electrical Engineer/TC Assistant Engineer/ TC Junior Engineer	1.0 Associate Electrical Engineer/Associate Civil Engineer/Associate Mechanical Engineer/Associate Control System Engineer/Assistant Engineer/Junior Engineer	76	X							Due to the successful pilot of the Commissioning Group, position will be converted to REG for baseline work.
562	1.0	None	1.0 Materials Testing Technician I/II	58	1.0							Pipeline Rebuild.
572	1.0	None	1.0 Construction Inspector	67	1.0							Pipeline Rebuild.

EXHIBIT B1
FY20
POSITION ADDITIONS/DELETIONS/CONVERSIONS/REALLOCATIONS/FLEX STAFFING
(July 1, 2019)

Engineering

ORG	FTE Change	From	To	Monthly Salary Range	Representation Change						Explanation	
					2019	444	21	39	MC	NR/ Exempt		
572	-1.0	-1.0 TC Senior Construction Inspector/ TC Construction Inspector	None	71	-1.0							Wildcat Pipeline: completion date June 2021 Alameda Crossings: completion date June 2023
572	1.0	None	1.0 TC Senior Construction Inspector/ TC Construction Inspector	71	1.0							Primary CIP Projects: Alameda Crossings with completion date June 2023 Additional Interim Assignments: Reservoir Rehabilitation Projects Position End Date: June 2023 to coincide with completion of Alameda Crossings
572	-1.0	-1.0 LT Senior Construction Inspector/LT Construction Inspector	None	71	-1.0							Applicant Pipeline Extensions and /or Relocations; completion date: August 2021.
572	1.0	None	1.0 LT Senior Construction Inspector/LT Construction Inspector	71	1.0							Primary CIP Projects: Pipeline Rebuild, Applicant Pipeline Extensions and/or Relocations Position End Date: August 2021
572	-1.0	-1.0 TC Construction Inspector	None	67	-1.0							Faria Pipelines - completion date June 2019 Pipeline Rebuild- completion date: December 2022.
572	1.0	None	1.0 TC Construction Inspector	67	1.0							Primary CIP Projects: Pipeline Rebuild, Applicant Pipeline Extensions and/or Relocations Position End Date: December 2022.
573	1.0	None	1.0 Chief of Party	68	1.0							Pipeline Rebuild.
573	1.0	None	1.0 Survey Technician I/II	62	1.0							Pipeline Rebuild.

EXHIBIT B1
FY20
POSITION ADDITIONS/DELETIONS/CONVERSIONS/REALLOCATIONS/FLEX STAFFING
(July 1, 2019)

Engineering

		Representation Change									
ORG	FTE Change	From	To	Monthly Salary Range	2019	444	21	39	MC	NR/ Exempt	Explanation
574	None	2.0 LT Materials Inspector/LT Senior Construction Inspector/LT Construction Inspector	2.0 Materials Inspector/Senior Construction Inspector	71	X						Primary CIP Projects: Pipeline Rebuild, Applicant Pipeline Extensions and/or Relocations, Pumping Plant Rehabilitation Projects, Reservoir Rehabilitation Projects Position End Date: June 2024
575	-1.0	-1.0 TC Associate Civil Engineer/TC Associate Electrical Engineer/TC Associate Mechanical Engineer	None	76	-1.0						Faria Pumping Plant & No. 1 and 2 Reservoirs Const. And San Ramon Reservoir Rehab: completion date: June 2019 Orinda WTP Reliability and Maintenance Project; completion date: October 2018
575	1.0	None	1.0 TC Associate Civil Engineer/TC Associate Electrical Engineer/TC Associate Mechanical Engineer	76	1.0						Primary CIP Projects: Orinda WTP Disinfection Improvements Project completion date June 2024 Additional Interim Assignments: Pumping Plant Rehabilitation Projects Position End Date: June 2024 to coincide with completion of Orinda WTP Disinfection Improvements Project
575	-1.0	-1.0 TC Supervising Construction Inspector	None	75			-1.0				Faria Pumping Plant & No. 1 and 2 Reservoirs Const. And San Ramon Reservoir Rehab: completion date: June 2019 Orinda WTP Reliability and Maintenance Project; completion date: October 2018

EXHIBIT B1
FY20
POSITION ADDITIONS/DELETIONS/CONVERSIONS/REALLOCATIONS/FLEX STAFFING
(July 1, 2019)

Engineering

		Representation Change									
ORG	FTE Change	From	To	Monthly Salary Range	2019	444	21	39	MC	NR/ Exempt	Explanation
575	1.0	None	1.0 TC Supervising Construction Inspector	75			1.0				Primary CIP Projects: Orinda WTP Disinfection Improvements Project completion date June 2024 Additional Interim Assignments: Pumping Plant Rehabilitation Projects Position End Date: June 2024 to coincide with completion of Orinda WTP Disinfection Improvements Project
576	-1.0	-1.0 TC Assistant Engineer/ TC Senior Construction Inspector/ TC Junior Engineer	None	72	-1.0						Faria Pumping Plant & No. 1 and 2 Reservoirs Const. And San Ramon Reservoir Rehab: completion date: June 2019 Orinda WTP Reliability and Maintenance Project; completion date: October 2018
576	1.0	None	1.0 TC Assistant Engineer/TC Senior Construction Inspector/TC Junior Engineer	72	1.0						Primary CIP Projects: Orinda WTP Disinfection Improvements Project completion date June 2024 Additional Interim Assignments: Pumping Plant Rehabilitation Projects Position End Date: June 2024 to coincide with completion of Orinda WTP Disinfection Improvements Project.
577	-1.0	-1.0 TC Assistant Engineer/TC Senior Construction Inspector/ TC Junior Engineer	None	72	-1.0						Faria Pumping Plant & No. 1 and 2 Reservoirs Const. And San Ramon Reservoir Rehab: completion date: June 2019 Orinda WTP Reliability and Maintenance Project; completion date: October 2018

EXHIBIT B1
FY20
POSITION ADDITIONS/DELETIONS/CONVERSIONS/REALLOCATIONS/FLEX STAFFING
(July 1, 2019)

244 Engineering

		Representation Change					Monthly Salary Range	To	From	FTE Change	ORG	Explanation
2019	444	21	39	MC	NR/ Exempt							
						72	1.0 TC Assistant Engineer/TC Senior Construction Inspector/ TC Junior Engineer	None	1.0	577	Primary CIP Projects: Alameda Crossings completion date June 2023 Additional Interim Assignments: Reservoir Rehabilitation Projects Position End Date: June 2023 to coincide with completion of Alameda Crossings	
						67	1.0 Construction Inspector	None	1.0	577	Pipeline Rebuild. Fund 6 months in FY20 per department request.	
						71	None	-1.0 LT Senior Construction Inspector/LT Construction Inspector	-1.0	577	Pumping Plant Rehabilitation Projects; completion date: October 2021 Reservoir Rehabilitation Projects completion date: June 2023	
						71	1.0 LT Senior Construction Inspector/LT Construction Inspector	None	1.0	577	Primary CIP Projects: Orinda WTP Disinfection Improvements Project completion date June 2024. Assignments: Pumping Plant Rehabilitation Projects & Reservoir Rehabilitation Projects. Position End Date: June 2024 to coincide with completion of Orinda WTP Disinfection Improvements Project.	

Office of the General Manager

		Representation Change					Monthly Salary Range	To	From	FTE Change	ORG	Explanation
2019	444	21	39	MC	NR/ Exempt							
						86	1.0 Specialist Assistant I/ II/III	1.0 Special Assistant III	None	944/ 115	Re-assign to Legislative Affairs.	

EXHIBIT B1
FY20
POSITION ADDITIONS/DELETIONS/CONVERSIONS/REALLOCATIONS/FLEX STAFFING
(July 1, 2019)

Finance

ORG	FTE Change	From	To	Monthly Salary Range	Representation Change						Explanation
					2019	444	21	39	MC	NR/ Exempt	
232/200	None	1.0 Administrative Clerk	1.0 LT Information Systems Support Analyst II/ Administrative Clerk	70	X						Additional support for FIS/MMIS Implementation. For FIS/MMIS project until 6/30/2021.
362/200	None	1.0 Senior Administrative Clerk/Administrative Clerk	1.0 LT Information Systems Support Analyst II/ Administrative Clerk	70	X						Additional support for FIS/MMIS Implementation. For FIS/MMIS project until 6/30/2021.
487/200	None	1.0 Ranger/Naturalist I/II	1.0 LT Information Systems Support Analyst II / Ranger/Naturalist I/II	70	X						Additional support for FIS/MMIS Implementation. For FIS/MMIS project until 6/30/2021.

Information Systems

ORG	FTE Change	From	To	Monthly Salary Range	Representation Change						Explanation
					2019	444	21	39	MC	NR/ Exempt	
252/256	None	1.0 LT Information Technology Intern I/II	1.0 LT Information Systems Support Analyst I/II / LT Information Technology Intern I/II	70	X						Temporarily flexing position and reassigning duties for FY20 & FY21. Consolidate and manage existing and new hardware, software, and services procurement. Implement hardware and software asset management in ISD. Reverse action June 30, 2021.

EXHIBIT B1
FY20
POSITION ADDITIONS/DELETIONS/CONVERSIONS/REALLOCATIONS/FLEX STAFFING
(July 1, 2019)

246

Human Resources

ORG	FTE Change	From	To	Monthly Salary Range	2019	Representation Change				Explanation	
						444	21	39	MC		NR/ Exempt
362/ 360	None	1.0 LT Special Employment Program Trainee	1.0 LT Ranger/Naturalist I	58	X						Position to be incorporated into Intern Program to create a bridge for qualified Ranger candidates.
362	1.0	None	1.0 Senior Human Resources Analyst	73				1.0			Position will support the Workforce Planning and Development goal by employing Strategy 2 to develop employees to meet workforce demands. Position dedicated to delivering MAST and Leadership Academies. Additional responsibilities include employee engagement activities with the Values Advocates and development and implementation of the Employee Engagement Survey for FY20.
362	-1.0	-1.0 LT 1.0 Senior Human Resources Analyst	None	73				-1.0			LT expired 5/1/2019.
365	1.0	None	1.0 TC HRIS Analyst II	69				1.0			Position will support the Long-Term Financial Stability goal. The HRIS Replacement project focuses on Strategy 4 by implementing technologies that improve the efficiency and effectiveness of business processes. The project is expected to run through FY22.
366	1.0	None	1.0 TC Human Resources Analyst I/II	69				1.0			Position will support the Long-Term Financial Stability goal. The HRIS Replacement project focuses on Strategy 4 by implementing technologies that improve the efficiency and effectiveness of business processes. The project is expected to run through FY22.

EXHIBIT B1
FY20
POSITION ADDITIONS/DELETIONS/CONVERSIONS/REALLOCATIONS/FLEX STAFFING
(July 1, 2019)

Maintenance & Construction

ORG	FTE Change	From	To	Monthly Salary Range	Representation Change						Explanation	
					2019	444	21	39	MC	NR/ Exempt		
736/ 754	None	2.0 Gardener I/II	2.0 LT Concrete Finisher I/II/Gardener I/II	58		X						Reduce reliance on FM&O contracts (concrete) and support additional Pipeline Rebuild needs.
738/ 747	None	2.0 Janitor	2.0 LT Paving Raker A / Janitor	56		X						Reduce reliance on FM&O contracts (saw cutting). Pilot to last June 2024.
746	1.0	None	1.0 Assistant Construction & Maintenance Superintendent	76			1.0					Pipeline Rebuild Crew
746	2.0	None	2.0 General Pipe Supervisor	72			2.0					Pipeline Rebuild Crew
746	6.0	None	6.0 Heavy Equipment Operator	60		6.0						Pipeline Rebuild Crew
746	4.0	None	4.0 Heavy Transport Operator	58		4.0						Pipeline Rebuild Crew
746	1.0	None	1.0 Materials Specialist	57		1.0						Pipeline Rebuild Crew
746	2.0	None	2.0 Water Distribution Plumber I/II/III / Utility Laborer	51		2.0						Pipeline Rebuild Crew
746	9.0	None	9.0 Water Distribution Plumber I/II/III	59		9.0						Pipeline Rebuild Crew.

EXHIBIT B1
FY20
POSITION ADDITIONS/DELETIONS/CONVERSIONS/REALLOCATIONS/FLEX STAFFING
(July 1, 2019)

Water Operations

ORG	FTE Change	From	To	Monthly Salary Range	2019	Representation Change				NR/ Exempt	Explanation
						444	21	39	MC		
762	0.25	1.0 PT Housekeeper	1.0 Intermittent Housekeeper	44	0.25						Operational needs.
778	2.0	None	2.0 Water System Inspector I/II	62	2.0						Pipeline Rebuild Crew.

Water Resources

ORG	FTE Change	From	To	Monthly Salary Range	2019	Representation Change				NR/ Exempt	Explanation
						444	21	39	MC		
455	0.5	1.0 PT Engineering Aide	1.0 LT Junior Engineer/PT Engineering Aide	66	0.5						Bridge classification to create pipeline of qualified candidates.
Total FY20 Representation Change					12.75	22.0	3.0	0.0	2.0	0.0	

Notes to Exhibit B1:

1. "X" in the "Representation Change" column indicates no change

EXHIBIT B2
FY21
POSITION ADDITIONS/DELETIONS/CONVERSIONS/REALLOCATIONS/FLEX STAFFING
(July 1, 2019)

Human Resources

ORG	FTE Change	From	To	Monthly Salary Range	Representation Change					Explanation	
					2019	444	21	39	MC		NR/ Exempt
364	-1.0	-1.0 LT Administrative Clerk	None	49					-1.0		LT expires 6/10/2020.

Maintenance & Construction

ORG	FTE Change	From	To	Monthly Salary Range	Representation Change					Explanation	
					2019	444	21	39	MC		NR/ Exempt
736	None	2.0 Gardener I/II	2.0 LT Concrete Finisher I/II /Gardener I/II	58		X					Reduce reliance on FM&O contracts (concrete) and support additional Pipeline Rebuild needs.

Water Operations

ORG	FTE Change	From	To	Monthly Salary Range	Representation Change					Explanation	
					2019	444	21	39	MC		NR/ Exempt
777	-1.0	-1.0 LT Water System Inspector I/II	None	62					-1.0		Lead Sampling program ends in Dec. 2019. Position funded for 6 months in FY20.
Total FY21 Representation Change					-1.0	0.0	0.0	0.0	-1.0	0.0	

EXHIBIT C
FY20
CLASSIFICATION PLAN CHANGES
(July 1, 2019)

250

CLASSIFICATION ADDITIONS

Class Code	Class Title	Monthly Salary Range	Rep. Unit	Explanation
8994	Paving Raker C	R60 (\$7,175 - \$8,307)	444	New classification required to meet operational needs in Paving

CLASSIFICATION DELETIONS

Class Code	Class Title	Monthly Salary Range	Rep. Unit	Explanation
2330	Administrative Services Supervisor II	R65 \$8,124 - \$9,405	21	Classification is obsolete and no longer needed
5475	Supervising Telephone Radio Operator	R57 \$6,667 - \$7,718	21	Classification is obsolete and no longer needed
8993	Concrete Finisher IA	R56 \$6,507 - \$7,533	444	Classification is obsolete and no longer needed
8992	Concrete Finisher IIA	R59 \$7,005 - \$8,109	444	Classification is obsolete and no longer needed
8710	Dispatcher	R60 \$7,175 - \$8,307	444	Classification is obsolete and no longer needed
8967	Paving Raker	R55 \$6,345 - \$7,345	444	Classification is obsolete and no longer needed
4167	Assistant Capital Projects Coordinator	R72 \$9,192 - \$11,174	2019	Classification is obsolete and no longer needed
5795	Meals and Lodging Coordinator	R52 \$5,610 - \$6,820	2019	Classification is obsolete and no longer needed

FINANCIAL POLICIES

BOARD OF DIRECTORS' FINANCIAL POLICIES

This section includes four policies adopted by the District's Board of Directors to govern fiscal matters. The policies are listed below and reproduced on the following pages.

Policy 4.02	Cash Reserves and Debt Management	Adopted April 2017
Policy 4.04	Financial Planning and Budgetary Control	Adopted June 2018
Policy 4.07	Investment Policy	Adopted April 2019
Policy 4.13	Establishing Water and Wastewater Rates	Adopted April 2016



CASH RESERVES AND DEBT MANAGEMENT

IT IS THE POLICY OF EAST BAY MUNICIPAL UTILITY DISTRICT TO:

Maintain operating and self-insurance reserves necessary to provide ongoing working capital while maintaining a reasonable balance between debt and current revenue financing of capital projects. Maintaining adequate reserves along with sound financial policies promotes the District's good standing in the capital markets; provides financing flexibility; avoids potential restrictive debt covenants; maintains markets for District debt; and facilitates future financing of capital projects at reasonable costs.

Maintaining a reasonably conservative ratio between current funding sources and debt financing is critical to retaining the District's financing flexibility. Flexibility allows the District access to a variety of financing alternatives such as fixed and variable rate obligations as well as other types of debt such as State and Federal loans, direct bank loans, and other financial instruments which may be utilized by the District. Similarly, District financings may include taxable as well as tax-exempt alternatives. In addition to financing capital improvements, debt can be issued to refund outstanding obligations in order to achieve debt service savings or to further any other financial objectives authorized by the District Board. The District's debt should primarily be secured by its revenues, but may be secured by other sources such as, for example, voter-approved general obligation bonds secured by property taxes. The District's debt obligations may be short, medium, or long-term as appropriate to achieve results consistent with the District's financial goals and taking into account the useful life of the assets financed. Proceeds of debt should be held either (a) by a third-party trustee, which will disburse bond proceeds to the District upon submission of one or more written requisitions signed by an authorized District officer, or (b) by the District, to be held and accounted for in a separate fund or account, the expenditure of which will be carefully documented by the District and subject to established internal controls consistent with the District's applicable policies and procedures. When issuing debt, the District will comply with all applicable requirements pertaining to initial bond disclosure, continuing disclosure, tax-exemption, post-issuance compliance, and investment of bond proceeds (including, for example, any continuing disclosure undertakings under SEC Rule 15c2-12, and tax covenants and related federal tax compliance requirements such as arbitrage restrictions and rebate requirements). Issuance of all debt should conform to the District's overriding principle of exercising responsible financial management.

Financial Goals

- Maintain operating reserves at a level sufficient to meet working capital and unanticipated needs, specifically:
 - Maintain Working Capital Reserve of at least 3.0 times monthly net operating and maintenance expenses.
 - Maintain Self-Insured Liability Program Reserve based on the Actuarial Self-Insured Retention (SIR) funding recommendation for the following year's discounted loss and allocated loss adjustment expenses (ALAE) funding guidelines. Reserve amount should be calculated at a high (85%) confidence level. If an actuarial study is not available before close of the prior fiscal year end, the reserve shall equal 1.15 times the prior year reserve.
 - Maintain Workers' Compensation Program Reserve based on the Actuarial SIR funding recommendation for the following year's discounted loss and ALAE funding guidelines. Reserve amount should be calculated at a high (85%) confidence level. If an actuarial study is not available before close of the prior fiscal year end, the reserve shall equal 1.15 times the prior year reserve.

- Maintain Rate Stabilization Reserve for the Water System at a minimum of 20 percent of projected annual water volume revenues and for the Wastewater System at a minimum of 5 percent of operating and maintenance expenses.
 - Maintain a reasonably conservative ratio between current funding sources and debt financing:
 - Debt Service Coverage Ratio: Maintain an annual revenue bond debt service coverage ratio of at least 1.6 times.
 - Debt-Funded Capital Spending: Limit debt-funded capital to no more than 65 percent of the total capital program over each five-year planning period.
 - Commercial Paper/Variable Rate Debt: Maintain an annual limit of 25 percent of outstanding long-term debt.
-

Authority

Motion No. 058-94, April 12, 1994
As amended by Resolution No. 33211-00, June 27, 2000
As amended by Resolution No. 33429-04, June 8, 2004
As amended by Resolution No. 33481-05, June 14, 2005
As amended by Resolution No. 33485-05, July 12, 2005
As amended by Resolution No. 34052-15, September 22, 2015
As amended by Resolution No. 35008-16, October 25, 2016
As amended by Resolution No. 35034-17, April 25, 2017



Policy 4.04

EFFECTIVE 26 JUN 18

SUPERSEDES 28 APR 09

FINANCIAL PLANNING AND BUDGETARY CONTROL

IT IS THE POLICY OF THE EAST BAY MUNICIPAL UTILITY DISTRICT TO:

Establish a financial plan and biennial budget for the Water System and the Wastewater System, to include:

- Financial Planning**
- Efficient use of the District's resources through annual organizational, operational, construction, and financial planning, and by controlling costs and significant items of expenditures.
 - Planning of operating and capital programs and setting levels of related operating, capital, and debt service expenditures that may be made during the budget period.
-

- Financial Monitoring**
- Ensuring that the total amount expended and committed does not exceed the total revenue and receipts available during the fiscal year.
 - Periodic status reports on expenditures, revenues, and investments.
-

Transfers

The General Manager is authorized to transfer up to 5 percent of the fiscal year adopted budget between the capital and operating budgets provided that the total adopted budget remains unchanged. Budget transfers between the Water and Wastewater Systems' are prohibited.

Authority

Resolution 27058, August 27, 1974
 As amended by Resolution 32874-94, August 9, 1994
 As amended by Resolution 33177-99, November 23, 1999
 As amended by Resolution 33577-07, January 9, 2007
 As amended by Resolution 33710-09, April 28, 2009
 As amended by Resolution 35099-18, June 26, 2018

References

Policy 4.02	Cash Reserves and Debt Management
Policy 7.03	Emergency Preparedness/Business Continuity
Procedure 417	Financial Planning and Budgetary Control

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Policy 4.07

EFFECTIVE 23 APR 19

SUPERSEDES 24 APR 18

INVESTMENT POLICY

IT IS THE POLICY OF THE EAST BAY MUNICIPAL UTILITY DISTRICT TO:

Invest District funds and funds managed by the District on behalf of its Joint Powers Authorities (JPAs) in compliance with investment criteria for safety, liquidity, yield and diversification as set forth herein. Investments shall be in securities with a range of maturities to provide adequate security and liquidity to pay demands when due while providing a market rate of return on investments.

Authority Section 53600 et. seq. of the California Government Code (Government Code) and Chapter 6, Article 7 of the Municipal Utility District Act (M.U.D. Act) govern the investment of idle monies of the District. Section 53635 of the Government Code defines how investments are to be handled for Joint Powers Authorities.

Delegation of Authority The authority and responsibility to invest idle monies of the District is delegated to the Director of Finance as the Treasurer. The Director of Finance may designate individual staff to carry out his/her responsibilities under this policy.

No Bond Proceeds The investment of bond proceeds is specifically defined in individual bond indenture documents and is not included in this policy.

Ethics and Conflicts of Interest Officers and employees involved in the investment process shall:

- refrain from personal business activity that could conflict with proper execution of the District's investment program, or which could impair their ability to make impartial investment decisions on behalf of the District,
- disclose any material financial interest in financial institutions that conduct business with the District,
- disclose material personal financial/investments that are related to or could reasonably be affected by the performance of the District's investments,
- refrain from undertaking any personal investment transactions with the same individual with whom business is conducted on behalf of the District's investments, and
- comply with the District's Conflict of Interest Code, as required.

Investment Criteria Criteria for selecting investments shall:

- adhere to the prudent investor standard, described in Section 53600.3 of the Government Code as follows: "when investing, reinvesting, purchasing, acquiring, exchanging, selling, or managing public funds, a trustee shall act with care, skill, prudence, and diligence under the circumstances then prevailing, including, but not limited to, the general economic conditions and the anticipated needs of the agency, that a prudent person acting in a like capacity and familiarity with those matters would use in the conduct of funds of a like character and with like aims, to safeguard the principal and maintain the liquidity needs of the agency," **and**
- conform with the Government Code and M.U.D. Act, **and**
- have the following objectives, in order of priority:

1. *Safety* - The District's ability to recover principal and interest. Investments shall be made that will seek to ensure the preservation of principal and interest and minimize risk to the greatest extent possible. It is the primary duty of the Treasurer to protect, preserve and maintain cash and investments on behalf of the District.
2. *Liquidity* - The District's ability to have cash available when needed to support expenditure cycles and budgetary objectives.
3. *Yield* – The District's ability to provide a market rate of return on the District's investments while conforming to the safety and liquidity criteria above.
4. *Diversification* – The District's ability to maintain an investment portfolio that includes a range of security types for the District. In order to accomplish this, each Investment Option shall have defined limits on maximum share of the portfolio, single issuer and single issue holdings, and maturity, rating and other restrictions where applicable.

Maturity

The weighted average maturity of the portfolio shall not exceed 720 days.

Rating Agencies and Rating Requirements

As outlined below, some Investment Options have rating requirements. In that context, Rating Agencies is defined as:

- Standard & Poor's Financial Services (S&P),
- Moody's Investors Service (Moody's), and
- Fitch Ratings (Fitch), only.

Ratings requirements:

- are provided using the S&P scale and should be read as "or equivalent" to other Rating Agencies scales. Rating Agencies scales are included for reference in Exhibit 1,
- apply at the time of purchase only, with subsequent downgrades below requirement levels prompting a case-by-case evaluation of the investment, and
- only apply to the Rating Agencies rating the security.

Investment Options

The District is able to purchase investments in the instruments listed in this section as allowed and defined under Section 53600 et. seq. of the Government Code, Chapter 6, Article 7 of the M.U.D. Act, Board Resolutions, and via this policy. As used in this section, the term "Portfolio" refers to all investable funds managed by the District.

1. United States Treasury Obligations
 - Maximum Share of Portfolio: Unlimited
 - Maximum Issuer Limit: n/a
 - Maximum Issue Limit: n/a
 - Maximum Maturity: Not to exceed five (5) years from the settlement date
 - Minimum Rating: n/a
 - Other Restrictions: none

2. United States Government Agencies Obligations

Under this subsection, only obligations issued by the following agencies are permitted:

- Federal Agricultural Mortgage Corporation (Farmer Mac)
- Federal Farm Credit Bank (FFCB)
- Federal Home Loan Bank (FHLB)
- Federal Home Loan Mortgage Corporation (FHLMC)
- Federal National Mortgage Association (FNMA)
- Maximum Share of Portfolio: Unlimited
- Maximum Issuer Limit: 40% of the Portfolio
- Maximum Issue Limit: n/a
- Maximum Maturity: Not to exceed five (5) years from the settlement date
- Minimum Rating: n/a
- Other Restrictions: none

3. State of California, Local Agency Investment Fund (LAIF)

- Maximum Share of Portfolio: as determined by Section 16429.1 of the Government Code
- Maximum Issuer Limit: n/a
- Maximum Issue Limit: n/a
- Maximum Maturity: n/a
- Minimum Rating: n/a
- Other Restrictions: none

4. Local Government Investment Pools

Under this subsection, only obligations of the following agencies are permitted:

- California Asset Management Program (CAMP)
- Maximum Share of Portfolio: 20% of the Portfolio
- Maximum Issuer Limit: n/a
- Maximum Issue Limit: n/a
- Maximum Maturity: n/a
- Minimum Rating: Ratings of AAAM by at least one Rating Agency
- Other Restrictions: none

5. Money Market Mutual Funds

Under this subsection, only Money Market Mutual Funds with stable, non-floating NAV (Net Asset Value, the value of assets divided by number of shares) are permitted

- Maximum Share of Portfolio: 20% of the Portfolio
- Maximum Fund Limit: 5% of Money Market Mutual Fund's assets
- Maximum Issue Limit: n/a
- Maximum Maturity: n/a
- Minimum Rating: AAAM by at least two Rating Agencies
- Other Restrictions: none

The District will request from each Money Market Mutual Fund, prior to investing and on an annual basis after investing, documents which provide details on the operations of the fund. These documents, along with the other criteria above, including the rating restriction, will be used to determine the suitability to receive Portfolio funds.

6. Certificates of Time Deposit

Government Code Section 53601.8 allows investments in deposits placed with a private sector entity that assists in the placement of deposits with eligible financial institutions located in the United States. Under this subsection, only such purchases are permitted.

- Maximum Share of Portfolio: 20% of the Portfolio when added together with Negotiable Certificates of Deposit
- Maximum Issuer Limit: applicable maximum FDIC deposit insurance coverage limit
- Maximum Issue Limit: n/a
- Maximum Maturity: Not to exceed one (1) year from the settlement date
- Minimum Rating: AA- by at least one Rating Agency
- Other Restrictions:
 - o Investment in local branches within the District, whenever possible.

7. Negotiable Certificates of Deposit

- Maximum Share of Portfolio: 20% of the Portfolio when added together with Certificates of Time Deposits
- Maximum Issuer Limit: applicable maximum FDIC deposit insurance coverage limit
- Maximum Issue Limit: 10% of issue
- Maximum Maturity: Not to exceed five (5) years from the settlement date
- Minimum Rating: AA- by all Rating Agencies
- Other Restrictions:
 - o Issued by banks with total deposits of one billion dollars (\$1,000,000,000) or more.

8. Commercial Paper

- Maximum Share of Portfolio: 20% of the Portfolio
- Maximum Issuer Limit: 10% of outstanding amount for the issuer
- Maximum Issue Limit: n/a
- Maximum Maturity: Not to exceed 270 days from the settlement date
- Minimum Rating: A-1+ from at least one Rating Agency
- Other Restrictions:
 - o Issued by an entity that is, at the time of purchase:
 - organized and operating in the United States as a general corporation, with total assets exceeding \$500,000,000 and debt (other than commercial paper) rated A or better by at least one Rating Agency ; or
 - is organized within the United States as a special purpose corporation, trust, or limited liability company, with program wide credit enhancements including, but not limited to, overcollateralization, letters of credit, or a surety bond, **and** has commercial paper that is rated A-1+ by at least one Rating Agency.

9. Medium Term Corporate Notes

- Maximum Share of Portfolio: 30% of the Portfolio
- Maximum Issuer Limit: 10% of the Portfolio
- Maximum Issue Limit: 5% of original issue amount
- Maximum Maturity: Not to exceed 5 years from the settlement date
- Minimum Rating: AA- from at least one Rating Agency, and not lower than A by any Rating Agency
- Other Restrictions:
 - o Issued by corporations organized and operating within the United States or by depository institutions licensed by the United States or any state and operating within the United States.

10. Repurchase Agreements

- Maximum Share of Portfolio: 20% of the Portfolio
- Maximum Issuer Limit: n/a
- Maximum Issue Limit: n/a
- Maximum Maturity: Not to exceed 270 days from the settlement date
- Minimum Rating: n/a
- Other Restrictions:
 - o Collateral may only be in any securities authorized in items 1, or 2
 - o A Master Repurchase Agreement must be on file with the District
 - o Security must be marked to market on a daily basis and delivered to the District's custodial bank at a market value of at least 102%

11. Municipal Obligations

Under this subsection, only registered obligations of the following agencies are permitted:

- o Any local agency within the State of California
- o the State of California
- Municipal Bonds:
 - o Maximum Share of Portfolio: 40% of the Portfolio when added together with Municipal Notes
 - o Maximum Issuer Limit: 20% of the Portfolio
 - o Maximum Issue Limit: 10% of original issue amount
 - o Maximum Maturity: Not to exceed five (5) years or with a put provision within five (5) years of settlement date
 - o Minimum Rating: AA- or equivalent by at least one Rating Agency, and not lower than A by any Rating Agency
 - o Other Restrictions: none
- Municipal Notes:
 - o Maximum Share of Portfolio: 40% of the Portfolio together with Municipal Bonds
 - o Maximum Issuer Limit: 20% of the Portfolio
 - o Maximum Issue limit: 10% of original issue amount
 - o Maximum Maturity: n/a
 - o Minimum Rating: Notes maturing within 365 days must have a rating of SP-1+ from at least one Rating Agency
 - o Other Restrictions: none

Investment Placement

Investment placement shall be determined by, but not limited to, continual evaluation and projection of market conditions, interest rate trends, cash flow needs, economic data, yield curves, and interest rate forecasts. Additionally, for investments purchased or sold in the secondary market, best efforts will be made to obtain at least three quotations from Purchasing Entities (as defined below) or obtain timely and verifiable third-party market pricing data for the investment in question. The combination of these factors shall determine where, in what denomination, and for what maturity investments are made.

Selling Securities Prior To Maturity

When selling securities prior to maturity, principal losses are only allowable either:

- if the sale of securities is necessary to meet payment obligations,
 - to comply with this policy, while considering the impact of the sale(s), or
 - if the proposed sale is to be made in conjunction with a purchase and the proposed sale in combination with the subsequent purchase can enhance the Portfolio's yield.
-

Collateral

Securities placed with agents of depository shall at all times be maintained as specified in District Resolution 33232-01 in one or more trust companies, State or national banks located within California, the Federal Reserve Bank, or with any state or national bank located in any city designated as a federal reserve city by the Board of Governors of the Federal Reserve System, and to take from any such banks or trust companies receipts for securities so deposited. Requests for Collateral substitution and releases are subject to the Treasurer's written approval.

Portfolio Performance

The Portfolio will seek to attain a risk-adjusted market rate of return that takes into consideration the cash flow needs of the District. As a result, Portfolio performance will be measured using commonly used market indicators. Those may include, but are not limited to: the Federal funds rate, short-term government obligations rates, and other market rates that reflect the mix of securities in the Portfolio.

Purchasing Entities

Investments will be purchased from either:

- Primary Dealers as designated by the Federal Reserve Bank of New York,
- National or California State Chartered Banks,
- Federal or California Chartered Savings Institution,
- Broker-Dealers registered with the State of California, **or**
- Issuers of securities eligible for purchase by the District.

In addition, these institutions must:

- be registered by the Securities and Exchange Commission (SEC),
- be members in good standing of the Financial Industry Regulatory Authority (FINRA), **and**
- provide audited financial statements to the District annually.

The District shall maintain a current eligible list of established dealers, brokers, banks and savings and loan associations with which securities trading and placement of funds are authorized.

Additionally, to be placed on the eligible list, individuals need to certify in writing that they have read, understood, and agree to comply with this policy, where applicable, by completing and filing with the District the 'Certification of Compliance with Investment Policy' included in this policy as Exhibit 2.

Eligibility may be revoked at any time, in the District's sole discretion, for any reason, including but not limited to, failure to meet the above requirements.

**Trade
Confirmations and
Settlements**

To ensure a high degree of internal control, the District shall comply with the following:

1. All Securities purchased from dealers and brokers shall be held in safekeeping by the District's custodial bank, a national bank, a State chartered bank or trust company, established for this purpose as someone other than the selling party of the security. Securities purchased will be covered by a trust or safekeeping receipt in a manner that establishes the District's ownership. All transactions require delivery of the security prior to payment for the security (delivery vs. payment).
 2. All trade confirmations shall be received directly and reviewed for conformity to the original transaction by an individual other than the person originating the transaction. Any discrepancies will be brought to the attention of the Treasurer.
-

**Review And
Reporting
Requirements**

On a monthly basis, in accordance with Section 53607 of the Government Code, the Treasurer shall prepare and submit a report to the General Manager and the Board of Directors listing investment transactions.

On a quarterly basis, in accordance with Section 53646 of the Government Code, the Treasurer may prepare and submit a report to the General Manager and the Board of Directors which shall include the type of investment, issuer, date of maturity, par and dollar amount invested on all securities, investments and moneys held by the District, and provide an investment summary by security type, percent of the portfolio, investment yield and the remaining period of investment to maturity.

On an annual basis, in accordance with Section 53646 of the Government Code, an investment policy may be presented to the Board for consideration at a public meeting. In conjunction with the investment policy consideration, the Board shall also annually review the delegation of its authority for the management of investments to the Treasurer.

**Performance
Review And
Internal Control**Office of Internal Audit

The Office of Internal Audit will periodically audit the investment portfolio to evaluate the effectiveness of the District's investment program as well as its compliance with the Investment Policy. These audits will supplement the annual review by the District's external auditors.

Finance Department

The Treasurer has established and maintains an internal control structure designed to ensure that funds covered under this policy are protected from loss, theft, fraud, or misuse.

The Treasurer will review the investment portfolio monthly for compliance with the Investment Policy and make recommendations for changes and improvements where warranted.

Authority

Resolution No. 33019-96 on December 10, 1996
Amended by Resolution No. 33134-99 on January 26, 1999
Amended by Resolution No. 33232-01 on January 9, 2001
Amended by Resolution 33287-02 on January 22, 2002
Amended by Resolution 33350-03 on February 25, 2003
Amended by Resolution 33390-04 on January 27, 2004
Amended by Resolution 33464-05 on February 22, 2005
Amended by Resolution 33516-06 on January 24, 2006
Amended by Resolution 33585-07 on March 13, 2007
Approved by Resolution 33658-08, February 26, 2008
Approved by Resolution 33702-09, February 24, 2009
Approved by Resolution 33752-10, January 26, 2010
Approved by Resolution 33792-10, November 23, 2010
Approved by Resolution 33871-12, April 24, 2012
Approved by Resolution 33920-13, March 26, 2013
Reaffirmed by Motion 056-14, March 25, 2014
Approved by Resolution 34027-15, April 28, 2015
Approved by Resolution 34079-16, April 26, 2016
Approved by Resolution 35033-17, April 25, 2017
Approved by Resolution 35083-18, April 24, 2018
Approved by Resolution 35137-19, April 23, 2019

Reference

Procedure 601 – Conflict of Interest Disqualification Procedure

EXHIBIT 1
RATING AGENCIES' SCALES

For purposes of Investment Policy 4.07 the term "Rating Agencies" is defined as: Standard & Poor's Financial Services (S&P), Moody's Investors Service (Moody's), and Fitch Ratings (Fitch).

Ratings requirements are provided using the S&P scale and should be read as "or equivalent" to other Rating Agencies scales. The equivalencies are provided in the tables below.

EXAMPLE

Investment Option 6, Certificates of Time Deposits, shows:

"Minimum Rating: AA- by at least one Rating Agency"

This requirement should be read as:

"Minimum Rating: AA- *or equivalent* by at least one Rating Agency."

To determine the equivalent rating in the table below, find the AA- rating under the S&P column and read across the row to find the Moody's equivalent rating of Aa3 and the Fitch equivalent rating of AA-. Accordingly, a Certificate of Time Deposit is equivalent as an investment if it is rated AA- by S&P, Aa3 by Moody's, or AA- by Fitch.

INVESTMENT-GRADE RATING SCALES

LONG-TERM DEBT		
S&P	MOODY'S	FITCH
AAA	Aaa	AAA
AA+	Aa1	AA+
AA	Aa2	AA
AA-	Aa3	AA-
← Minimum rating required for district investments		
A+	A1	A+
A	A2	A
A-	A3	A-
BBB+	Baa1	BBB+
BBB	Baa2	BBB
BBB-	Baa3	BBB-

SHORT-TERM DEBT		
S&P	MOODY'S	FITCH
A-1+	P-1	F1+
← Minimum rating required for district investments		
A-1	-	F1
A-2	P-2	F2
A-3	P-3	F3

FUNDS		
S&P	MOODY'S	FITCH
AAAm	Aaa-mf	AAAf
← Minimum rating required for district investments		
AAm	Aa-mf	AAf
Am	A-mf	Af
BBBm	Baa-mf	BBBf

EXHIBIT 2
East Bay Municipal Utility District
Certification of Compliance with Investment Policy

The East Bay Municipal Utility District (the District), under Policy 4.07 (the Investment Policy), requires that securities trading and placement of funds be conducted only with eligible Purchasing Entities. The Investment Policy also specifies that the District must obtain written certification that eligible Purchasing Entities have read, understood, and agree to comply with the Investment Policy, where applicable. This certification is necessary to be included on an approved list of Purchasing Entities that are eligible to conduct investment transactions with the District. The District has no obligation to enter into securities trading and/or placement of funds transactions with any or all Purchasing Entities on the list. The District retains the sole and exclusive discretion to determine with which of the Purchasing Entities, if any, to engage in individual investment transactions. Eligibility may be revoked at any time, at the District's sole discretion, for any reason, including but not limited to, failure to meet the requirements of the policy and this exhibit.

Please complete the sections below, sign and return this completed form if you wish to be considered for inclusion on the approved list of Purchasing Entities eligible to conduct investment transactions with the District.
Please send completed form:

via mail, to:
Damien Charléty
East Bay Municipal Utility District
375 11th Street, MS809
Oakland, CA 94607

and

electronically, to:
damien.charlety@ebmud.com

A. Entity Name _____

B. My entity is a: (choose all that apply, **at least one must be checked for eligibility**)

- Primary Dealer as designated by the Federal Reserve Bank of New York
- National or California State Chartered Bank
- Federal or California Chartered Savings Institution
- Broker-Dealer registered with the State of California

AND

I certify that my entity is: (**both must be checked for eligibility**)

- registered by the Securities and Exchange Commission (SEC)
- a member in good standing of the Financial Industry Regulatory Authority (FINRA)

C. My entity is an:

- issuer of securities eligible for purchase by the District

D. My entity:

- participates in the District's Contract Equity Program

E. I have provided:

- Audited Financial Statements

I certify that I have read, understood, and agree to comply where applicable with the District's Investment Policy.

Print Name _____

Sign Name _____

Title _____

Date _____

EXHIBIT 3
East Bay Municipal Utility District
Investment Policy Quick Reference Table

The following is a summary of Investment Options and a few of their requirements. Full details on each Investment Option can be found in the main body of the Investment Policy on pages 2 through 5.

Investment Option	Maximum Share of Portfolio	Minimum Rating at purchase	Maximum Maturity at settlement	Additional Limitations
United States Treasury Obligations	100%	n/a	5 years	see page 2, Item 1
United States Government Agencies Obligations	100%	n/a	5 years	see page 3, Item 2
State of California, Local Agency Investment Fund	per Government Code	n/a	n/a	see page 3, Item 3
Local Government Investment Pools	20%	AAAm	n/a	see page 3, Item 4
Money Market Mutual Funds	20%	AAAm	n/a	see page 3, Item 5
Certificates of Time Deposit	20%	AA-	1 year	see page 3-4, Item 6
Negotiable Certificates of Deposit		AA-	5 years	see page 4, Item 7
Commercial Paper	20%	A-1+	270 days	see page 4, Item 9
Medium Term Corporate Notes	30%	AA-	5 years	see page 4, Item 9
Repurchase Agreements	20%	n/a	270 days	see page 5, Item 10
Municipal Obligations	40%	AA-	5 years	see page 5, Item 11

EXHIBIT 4

Glossary of Commonly Used Investment Terms

This Glossary is for informational purposes only and is not intended to modify any of the terms of this Investment Policy, the Government Code, or M.U.D. Act.

ACCRUED INTEREST	The amount of interest that is earned but unpaid since the last interest payment date.
ASK PRICE	The price at which securities are offered from a seller.
AVERAGE MATURITY	A calculation that expresses the average maturity of an investment portfolio using each investment's maturity weighted by the size of that investment in the portfolio.
BASIS POINT	One basis point equals 1/100 of one percent. Basis points are used more often to describe changes in yields on bonds, notes and other fixed-income securities.
BID PRICE	The price at which a buyer offers to buy a security.
BOOK VALUE	The original cost of the investment, plus accrued interest and amortization of any premium or discount.
BROKER	A broker brings buyers and sellers together and is compensated for his/her service.
CALL PRICE	The price at which an issuer may redeem a bond prior to maturity.
CALLABLE BONDS	Bonds that may be redeemed by the issuing company prior to the maturity date.
CERTIFICATE OF DEPOSIT (CD)	A time deposit with a specific maturity evidenced by a Certificate. Large-denomination CDs are typically negotiable.
COLLATERAL	Securities, evidence of deposit or other property, which a borrower pledges to secure repayment of a loan. Also refers to securities pledged by a bank to secure deposits of public monies.
COMMERCIAL PAPER (CP)	Short-term unsecured promissory notes.
COUPON	The annual rate of interest that a bond's issuer promises to pay the bondholder on the bond's face value.
CURRENT YIELD	The annual income from an investment divided by the current market value.
CUSTODIAN	A bank or other financial institution that keeps custody of stock certificates and other assets.
DEALER	A dealer, as opposed to a broker, acts as a principal in all transactions, buying and selling for his own account.
DELIVERY VS. PAYMENT (DVP)	Delivery of securities with a simultaneous exchange of money for the securities.
DISCOUNT	The difference between the cost price of a security and its maturity when quoted at lower than face value. A security selling below original offering price shortly after sale also is considered to be at a discount.
DIVERSIFICATION	An investment principle designed to spread the risk in a portfolio by dividing investments among different sectors, industries and companies.
FIXED-INCOME SECURITIES	Securities that return a fixed income over a specified period.
GOVERNMENT SECURITIES	Obligations of the U.S. Government and its agencies and instrumentalities.
INTEREST	The amount earned while owning a debt security, generally calculated as a percentage of the principal amount.
LIQUIDITY	The speed and ease with which an investment can be converted to cash.
MARKET VALUE	The price at which a security is trading and could presumably be purchased or sold.
MATURITY	The date upon which the principal or stated value of an investment

	becomes due and payable.
MEDIUM TERM NOTES (MTN)	Debt securities issued by a corporation or depository institution with a remaining maturity ranging from nine months to five years.
MONEY MARKET MUTUAL FUNDS	An investment company that pools money from investors and invest in a variety of short-term money market instruments.
NET ASSET VALUE (NAV)	A per-share valuation of a mutual fund based on total assets minus total liabilities.
NON-CALLABLE	Bond that cannot be called at the option of the issuer.
OFFER PRICE	The price asked by a seller of securities.
PAR or PAR VALUE	The amount of principal that must be paid on the maturity date. Also referred to as the face amount of a bond, normally quoted in \$1,000 increments per bond.
PREMIUM	The difference between the par value of a bond and the market value of the bond, when the market value is above par.
PRIMARY DEALER	A group of government securities dealers who submit daily reports of market activity and positions and monthly financial statements to the Federal Reserve Bank of New York and are subject to its informal oversight.
PRINCIPAL	The face value or par value of an investment.
RATE OF RETURN	The yield obtainable on a security based on its purchase price or its current market price. This may be the amortized yield to maturity on a bond the current income return.
REPURCHASE AGREEMENT	The purchase of securities, on a temporary basis, with the seller's simultaneous agreement to repurchase the securities back at a later date at a specified price that includes interest for the buyer's holding period.
SAFEKEEPING	Storage and protection of a customer's financial assets, valuables, or documents, provided as a service by an institution serving as Agent or Custodian and, where control is delegated by the customer.
SECONDARY MARKET	A market made for the purchase and sale of outstanding issues following the initial distribution.
SETTLEMENT DATE	The date when the security is delivery in exchange for the corresponding payment.
TREASURY BILLS	A non-interest bearing discount security issued by the U.S. Treasury to finance the national debt. Most bills are issued to mature in three months, six months, or one year.
TREASURY BONDS	Long-term coupon-bearing U.S. Treasury securities issued as direct obligations of the U.S. Government and having initial maturities of more than 10 years from date of issue.
TREASURY NOTES	Medium-term coupon-bearing U.S. Treasury securities issued as direct obligations of the U.S. Government and having initial maturities from two to 10 years from date of issue.
U. S. GOVERNMENT AGENCY SECURITIES	Debt securities issued by U.S. Government sponsored enterprises and federally related institutions.
U.S. TREASURY SECURITIES	Securities issued by the U.S. Treasury and backed by the full faith and credit of the United States.
YIELD TO CALL (YTC)	The rate of return an investor earns from a bond assuming the bond is redeemed (called) prior to its nominal maturity date.
YIELD TO MATURITY (YTM)	The rate of return earned on an investment held to maturity considering all cash flows and timing factors: interest earnings, discounts, and premiums above par.
YIELD	The annual rate of return on a debt investment expressed as a percentage.

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Policy 4.13

EFFECTIVE 26 APR 16

SUPERSEDES 24 APR 12

ESTABLISHING WATER AND WASTEWATER RATES

IT IS THE POLICY OF EAST BAY MUNICIPAL UTILITY DISTRICT TO:

Establish water and wastewater rates that recover costs included in the District’s operating and capital budgets, meet the District’s policy goals and comply with applicable law, including Proposition 218 and the Municipal Utility District Act (“MUD” Act). Rates should also enhance the District’s ability to provide safe, reliable, and sufficient water supply and wastewater treatment services to its customers over the long term. The District will provide a customer assistance program, that is in compliance with state law, to help low income customers obtain water and wastewater at a reasonable price.

Rate Methodology The District’s water and wastewater rates are developed and structured in conformance with all applicable laws including the MUD Act and Proposition 218 (California Constitution article XIII D, section 6) and consistent with best management practice.

To ensure compliance with these requirements, a cost-of-service study of the District’s water and wastewater service fees and charges is to be completed at least every ten years.

Water Rate Design To the extent authorized by law, the District’s water rates will be designed to encourage conservation, water use efficiency and resource management, and enhance reliability and supply. The District’s water rates will be designed to recover the operating and capital costs of the water facilities in order to ensure reliable delivery of water.

Wastewater Rate Design To the extent authorized by law, the district’s wastewater rates will be designed to encourage conservation and resource management. The District’s wastewater rates will be designed to recover the operating and capital costs of the wastewater facilities to ensure reliable treatment services and to protect public health and the environment.

Public Involvement in Rate Setting In accordance with MUD Act Section 14401, prior to the Board’s consideration of new or revised water and wastewater rates, a staff report presenting rate recommendations will be filed with the Board of Directors and made available to the public. Within 40 days of the filing of the report, EBMUD will conduct a public hearing on the report and its rate recommendations.

Authority Resolution No. 32985-96, May 14, 1996
 Amended by Motion 143-96, June 25, 1996
 Amended by Resolution 33550-06, July 25, 2006
 Amended by Resolution 33763-10, April 27, 2010
 Amended by Resolution No. 33871-12, April 24, 2012
 Amended by Resolution No. 34080-16, April 26, 2016

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**STRATEGIC PLAN
AND
KEY PERFORMANCE INDICATORS**

STRATEGIC PLAN AND KEY PERFORMANCE INDICATORS

Strategic Plan

The District's Board of Directors adopts the Strategic Plan every two years. The plan outlines the goals and objectives for the following two fiscal years, and establishes a set of Key Performance Indicators (KPIs) and targets. The District's current Strategic Plan was adopted by the Board of Directors in July 2018 and was the basis for the decisions made in developing the FY20 and FY21 biennial budget. The July 2018 Plan will be the basis for reporting on the progress made in meeting the KPI targets in FY19 and FY20. The full version of the Strategic Plan is included in this appendix.

Key Performance Indicators

The District measures its progress in meeting the KPI targets each fiscal year. Due to the timing of the development cycles for the Strategic Plan and the Biennial Budget, the current KPI report is for fiscal year 2018. The full version of the Annual Key Performance Indicators Report, which details the KPI targets, is included in this appendix.

Strategic Plan | Goals and Strategies

East Bay Municipal Utility District | July 2018

Long-Term Water Supply

Goal: We ensure a reliable high quality water supply for the future.

- Strategy 1** Preserve current water rights and entitlements and augment the District's successful water supply projects by obtaining supplemental supplies to meet customer demands.
- Strategy 2** Reduce potable water demand through water efficiency and conservation and build on past water savings success to help ensure a reliable water supply.
- Strategy 3** Reduce potable water demand through water recycling and build on past success to achieve a diversified and reliable water supply.
- Strategy 4** Maintain a Climate Change Monitoring and Response Plan to inform the District's planning efforts for future water supply, water quality and infrastructure and support sound water and wastewater infrastructure investment decisions.

Water Quality and Environmental Protection

Goal: We meet or surpass environmental and public health standards and protect public trust values.

- Strategy 1** Manage the Mokelumne and East Bay watersheds to ensure a high quality water supply and protect natural resources while providing appropriate public access.
- Strategy 2** Operate and maintain District facilities to surpass federal and state drinking water regulations.
- Strategy 3** Operate and maintain District facilities to anticipate and meet all water discharge, air emission, and land disposal requirements to protect and enhance the environment.
- Strategy 4** Minimize impacts to the environment by reducing, recycling, reusing and reclaiming waste, and by conserving natural resources.
- Strategy 5** Ensure protection and stewardship of San Francisco Bay.
- Strategy 6** Operate Pardee and Camanche Reservoirs and facilities jointly as an integrated system to achieve multiple objectives including municipal water supply, stream flow regulation, environmental protection, flood control, hydropower, and releases for downstream requirements.

Long-Term Infrastructure Investment

Goal: We maintain and improve the District's infrastructure in a cost-effective manner to ensure sustainable delivery of reliable, high quality service now and in the future, addressing economic, environmental, and social concerns.

- Strategy 1** Maintain coordinated master plans for all facilities and assets.
- Strategy 2** Meet operational needs and reliability goals by effectively maintaining the infrastructure.
- Strategy 3** Implement the master plans and set priorities in the operating and capital budget process to reflect the needs identified in those plans.

Long-Term Financial Stability

Goal: We manage the District's finances to meet funding needs and maintain fair and reasonable water and wastewater rates.

- Strategy 1** Maintain a Long-Range Financing Plan that sets forth the long-term funding needs of the District.
- Strategy 2** Implement water and wastewater rates and charges that are legal, fair, reasonable, and equitable.
- Strategy 3** Ensure integrity, accountability and transparency in financial management.
- Strategy 4** Implement technologies that improve the efficiency and effectiveness of business processes.

Customer and Community Services

Goal: We build stakeholder trust and long-term relationships through service excellence, proactive communication and education.

- Strategy 1** Educate the public on the District's priorities, initiatives, systems and services.
- Strategy 2** Continue to build trust by providing quality service, timely information and resolution of customer and community inquiries.
- Strategy 3** Build long-term partnerships in the community, regionally and nationally, in areas of shared interest.
- Strategy 4** Maintain an active Emergency Preparedness Program to plan for and manage the District's functions during an emergency and allow for an efficient and effective recovery following an emergency.

Workforce Planning and Development

Goal: We create an environment that attracts, retains and engages a high performing diverse workforce in support of the District's mission and core values.

- Strategy 1** Maintain robust workforce plans to determine future needs, identify gaps and implement actions to close the gaps.
- Strategy 2** Continue to develop employees to meet workforce demands.
- Strategy 3** Integrate District values, recognize employee contributions, and establish clear performance measures to achieve a high performance culture.
- Strategy 4** Enhance the District's ability to recruit a highly qualified, diverse staff that exhibits the District's values.

For the complete Strategic Plan, go to www.ebmud.com/about-us/who-we-are



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Strategic Plan

8th Edition | July 2018

Photo on cover is the Mexican Gulch.



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July 1, 2018

The East Bay Municipal Utility District has a proud history of providing high quality drinking water for customers in Alameda and Contra Costa counties. In addition, the District provides critical wastewater treatment to protect public health and the San Francisco Bay.



In 1923, local residents voted to form the East Bay Municipal Utility District to replace a patchwork of small water companies. Water supply was an immediate priority in the early days of the District. Just six years after its formation, the first water deliveries from the Sierras to the East Bay occurred. In 1951, wastewater treatment operations started. Today, in our 95th year of operation, EBMUD delivers water to over 1.4 million customers, of whom almost 700,000 also benefit from our wastewater services.

EBMUD's infrastructure has grown to 4,200 miles of pipe with reservoirs to hold Sierra snowmelt, aqueducts spanning 90 miles and facilities to draw water from the Sacramento River when needed during dry years such as the recent historic four-year drought. Our operational activities are extensive ranging from water storage, water supply, watershed management, recreational programs, fishery restoration, recycled water, hydroelectric energy production, pollution prevention, resource recovery programs for energy production, water and wastewater testing, and San Francisco Bay protection programs.

Looking forward, it is an exciting time for EBMUD. We are continuing to renew our aging infrastructure while planning for the future, studying emerging issues such as nutrient loading to the bay, managing our long-term financial health, and continuing efforts to recruit and retain a highly qualified, diverse workforce. The 2018 Strategic Plan outlines our goals, strategies and objectives to guide us in fulfilling our mission. This high-level plan identifies where we want to be in the next three to five years.

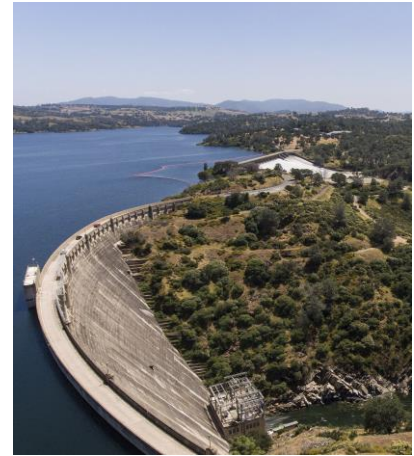
The effort to bring water and wastewater services to the East Bay was planned and executed by visionary leaders. The same level of commitment and vision still exists at EBMUD. EBMUD has met a variety of challenges since it was created in 1923 and will continue to do so into the future. This roadmap will guide us to preserve our long-standing commitment to deliver high quality water and wastewater services to the customers of the East Bay.

A handwritten signature in black ink that reads "Alexander R. Coate". The signature is fluid and cursive, written in a professional style.

ALEXANDER R. COATE
General Manager

District Overview

The East Bay Municipal Utility District (EBMUD) supplies water and provides wastewater treatment for parts of Alameda and Contra Costa counties in California. It is a publicly owned utility formed under the Municipal Utility District (MUD) Act passed by the state legislature in 1921. The Act permits the formation of multi-purpose government agencies to provide needed public services on a regional basis. In 1923, voters in the eastern San Francisco Bay Area created EBMUD to provide water service. Since that time, the eastern shore of San Francisco Bay (the “East Bay”) has grown dramatically.



The EBMUD water service area now includes 20 cities and 15 unincorporated communities located in the East Bay. It is a 332-square mile area extending from Crockett in the north to San Lorenzo in the south, and eastward from San Francisco Bay through the Oakland-Berkeley hills to Walnut Creek and south through the San Ramon Valley.



The MUD Act was amended in 1941 to enable the formation of special districts. In 1944, voters in six of the East Bay cities served by EBMUD elected to form Special District No. 1 to treat wastewater before being released into San Francisco Bay. Wastewater treatment began in 1951. The wastewater service area is an 88-square mile area along the east shore of the bay extending from Richmond in the north to Oakland in the south. In addition to providing wastewater treatment, laboratory services operate 365 days a year to constantly monitor water quality for drinking water and wastewater systems. The East Bay Municipal Utility District is a California Special District. EBMUD has a seven-

member Board of Directors publicly elected from wards within the service area. The Board is committed to developing policy through an open, public process, guided by the District’s Mission Statement. Policies are then implemented under the direction of the General Manager. The General Manager and General Counsel are appointed by and report directly to the Board of Directors. The senior management team is responsible for managing the operations of the District. EBMUD employs approximately 1,850 people.

Sustainability and resilience are essential to fulfill the District’s mission. Sustainability incorporates environmental, social, and economic objectives into our decision-making policies, programs, and work practices to meet the needs of today without compromising the ability to meet the needs of future generations. Resilience enables the District to absorb, recover from, and adapt to unforeseen events. The District incorporates sustainability and resilience practices in the Strategic Plan.

Strategic Plan Overview

The Strategic Plan incorporates the District’s mission and principles, and identifies its goals, strategies, objectives and key performance indicators. The Plan influences and guides staff in the management and allocation of resources and assets.

Our **mission** is to manage the natural resources with which the District is entrusted; to provide reliable, high quality water and wastewater services at fair and reasonable rates for the people of the East Bay; and to preserve and protect the environment for future generations.

Our **principles** provide the foundation of the Strategic Plan and form the basis of our business approach which strives to minimize waste, conserve energy and natural resources, promote long-term economic viability, protect the environment, operate within high standards to serve our customers and the community, and support safety and well-being for employees, communities, and customers. Our principles are:

- 💧 Exercise responsible financial management
- 💧 Ensure fair and reasonable rates and charges
- 💧 Provide responsive quality customer service
- 💧 Promote ethical behavior in the conduct of District business
- 💧 Ensure fair and open processes involving the public
- 💧 Provide a healthy work environment
- 💧 Promote diversity and equality in personnel matters and contracting
- 💧 Promote environmental, economic, and social sustainability

Our **goals** define what the District wants to achieve; they explain ‘what’ not ‘how’, and tell where we are going rather than how we will get there. **Strategies** define which actions to take to reach each goal, and may take several years to implement. **Objectives** reflect what we need to accomplish in the near term. **Key performance indicators** (KPIs) measure how well we are doing in achieving our goals.



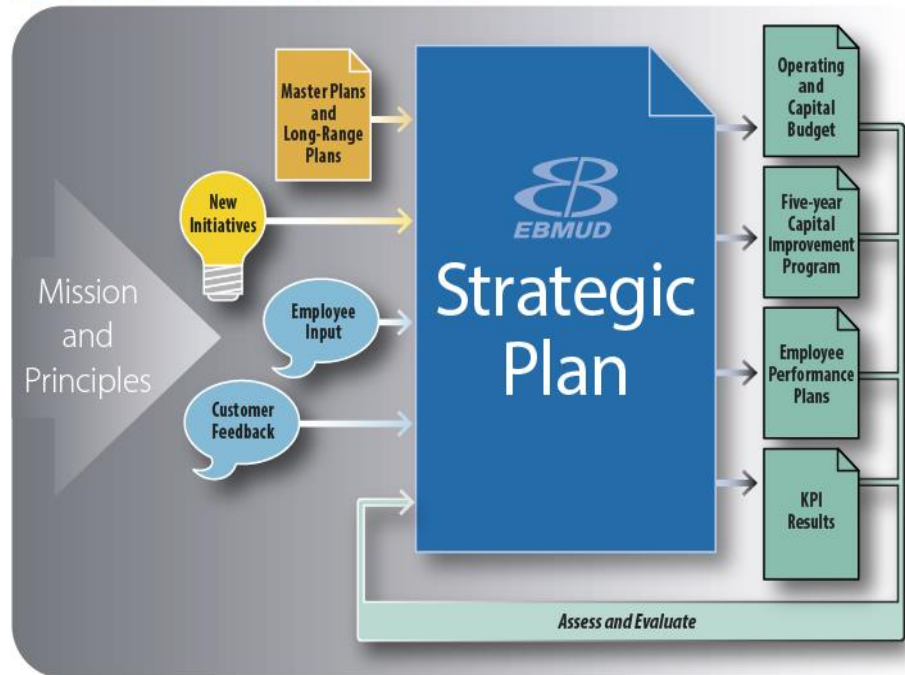
Planning and Implementation

The fundamental purpose of the strategic planning process is to define the actions in the next three to five years which are necessary to reliably meet the District’s mission now and well into the future. The process is designed to assess the environment and respond to near and long-term challenges. The General Manager and the senior management team lead the implementation of the Strategic Plan.

Overall development of the Strategic Plan is the responsibility of the senior management team who work together to assess and build consensus on a number of strategic areas, environmental issues, initiatives, and challenges.

Cross functional teams consider input from various sources such as **master plans** which optimize capital project investments, **long-range plans**, **new initiatives**, and **employee** and **customer feedback** to update the goals, strategies, objectives and key performance indicators.

Strategic Plan Process



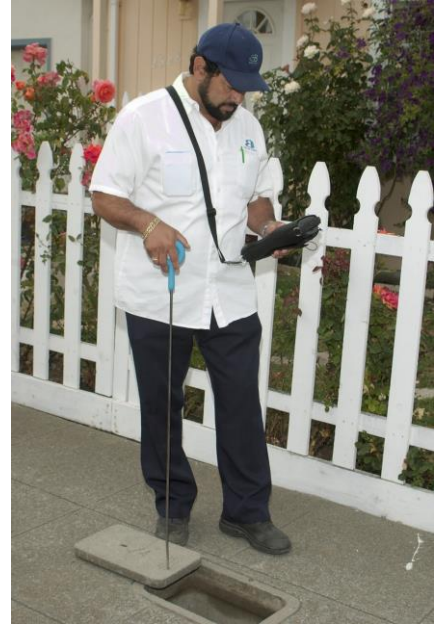
The Strategic Plan is adopted by the Board of Directors. Upon adoption, development of actions to implement the Strategic Plan can begin. The Strategic Plan provides an overall high-level direction to prioritize resources to achieve future success; it does not describe all of the specific actions. By developing actions that are linked to the Strategic Plan we can ensure that we focus our resources on the highest priorities of the District.

The Strategic Plan precedes and guides the development of the **biennial budget** and the **five-year capital improvement program** to ensure that necessary resources are provided to implement the strategies and objectives.

Individual **employee performance plans** are prepared on an annual basis to establish and communicate responsibilities, accountabilities and performance expectations for priorities contained in the Strategic Plan.

The plan includes a series of KPIs that are measurable, comprehensive, and reflect the various strategies contained within the six Strategic Plan goals. **KPI results** are measured against our targets annually to enable us to evaluate our progress. The latest KPI report was presented to the Finance Committee in October 2017. The online FY17 Annual Key Performance Indicators Report is available at ebmud.com/about-us/Board-Directors/Board-Meetings/Finance-Administration-Committee-Meetings/102417.

A critical component of the strategic planning process is the element of continuous improvement which is an ongoing effort to **assess and evaluate** performance, and use the results to guide the update of the next Strategic Plan. The principal objective for this assessment and evaluation is to prioritize and identify improvements, maintain achievements, and ensure consistency in planning, operations and results across the District.



Our Values

In 2013, EBMUD’s management team anticipated a looming retirement bubble and changing District demographics would lead to significant turnover in the organization’s employees. This realization led to a discussion of what organizational values would be key to ensuring the District could best assimilate new talent to carry out its mission. The District undertook an intensive process to develop its organizational values, recruiting a team of employee volunteers to lead the effort. This team, including staff from all levels of the organization, worked to identify and define the core values that characterize EBMUD as an agency and a workplace. With extensive input from staff and support from management, the team developed the following four values that were adopted by EBMUD in support of its employees:



STEWARDSHIP

“I am a steward of our resources and committed to public service.”



INTEGRITY

“I act with integrity.”



RESPECT

“I treat others with respect.”



TEAMWORK

“We are EBMUD and we are one team.”

These values guide EBMUD staff as they pursue the goals identified in the Strategic Plan. It is our belief that working better together will enable us to achieve our mission to serve our customers, manage our natural resources, and protect our environment.





Goals

Long-Term Water Supply:

We ensure a reliable high quality water supply for the future.

Water Quality and Environmental Protection:

We meet or surpass environmental and public health standards and protect public trust values.

Long-Term Infrastructure Investment:

We maintain and improve the District's infrastructure in a cost-effective manner to ensure sustainable delivery of reliable, high quality service now and in the future, addressing economic, environmental, and social concerns.

Long-Term Financial Stability:

We manage the District's finances to meet funding needs and maintain fair and reasonable water and wastewater rates.

Customer and Community Services:

We build stakeholder trust and long-term relationships through service excellence, proactive communication and education.

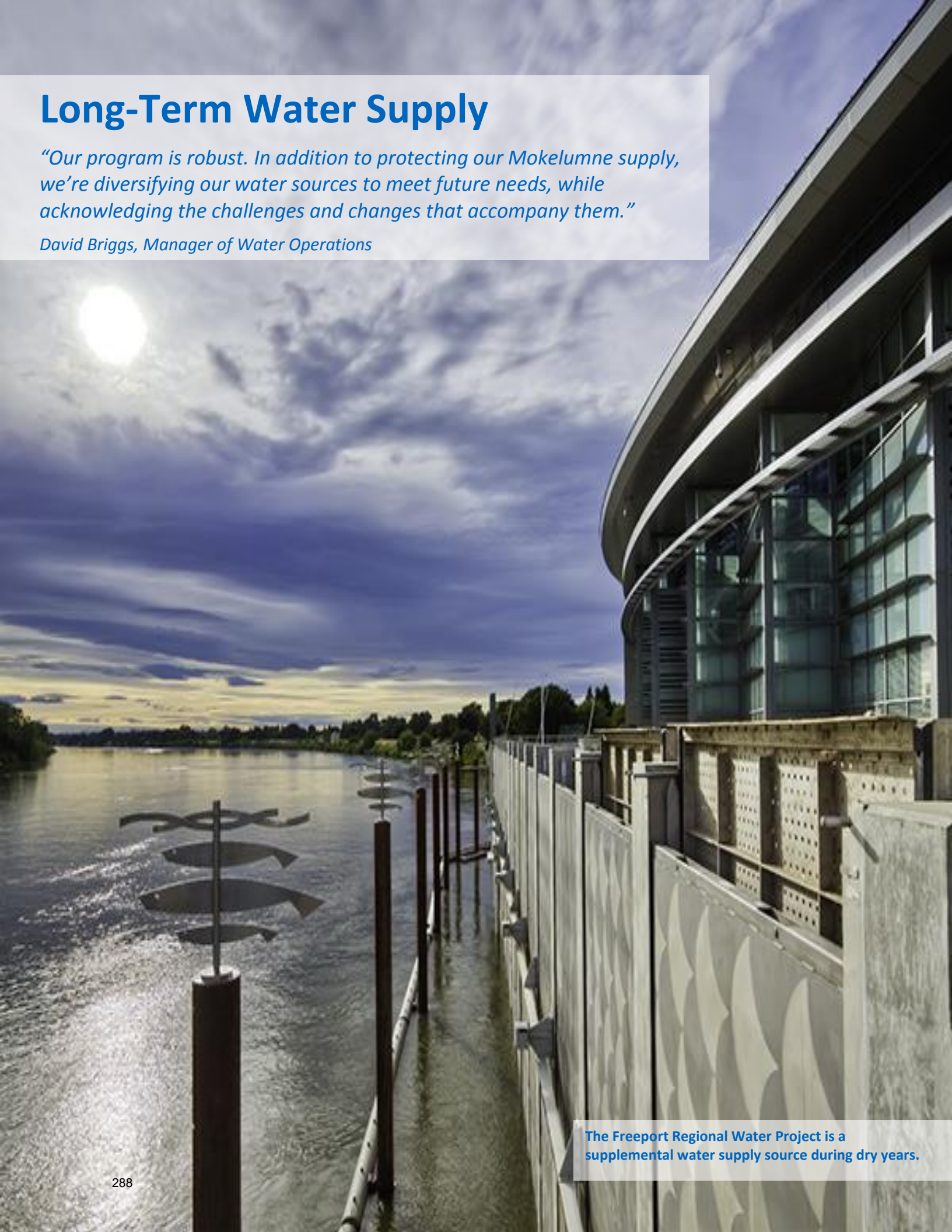
Workforce Planning and Development:

We create an environment that attracts, retains and engages a high performing diverse workforce in support of the District's mission and core values.

Long-Term Water Supply

“Our program is robust. In addition to protecting our Mokelumne supply, we’re diversifying our water sources to meet future needs, while acknowledging the challenges and changes that accompany them.”

David Briggs, Manager of Water Operations



The Freeport Regional Water Project is a supplemental water supply source during dry years.

Goal: We ensure a reliable high quality water supply for the future.

Strategy 1

Preserve current water rights and entitlements and augment the District’s successful water supply projects by obtaining supplemental supplies to meet customer demands.

Objectives:

- 💧 Protect water rights and Central Valley Project contract entitlements to maximize benefits to District customers.
- 💧 Prioritize water transfers, groundwater storage, off-stream storage, and other water supply opportunities to cost-effectively improve reliability while providing the best available water quality.
- 💧 Use the Urban Water Management Plan to assess supply and demand conditions, analyze future needs, anticipate obstacles, and prescribe approaches to meeting future requirements consistent with District policy.
- 💧 Integrate the District’s long-term water supply strategies and infrastructure planning efforts with regional partnerships.
- 💧 Plan for a sustainable local groundwater basin for the East Bay.

Strategy 2

Reduce potable water demand through water efficiency and conservation and build on past water savings success to help ensure a reliable water supply.

Objectives:

- 💧 Implement and update the conservation strategies identified in the District’s Water Conservation Master Plan (WCMP) to meet long-term water use reduction goals.
- 💧 Use the Water Shortage Contingency Plan to implement drought response actions to meet short-term water use reduction goals.
- 💧 Implement comprehensive water management, conservation incentives, education and outreach programs and workshops to engage customers and stakeholders with information and tools to effectively manage water use and promote water use efficiency.
- 💧 Implement supply-side conservation and water loss control measures through leak detection, pipeline repair and replacement, and information management to reduce demand, improve system reliability and comply with state regulations.
- 💧 Pursue and implement regulatory and legislative initiatives that promote water conservation through efficiency standards and codes, including plan check reviews as a condition for new water services.
- 💧 Identify, encourage and create partnerships to research and test new efficiency technologies, including water-energy nexus applications and measurement methodologies.



Strategy 3

Reduce potable water demand through water recycling and build on past success to achieve a diversified and reliable water supply.

Objectives:

- 💧 Maximize use of recycled water projects while protecting public health.
- 💧 Invest in innovative technology and monitor research to improve cost-effectiveness.
- 💧 Identify, evaluate and implement new opportunities for recycled water, including potential for potable reuse.
- 💧 Continue education and outreach programs to support customers and the District's programs.
- 💧 Monitor regulatory and legislative initiatives that promote recycled water use and the District's programs.

Strategy 4

Maintain a Climate Change Monitoring and Response Plan to inform the District's planning efforts for future water supply, water quality and infrastructure and support sound water and wastewater infrastructure investment decisions.

Objectives:

- 💧 Regularly review developing climate change science and create future scenarios that illustrate a range of potential impacts from key variables (temperature rise, sea level rise, precipitation, snow pack and runoff).
- 💧 Use the scenarios to identify infrastructure vulnerabilities and make cost-effective infrastructure investments and operational changes to adapt and mitigate impacts based on a range of foreseeable conditions (i.e., "no regrets" investments).
- 💧 Educate the public and policymakers on District and industry climate change concerns and interests, participate in research, and advocate for reasonable legislation and regulatory changes.

Long-Term Water Supply Key Performance Indicators

Key Performance Indicator	FY19 Target	FY20 Target
Supplemental Supply		
Additional supply by 2040 to provide 85% reliability under design drought conditions and diversify through regional partnerships	Work with Placer County Water Agency (PCWA) to publish a draft environmental document for a long-term water transfer	Negotiate a Warren Act contract with the Bureau of Reclamation for a long-term water transfer with PCWA
	Enter into an agreement to develop a second long-term water transfer project with Yuba County Water Agency (YCWA), Sacramento River Settlement contractors (SRSC), or other potential sellers	Conduct technical and environmental studies to support a second long-term water transfer arrangement with YCWA
	Complete construction and initiate operation for the DREAM project in San Joaquin County	Continue operation of the DREAM Project in San Joaquin County
	Begin development of Bay Area Regional Reliability (BARR) Regional Water Market Program	Continue development of BARR Regional Water Market Program
	Develop Regional 'Drought Monitor' for Bay Area	N/A
	Work with Contra Costa Water District to complete Final SEIS-SEIR for Los Vaqueros Reservoir Expansion Project and determine degree of participation	N/A
	N/A	Conduct need-for-water analysis with new demand study results
	Initiate development of Groundwater Sustainability plan for East Bay Plain	N/A



Key Performance Indicator	FY19 Target	FY20 Target
Water Conservation		
62 MGD savings from conservation programs / natural replacement by 2040 (baseline yr. 1995)	1.2MGD average annual conservation savings	1.2MGD average annual conservation savings
	18% reduction in per capita demand by 2018	19% reduction in per capita demand by 2019
	Implement Water Conservation Master Plan	Implement Water Conservation Master Plan
Water Recycling		
20 MGD of recycled water capability by 2040	Complete Recycled Water Master Plan update	Begin implementation of the updated Recycled Water Master Plan
	Complete DERWA treatment expansion project	Implement near-term DERWA supplemental supply options
	Complete supply and sales agreements for the North Richmond project	Implementation of the East Bayshore water quality and treatment improvements if appropriate
Climate Change		
Update the Climate Change Monitoring and Response Plan. Explore approaches for how to adapt to potential future conditions and identify "no regrets" infrastructure investment decisions	Update the Climate Change Monitoring & Response Plan to account for new information when the Intergovernmental Panel releases its Sixth Assessment Reports	Using EPA's CREAT Model Version 3, conduct a broad climate risk assessment on major District infrastructure and operations
	Add to the Climate Change Monitoring and Response Plan an appendix that provides standards to use in Planning studies	Complete Wastewater climate change evaluation

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Water Quality and Environmental Protection

“Our employees strive every day to provide high quality water to our customers and protect the environment.”

Clifford Chan, Director of Operations and Maintenance



Carr Ranch is a conservation partnership between EBMUD & John Muir Land Trust.

Goal: We meet or surpass environmental and public health standards and protect public trust values.

Strategy 1

Manage the Mokelumne and East Bay watersheds to ensure a high quality water supply and protect natural resources while providing appropriate public access.

Objectives:

- 💧 Use the Watershed Master Plans as the foundation for standards and protocols to ensure drinking water quality and protect natural resources.
- 💧 Perform monitoring and data assessment to adaptively manage the watersheds.
- 💧 Provide public access and recreational opportunities, education and outreach compatible with water quality and natural resource protection, and collect user feedback.
- 💧 Protect the Mokelumne River salmonid fishery through habitat enhancement projects, effective and efficient hatchery operations, and a robust science program.
- 💧 Collaborate with stakeholders to protect water quality and the environment in the Mokelumne and East Bay watersheds.
- 💧 Comply with federal and state requirements of the Mokelumne River Project to protect cultural resources, maintain structural integrity, and operate facilities to protect public health and safety, property and the environment.

Strategy 2

Operate and maintain District facilities to surpass federal and state drinking water regulations.

Objectives:

- 💧 Establish and meet District water quality goals to exceed customers' expectations.
- 💧 Advocate for water quality and environmental regulations that are based on sound science, are protective of public health and beneficial uses and that are attainable and sustainable.
- 💧 Maintain a leadership role in the professional community to further regulatory and legislative initiatives and advocate for protection of public health.
- 💧 Provide timely and accurate water quality information to customers.



Strategy 3

Operate and maintain District facilities to anticipate and meet all water discharge, air emission, and land disposal requirements to protect and enhance the environment.

Objectives:

- 💧 Meet or surpass all water discharge, air, and land requirements.
- 💧 Ensure that management of biosolids is cost-effective, environmentally safe and meets all local ordinance and state and federal requirements.
- 💧 Promote environmental regulations that are based on regional approaches and achieve water quality objectives through cost-effective and sustainable means.

Strategy 4

Minimize impacts to the environment by reducing, recycling, reusing and reclaiming waste, and by conserving natural resources.

Objectives:

- 💧 Pursue opportunities to recover and utilize resources (e.g., nutrients and minerals), and renewable energy in wastewater.
- 💧 Increase the cost-effective use of renewable energy.
- 💧 Identify and implement energy efficient projects.
- 💧 Reduce the District's greenhouse gas (GHG) emissions.
- 💧 Focus on reduction of pollutants at the source.
- 💧 Identify and implement waste reduction and recycling programs.



Strategy 5

Ensure protection and stewardship of San Francisco Bay.

Objectives:

- Proactively develop and implement regional Pollution Prevention activities that will further reduce pollutant discharges to San Francisco Bay.
- Support collaborative efforts and programs that develop science-based watershed solutions to address nutrients and other constituents-of-concern in the San Francisco Bay.
- In collaboration with the satellite collection system communities and the regulators, implement an Inflow and Infiltration Control Program that will over the long term reduce or eliminate the need for wet weather facilities.

Strategy 6

Operate Pardee and Camanche Reservoirs and facilities jointly as an integrated system to achieve multiple objectives including municipal water supply, stream flow regulation, environmental protection, flood control, hydropower, and releases for downstream requirements.

Objectives:

- Balance the competing objectives and requirements by setting clear operational priorities and employing effective models for flow and temperature management.
- Work collaboratively with stakeholders to adaptively operate Pardee and Camanche Reservoirs to meet downstream objectives for water supply, flood control and environmental resources.
- Sustain and enhance the successful salmonid fishery on the Lower Mokelumne River through adaptive management of variable flows, temperature optimization, and collaborative efforts with lower Mokelumne stakeholders.
- Comply with all state, federal, and local permit and license requirements.

Water Quality and Environmental Protection

Key Performance Indicators

Key Performance Indicator	FY19 Target	FY20 Target
Watershed Protection		
Mokelumne River fall-run chinook salmon escapement (long-term average)	4,734	4,734
Compliance with Drinking Water Regulations		
% of water quality goals met	100%	100%
% of water quality regulations met	100%	100%
Compliance with Wastewater Regulations		
Number of NPDES and Waste Discharge Permit Notices of violation received	0	0
Sustainable Resource Management		
Reduce indirect GHG emissions to zero by 2040 and reduce direct emissions by 50% by 2040 compared to the 2000 baseline	≤ 34,837 MT CO ₂	≤ 33,497 MT CO ₂
Capture biogas sufficient to produce on-site energy in excess of Main Wastewater Treatment Plant electric power demand	130% of plant power demand	130% of plant power demand
Protect SF Bay		
Implement Private Sewer Lateral Program to reduce wet weather flows and achieve a high compliance rate at point of sales	90%	90%
Operate Pardee and Camanche		
Meet JSA Mokelumne River minimum flow releases 100% of the time	100%	100%

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Long-Term Infrastructure Investment

“It’s essential to invest in our infrastructure to make sure that each of our customers receives the safest, highest quality water from their tap at all times.”

Xavier Irias, Director of Engineering and Construction



Delivering pipe by helicopter is an innovative cost-efficient method that minimizes community impacts.

Goal: We maintain and improve the District’s infrastructure in a cost-effective manner to ensure sustainable delivery of reliable, high quality service now and in the future, addressing economic, environmental, and social concerns.

Strategy 1

Maintain coordinated master plans for all facilities and assets.

Objectives:

- 💧 Maintain and update a master plan for each asset or group of assets that reflects current condition and performance information and addresses improvements needed to meet defined service-level requirements.
- 💧 Coordinate master plans and capital projects to optimize investments and maximize drinking water quality, and the reliability, safety, flexibility, and overall efficiency of the water and wastewater systems.
- 💧 Periodically inspect and evaluate facilities to support capital and maintenance planning.
- 💧 Consider risk, community and stakeholder concerns, workforce and technology trends, and the potential impacts of climate change as part of the planning process. Involve stakeholders in the project planning and development stage.
- 💧 Ensure that all system improvements and capital projects meet or surpass environmental and regulatory requirements, improve resilience to climate change, and incorporate sustainable practices.

Strategy 2

Meet operational needs and reliability goals by effectively maintaining the infrastructure.

Objectives:

- 💧 Define and document operational needs and reliability goals to inform maintenance decision making.
- 💧 Expand and refine the use of cost-effective methods and practices to determine the need for maintenance or replacement.
- 💧 Implement preventive, predictive, and corrective maintenance plans that improve safety, service reliability, and efficiency.
- 💧 Lead the industry in water loss control through using new and innovative technology, effective maintenance practices, and efficient operations.



Strategy 3

Implement the master plans and set priorities in the operating and capital budget process to reflect the needs identified in those plans.

Objectives:

- 💧 Reflect a balance of costs and risks in the operating and capital budgets that accounts for near-term needs as well as long-term sustainability.
- 💧 Complete projects on schedule and within budget.
- 💧 Innovate and improve project workflows to achieve maximum efficiency.
- 💧 Use life-cycle cost analysis and value engineering of proposed capital projects to help determine the most cost-effective projects.
- 💧 Coordinate and collaborate construction project scheduling with city, county, and other agencies and communicate with all stakeholders during construction to minimize impacts on communities.

Long-Term Infrastructure Investment

Key Performance Indicators

Key Performance Indicator	FY19 Target	FY20 Target
Effective Management of Infrastructure		
Number of water system pipeline breaks per 100 miles of pipe	≤ 20	≤ 20
% of water system corrective work order hours classified high priority	≤ 10%	≤ 10%
Miles of pipe surveyed	600	800
% of water system valves exercised	10%	10%
Infrastructure Leakage Index *(ILI)	< 2.5	< 2.5
% of high priority meter repair orders completed in 60 days	90%	90%
Capital Budget Priorities		
Miles of distribution pipe replaced	15	17.5**
Design errors and omission change orders on construction contracts	< 3%	< 3%
Number of steel water tanks rehabilitated	3	3
Number of concrete wastewater treatment tanks and sewer interceptor reaches rehabilitated	2	2
Number of pumping plants rehabilitated	3	3

*ILI = Actual System Leakage/Ideal System Leakage (perfect score = 1.0)

** Reflects ramp-up to 20 miles

Long-Term Financial Stability

"We are financial stewards of the resources entrusted to the District and manage these through careful financial planning, sound rates, and new technologies with the goal of ensuring our long-term sustainability."

Sophia Skoda, Director of Finance



EAST BAY MUNICIPAL UTILITY DISTRICT WATER DEVELOPMENT PROJECT FOR EAST BAY AREA BOND

No
00000

3 1/2% SERIES A

No
00000

East Bay Municipal Utility District, a municipal utility district duly organized and existing under the constitution and laws of the State of California, hereby acknowledges itself indebted and, for value received, promises to pay to bearer (or if this bond is registered to the registered holder hereof) the principal sum of

ONE THOUSAND DOLLARS (\$1,000)

on the 1st day of **March, 1994** (subject to any right of prior redemption hereinafter in this bond expressly reserved) together with interest thereon at the rate of

three and one-half (3 1/2%) per cent.

per annum until payment of said principal sum in full, payable semi-annually on the 1st days of March and September of each year. Unless this bond is registered, such interest, prior to maturity, shall be payable only on presentation and surrender of the proper interest coupons hereto attached as they respectively become due. Both the principal of and interest on this bond are payable in lawful money of the United States of America at the office of the Treasurer of said District in the City of Oakland, County of Alameda, State of California, or at the office of any local agent of said District in the Borough of Manhattan, The City and State of New York, or the City of Chicago, State of Illinois, or the City and County of San Francisco, State of California, at the option of the holder hereof.

This bond is one of a duly authorized issue of bonds of said District aggregating **TWO HUNDRED FIFTY TWO MILLION DOLLARS (\$252,000,000)** in principal amount, all of the same tenor as this bond, and is one of the bonds of said District.

law, and that the amount of this bond, together with all other indebtedness of said District, does not exceed any limit prescribed by the constitution or statutes of said State and that provision has been made as required by law for the levy and collection of annual ad valorem taxes sufficient to pay the principal of, and interest on this bond, and all other bonds of this issue, as the same become due. The full faith and credit of said District are hereby pledged for the punctual payment of the principal and interest of this bond.

This bond may be registered in the manner provided by law and thereafter the principal hereof and interest hereon shall be payable only to such registered owner.

Bonds of Series A numbered A1 to A18,500, both inclusive, maturing on or before March 1, 1994 are not redeemable prior to their respective maturity dates. Bonds of Series A numbered A18,501 to A25,000, both inclusive, maturing on and after March 1, 1994, are redeemable prior to their respective maturity dates at the option of the District, as a whole or in part in several installments from time to time, at any interest payment date on or after March 1, 1994, at the principal amount thereof and an interest amount plus a premium of five per cent (5%) of principal amount less 1% of 1% thereof for each year or fraction of a year elapsed after March 1, 1994; the date fixed for redemption shall be the date of the next interest payment date thereafter.

A water revenue bond is a debt security issued to finance capital expenditures.

Goal: We manage the District’s finances to meet funding needs and maintain fair and reasonable water and wastewater rates.

Strategy 1

Maintain a Long-Range Financing Plan that sets forth the long-term funding needs of the District.

Objectives:

- 💧 Maintain financial planning models to include long-term forecasts of operating and capital expenditures, revenue requirements and rates and charges.
- 💧 Ensure the financial plan is based on reasonable, conservative assumptions and accounts for uncertainties.
- 💧 Ensure the financial plan maintains the District’s good standing in the credit markets to provide ready access to cost-effective capital financing.
- 💧 Evaluate the District’s capital financing and debt service coverage policies to optimize cash funding of capital investments.
- 💧 Evaluate the District’s cash reserve policies to consider optimal uses and levels of reserves, including alternative strategies for funding drought-related costs.

Strategy 2

Implement water and wastewater rates and charges that are legal, fair, reasonable, and equitable.

Objectives:

- 💧 Plan for rate increases that are steady, predictable, and based on our strategic needs.
- 💧 Mitigate increases in rates and charges by optimizing use of non-rate revenue and pursue opportunities for cost control through efficiencies and new technologies.
- 💧 Continue to establish rates and charges based on cost of service principles.
- 💧 Periodically conduct third-party cost of service studies.



Strategy 3

Ensure integrity, accountability and transparency in financial management.

Objectives:

- 💧 Develop operating and capital budgets aligned with the Strategic Plan.
- 💧 Manage operating and capital expenditures within their respective budgets.
- 💧 Develop and maintain accurate, timely, and meaningful financial data.
- 💧 Enhance the usability, clarity and accessibility of District financial information.
- 💧 Maintain and regularly evaluate internal financial controls.
- 💧 Conduct regular internal and external financial audits.
- 💧 Promote diversity and equity in contracting, consistent with state and federal laws.

Strategy 4

Implement technologies that improve the efficiency and effectiveness of business processes.

Objectives:

- 💧 Maintain a long-term plan to guide the evolution of IT infrastructure and capabilities.
- 💧 Apply a consistent approach to set IT priorities and evaluate, plan and implement projects that are responsive to the needs and potential impacts to customers, employees and other stakeholders.
- 💧 Ensure that all employees have ready access to tools and data so they can provide excellent customer service and maintain our infrastructure.
- 💧 Make effective use of geospatial tools and data to best maintain and monitor District infrastructure by developing workflows that enable rapid capture and use of spatial data.
- 💧 Structure and manage data to support consistent analysis and reporting and provide appropriate access to customers, employees and other stakeholders.
- 💧 Proactively ensure adequate security and meet all regulatory requirements.

Long-Term Financial Stability Key Performance Indicators

Key Performance Indicator	FY19 Target	FY20 Target
Sufficient Revenue/Fair Rates & Charges		
Rates as compared to other Bay Area agencies	At or below median	At or below median
Financial Position		
% of capital program funded from debt	≤ 65%	≤ 65%
Debt service coverage	≥ 1.6 times coverage	≥ 1.6 times coverage
Actual reserves as % of target	≥ 100%	≥ 100%
Integrity, Accountability and Transparency		
% of planned audits completed	100%	100%
% of audit findings resolved within 90 days	100%	100%
Cyber Security Operational Readiness		
Planned patch cycles met	> 90%	> 90%
Security controls reviews	Annually	Annually
Database security reviews	Annually	Annually
Business recovery exercises	2 per year	2 per year
Security awareness events	4 per year	4 per year
IT security assessment biennially	Complete independent assessment audit	N/A
Budget Performance		
Operating expenditures as a percentage of operating budget	≤ 100%	≤ 100%
Capital expenditures as a percentage of capital budgeted cash flow	90% and 110%	90% and 110%

Customer and Community Services

"We deliver responsive, trusted, value-added high quality service."

Sherri Hong, Manager of Customer and Community Services



A Field Services Representative performing an inspection of a water meter.

Goal: We build stakeholder trust and long-term relationships through service excellence, proactive communication and education.

Strategy 1

Educate the public on the District's priorities, initiatives, systems and services.

Objectives:

- 💧 Collect and analyze customer feedback on District operations, activities and service experience and expectations.
- 💧 Proactively communicate electronically through multiple channels, via print publications, and media or community events.
- 💧 Maintain a robust web and social media presence.
- 💧 Enhance internal communication, tools and technology to effectively disseminate information to District staff.

Strategy 2

Continue to build trust by providing quality service, timely information and resolution of customer and community inquiries.

Objectives:


- 💧 Employees recognize they are customer advocates and provide professional, high quality service.
- 💧 Invest in business process improvements and technology to enhance the customer experience and customer access to information.
- 💧 Protect the security of customer data and other personally identifiable information.
- 💧 Minimize customer and community impacts from water and wastewater operations.
- 💧 Provide programs and services that support or benefit the community, residents, and businesses.

Strategy 3

Build long-term partnerships in the community, regionally and nationally, in areas of shared interest.

Objectives:

- 💧 Build and actively participate in regional and national industry groups, coalitions, and partnerships to advance common goals.
- 💧 Partner with non-profit, community and education organizations which advance the District's Mission and Strategic Plan.

- 
- 💧 Maintain Contract Equity and Diversity Inclusion Programs to enhance diversity and equal opportunities for business owners and prospective and current employees.

Strategy 4

Maintain an active Emergency Preparedness Program to plan for and manage the District's functions during an emergency and allow for an efficient and effective recovery following an emergency.

Objectives:

- 💧 Maintain current documentation of Emergency Response, Business Continuity and Disaster Recovery Plans, including support documents for regional coordination, FERC compliance and mutual assistance.
- 💧 Review and exercise emergency communications, critical functions, information technology infrastructure and protocols to support emergency response and recovery goals at all levels of the organization.
- 💧 Provide training and test emergency response and business continuity plans to achieve response and recovery goals.
- 💧 Provide timely public and employee communication during emergencies and business interruptions.
- 💧 Enhance customer outage notification tools.
- 💧 Work collaboratively with local, city, county, state, and regional stakeholders on emergency preparedness and recovery efforts.

Customer and Community Services

Key Performance Indicators

Key Performance Indicator	FY19 Target	FY20 Target
Communication		
Unify K-12 school education schools program	Complete	Review
Conduct outreach campaign	3	3
Conduct District-wide biennial customer outreach survey	Complete	N/A
Customer Satisfaction		
% of customers rating the District's services as "Good" or "Excellent": Field Services Contact Center New Business Water Quality Recreation	90%	90%
% of customers rating "Overall Job" as "Good" or "Excellent"	75%	N/A
Average speed of answer to calls coming into the Contact Center	≤ 60 seconds	≤ 60 seconds
Contact Center service level: % of calls answered within the target of ≤60 seconds	80%	80%
Abandonment rate	3%	3%
Timely billing of customer statements as scheduled	99%	99%
Notify customers in writing or via automated contact 48 hours in advance of shut-off for non-payment; provide information on CAP and payment plans to avoid shut-off	≥ 99%	≥ 99%
Reduce shut-offs for CAP participants by 10% over two years while increasing CAP enrollment	Performance Measure Only	Performance Measure Only
Review shut-off guidelines and customer assistance programs	Annually	Annually
% of time customer dependent systems are available	99.9%	99.9%
Unplanned water service interruptions per 1,000 active accounts		
< 4 hrs.	≤ 10	≤ 10
4-12 hrs.	≤ 5	≤ 5
> 12 hrs.	≤ 2	≤ 2
Odor complaints near the MWWTP	≤ 30 complaints	≤ 30 complaints



Key Performance Indicator	FY19 Target	FY20 Target
Emergency Preparedness		
Update the District's Emergency Operation Plan every two years and conduct an EOT exercise annually	100%	100%
Update all Business Continuity plans every two years and conduct an exercise for each annually	100%	100%
Review specific emergency communication plans	Annually	Annually

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Workforce Planning and Development

“Our mission can only be fulfilled through our high performing employees. We hire, train, and retain the best.”

Laura Brunson, Manager of Human Resources

The combination of classroom and experiential training helps employees fulfill their potential.

Goal: We create an environment that attracts, retains and engages a high performing diverse workforce in support of the District’s mission and core values.

Strategy 1

Maintain robust workforce plans to determine future needs, identify gaps and implement actions to close the gaps.

Objectives:

- 💧 Preserve intellectual capital (knowledge retention) at all levels of the organization.
- 💧 Regularly evaluate advances in technology and associated skills required for improved efficiency.
- 💧 Regularly analyze evolving workforce needs to ensure the right people with the right skills are in the right jobs.

Strategy 2

Continue to develop employees to meet workforce demands.

Objectives:

- 💧 Offer career and professional development opportunities and support to expand the skills of District employees to meet emerging industry needs.
- 💧 Maximize opportunities to “grow our own” through academies, cross-training, mentoring, and rotation programs.
- 💧 Encourage personal accountability for professional development through programs such as tuition reimbursement and internal training.
- 💧 Implement organizational practices that promote and value employee contributions, safety, employee-well-being, diversity and inclusion, and encourage learning and networking.
- 💧 Engage employees and labor unions in improving the work of the District.



Strategy 3

Integrate District values, recognize employee contributions, and establish clear performance measures to achieve a high performance culture.

Objectives:

- 💧 Engage District employees in values-based continuous improvement efforts with a focus on internal communication, teamwork, performance, and employee recognition.
- 💧 Establish and communicate clear performance and behavioral expectations and standards.
- 💧 Regularly assess and communicate performance against standards.
- 💧 Enhance managers' and supervisors' ability to accurately evaluate and recognize good performance and observable behavior that supports the District values, and provide coaching for improvement of performance deficiencies.

Strategy 4

Enhance the District's ability to recruit a highly qualified, diverse staff that exhibits the District's values.

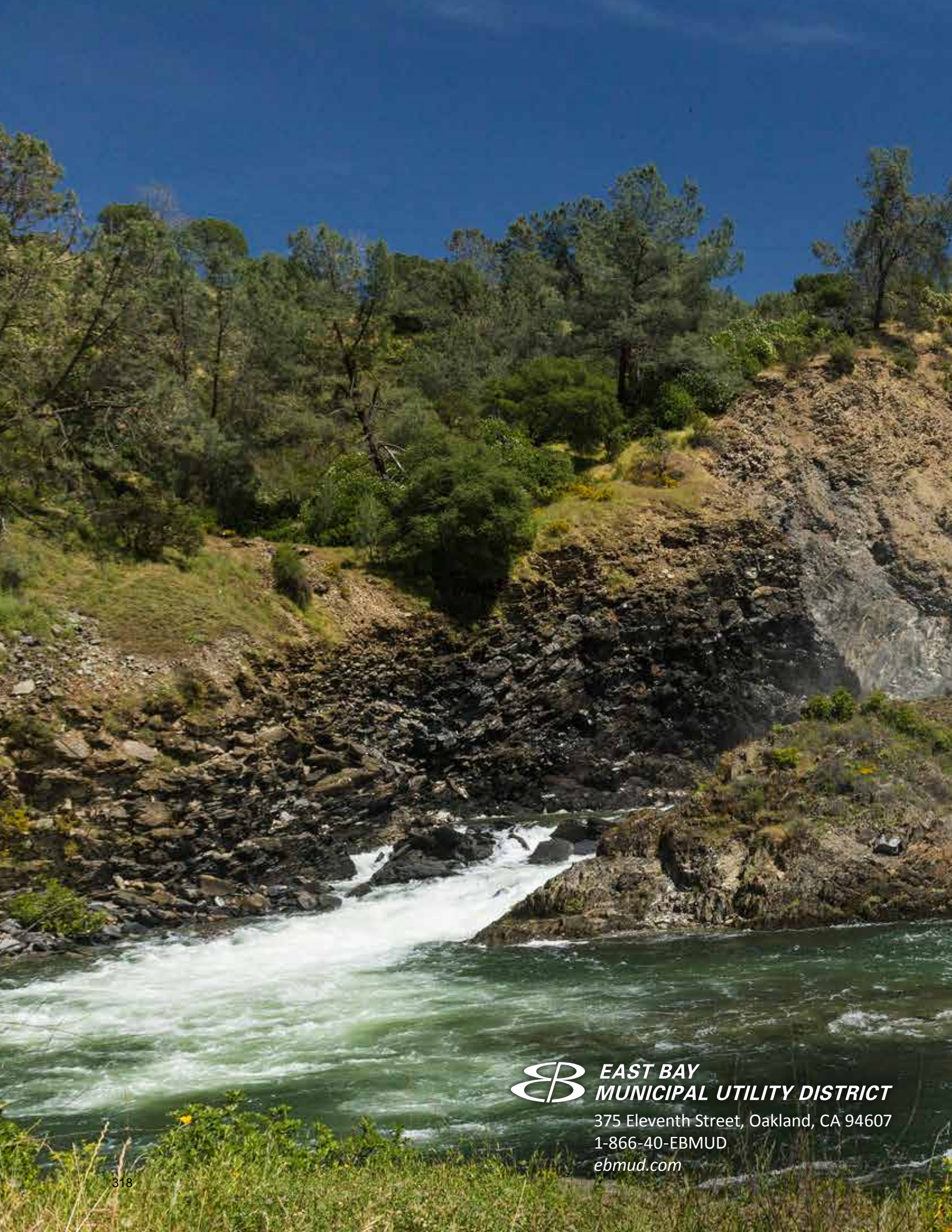
Objectives:

- 💧 Promote EBMUD's industry reputation as an employer of choice.
- 💧 Support our employees as ambassadors in our communities (peer, industry, education) to educate and share knowledge about the District's culture, values, career opportunities and work.
- 💧 Target specific employment markets and partner with colleges and regional agencies to attract and hire quality candidates that reflect the diversity of our community.
- 💧 Seek opportunities to expand internships/apprenticeships to introduce career opportunities to our community.

Workforce Planning and Development

Key Performance Indicators

Key Performance Indicator	FY19 Target	FY20 Target
Employee Development		
% of competing Leadership Program graduates who place on applicable promotional lists	75%	75%
Annual average training hours per employee	30	30
Number of employees in development programs (academies, rotations, internships, mentorships)	Performance Measure Only	Performance Measure Only
Performance Culture		
% of performance plans completed on time	> 99%	> 99%
% of performance appraisals completed on time	> 99%	> 99%
Number of injury & illness incidents resulting in time away from work per 100 employees	≤ 3.0	≤ 3.0
Annually implement outreach campaigns on wellness ("Well Being") themes	4	4
Recruitment		
% of exams resulting in hiring lists within 60 days or less	80%	80%
% of minorities and % of women on District eligibility lists	Performance Measure Only	Performance Measure Only
Number of Internships	Performance Measure Only	Performance Measure Only



 **EAST BAY
MUNICIPAL UTILITY DISTRICT**
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Strategic Plan



Key Performance Indicators for Fiscal Year 2018





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INTRODUCTION

These Key Performance Indicators (KPIs) reflect the various strategies contained within the July 2016 Strategic Plan goals, and include Fiscal Year (FY) 2018 performance targets for each KPI. Performance against the targets is measured annually and enables staff to evaluate progress in meeting the Strategic Plan goals. Typically, the Strategic Plan is updated every two years and some KPIs may be changed as part of the update.

STRATEGIC PLAN OVERVIEW

The Strategic Plan incorporates the District's mission and principles, and identifies its goals, strategies, objectives and key performance indicators. The Plan influences and guides staff in the management and allocation of resources and assets.

Our **mission** is to manage the natural resources with which the District is entrusted; to provide reliable, high quality water and wastewater services at fair and reasonable rates for the people of the East Bay; and to preserve and protect the environment for future generations.



Our **principles** provide the foundation of the Strategic Plan and form the basis of our business approach which strives to minimize waste, conserve energy and natural resources, promote long-term economic viability, protect the environment, operate within high standards to serve our customers and the community, and support safety and well-being for employees, communities, and customers.

Our principles are:

- 💧 Exercise responsible financial management
- 💧 Ensure fair and reasonable rates and charges
- 💧 Provide responsive quality customer service
- 💧 Promote ethical behavior in the conduct of District business
- 💧 Ensure fair and open processes involving the public
- 💧 Provide a healthy work environment
- 💧 Promote diversity and equality in personnel matters and contracting
- 💧 Promote environmental, economic, and social sustainability

Goals define what the District wants to achieve; they explain 'what' not 'how', and tell where we are going rather than how we will get there. **Strategies** define which actions to take to reach each goal, and may take several years to implement. **Objectives** reflect what we need to accomplish in the near term. **KPIs** measure how well we are doing in achieving our goals.

KEY PERFORMANCE INDICATOR SUMMARY

The FY18 KPI results are summarized in the table below. The District met or was on target to meet 89% of its KPIs where targets were set and data was available.

Key	Result	# KPIs
++	Target met	45
+	Target not met, but on track	5
--	Target not met	6
n/a	Target/Data not available	4
■	Performance measure only	3
	Total KPIs	63



A summary of the performance of each current KPI from FY16 through FY18, along with its FY18 target is shown in the following table.

KEY PERFORMANCE INDICATOR – SUMMARY	FY18 TARGET	FY18	FY17	FY16
Long-Term Water Supply				
Additional supply by 2040 to provide 85% reliability under design drought conditions and diversify through regional partnerships	Various	++	+	++
62 MGD savings from conservation programs / natural replacement by 2040	Various	++	++	++
20 MGD of recycled water capability by 2040	Various	+	++	++
Update the Climate Change Monitoring and Response Plan. Explore approaches for how to adapt to potential future conditions	Risk Assessment	n/a	n/a	++
Water Quality and Environmental Protection				
Mokelumne River fall-run chinook salmon escapement (long-term avg.)	4,734	++	++	++
% of water quality goals met	100%	+	+	+
% of water quality regulations met	100%	++	++	++
Number of NPDES and Waste Discharge Permit Notices of Violation received	0	++	+	+
Reduce indirect GHG emissions to zero by 2040 and direct emissions by 50% by 2040 compared to the 2000 baseline	36,177 MT CO2	++	++	++
Capture biogas sufficient to produce on-site energy in excess of MWWTP electric power demand	130% of demand	++	++	++
Implement Private Sewer Lateral Program to reduce wet weather flows and achieve a high compliance rate at point of sales	90%	++	++	++
Meet JSA Mokelumne River minimum flow releases 100% of the time	100%	++	++	++



KEY PERFORMANCE INDICATOR – SUMMARY	FY18 TARGET	FY18	FY17	FY16
Long-Term Infrastructure Investment				
Number of water system pipeline breaks per 100 miles of pipe	≤ 20	--	--	--
% of water system corrective work order hours classified high priority	≤ 10%	++	++	++
Miles of pipe surveyed	800	++	++	n/a
% of water system valves exercised	10%	--	--	++
Infrastructure leakage index	N/A - New Indicator	n/a	n/a	n/a
% of high priority meter repair orders completed in 60 days	90%	++	++	++
Miles of distribution pipe replaced	15	++	++	++
Design errors and omission change orders on construction contracts	< 3%	++	++	++
Number of steel water tanks rehabilitated	3	++	++	++
Cumulative % of interceptor assets with major defects that have been repaired	90%	++	++	--
Number of pumping plants rehabilitated	3	++	++	++
Long-Term Financial Stability				
Water rates as compared to other Bay Area agencies	≤ median	++	++	++
Wastewater rates as compared to other Bay Area agencies	≤ median	--	--	--
Water % of capital program funded from debt	≤65%	++	++	++
Wastewater % of capital program funded from debt	≤65%	++	++	++
Water debt service coverage	≥ 1.6 times	++	++	++
Wastewater debt service coverage	≥ 1.6 times	++	++	++
Water actual reserves as % of Target	≥ 100%	++	++	++
Wastewater actual reserves as % of Target	≥ 100%	++	++	++
% of planned audits completed	100%	++	--	--
% of audit findings resolved within 90 days	100%	++	++	++
Water operating expenditures as a percentage of operating budget	≤ 100%	++	++	++
Wastewater operating expenditures as a percentage of operating budget	≤ 100%	++	++	++
Water capital expenditures as a percentage of budgeted cash flow	90% - 110%	--	--	++
Wastewater capital expenditures as a percentage of budgeted cash flow	90% - 110%	--	--	++
Customer and Community Services				
% of customers rating the District’s customer services field response as “Good” or “Excellent”	90%	++	++	++
% of customers rating "Overall Job" as "Good" or "Excellent"	70%	n/a	++	n/a
Average speed of answer to calls coming into the Contact Center	≤ 60 seconds	++	++	++
% of calls answered within the target of 60 seconds or less	80%	+	++	++
Abandonment rate	3%	++	++	++
Timely billing of customer statements as scheduled	99%	++	++	n/a
% of time customer dependent systems are available	99.9%	++	++	++



KEY PERFORMANCE INDICATOR – SUMMARY	FY18 TARGET	FY18	FY17	FY16
Unplanned water service interruptions per 1,000 active accounts: <ul style="list-style-type: none"> • <4 hours • 4-12 hours • >12 hours 	≤ 10 ≤ 5 ≤ 2	++ -- ++	++ -- ++	++ -- ++
Electronic bill presentment and payment enhancements	No Target Set	n/a	+	+
Implement new telephony and Interactive Voice Response systems	Complete by December 2017	+	--	n/a
Odor complaints near the MWWTP	≤ 30 complaints	++	++	--
Update the District's Emergency Operation Plan every two years and conduct an EOT exercise annually	100%	++	++	++
Update all Business Continuity plans every two years and conduct an exercise for each annually	100%	++	++	++
Draft / update 2-3 event-specific emergency communication plans	100%	++	++	--
Workforce Planning and Development				
% of competing Leadership Program graduates who place on applicable promotional lists	75%	+	++	++
Annual average training hours per employee	30	++	++	++
Number of employees in development programs (academies, rotations, internships, mentorships)	Performance Measure Only	■	■	n/a
% of performance plans completed on time	>99%	++	++	+
% of performance appraisals completed on time	>99%	++	++	+
Number of injury & illness incidents resulting in time away from work per 100 employees	≤ 3.0	++	++	++
Annually implement outreach campaigns on wellness ("Well Being") themes	4	++	++	■
% of Exams Resulting in Hiring Lists within 60 Days	80%	++	++	++
% of District eligibility lists with AA hire opportunities	Performance Measure Only	■	■	■
Number of internships	Performance Measure Only	■	■	n/a

Long-Term Water Supply

Goal: Ensure a reliable high quality water supply for the future.

Strategy 1

Preserve current entitlements and augment the District’s successful water supply projects by obtaining supplemental supplies to meet annual customer demands.



Strategy 2

Reduce potable water demand through water conservation and build on past water savings success to help ensure a reliable water supply.

Strategy 3

Reduce potable water demand through water recycling and build on past success to achieve a diversified and reliable water supply.



Strategy 4


Maintain an updated Climate Change Monitoring and Response Plan to inform the District’s planning efforts for future water supply, water quality and infrastructure and support sound water and wastewater infrastructure investment decisions.

Key Performance Indicators - Long-Term Water Supply

Key Performance Indicator	FY18 Target	FY18 Performance	Target Met?
Supplemental Supply			
Additional supply by 2040 to provide 85% reliability under design drought conditions and diversify through regional partnerships	Negotiate a Warren Act contract with the Bureau of Reclamation for a long-term water transfer with PCWA	Re-initiated long-term Warren Act coordination with USBR based on new project description. Draft EIR/EIS is scheduled to be published in FY19	+
	Conduct technical and environmental studies to support a second long-term water transfer arrangement with Yuba County Water Agency (YCWA)	Both Boards approved the agreement with YCWA to pursue a 10,000 AF/Year water transfer during summer months through 2025. Technical work for implementing the water transfer continues	++
	Complete design and initiate construction for the DREAM Project in San Joaquin County	The State Water Board approved the temporary change petition for the DREAM Project in March. Construction of delivery facilities is complete. The project made its first deliveries of 111 AF in July. Design and construction of the aqueduct connection is on schedule	++
	Initiate Phase 2 of the Bay Area Regional Reliability (BARR) Feasibility Study	Reclamation approved the final BARR Drought Contingency Plan in Dec. 2017. In Sept. 2017, Reclamation notified EBMUD that the BARR Regional Water Market Project had been selected for a \$400,000 grant	++
Water Conservation			
62 MGD savings from conservation programs / natural replacement by 2040 (baseline year 1995)	1.2MGD average annual conservation savings	Conservation savings continued to exceed the target as a result of District conservation education, incentive and water management programs and customer demand reduction trends	++



Key Performance Indicator	FY18 Target	FY18 Performance	Target Met?
	18% reduction in per capita demand by 2018; 20% by 2020	The District is ahead of schedule to meet per capita reductions as a result of ongoing savings	++
	Implement Water Conservation Master Plan	Implementation included home water reports, leak notification, and landscape water budget services; conservation incentives; system water loss control; new water service plan check reviews; WaterSmart business awards; and more	++
	Achieve MOU Best Management Practice compliance	MOU sunseted as California Urban Water Conservation Council was restructured	N/A
Water Recycling			
20 MGD of recycled water capability by 2040	Complete majority of phase 2 customer site conversions in San Ramon and Danville	The majority of phase 2 customer site conversions have been completed	++
	For San Ramon phase 3 pump station, complete property acquisition and CEQA and begin design	CEQA and property acquisition is ongoing. Design has been deferred until supplemental supply is secured	+
	Complete majority of Emeryville customer site conversions	Customer retrofits are continuing	++
	Develop a long-term approach for improving WCWD effluent water quality that includes a higher level of clarity in the roles and responsibilities between EBMUD and WCWD	Completed new refinery agreement for the North Richmond project. New WCWD agreement to be deferred until WCWD management recruitment is complete	+
	Complete recycled water master plan update	Master plan update is continuing. Conducted board briefing and extended schedule for additional outreach	+
Climate Change			
Update the Climate Change Monitoring and Response Plan. Explore approaches for how to adapt to potential future conditions and identify "no regrets" infrastructure investment decisions	Using EPA's CREAT Model Version 3, conduct a broad climate risk assessment on major District infrastructure and operations	The Climate Change Monitoring & Response Plan has not been updated as the Sixth Assessment Report has not been released	N/A



Supplemental Supply: The Water Supply Management Program (WSMP) identified a portfolio of resources to secure an additional 32 MGD of supplemental supply by 2040. It builds on significant achievements, namely construction of the Freeport Regional Water Project and the Bayside Groundwater Phase 1 facilities. In FY18, progress continued on developing and obtaining approvals to implement a long-term water transfer arrangement with the Placer County Water Agency (PCWA). The PCWA project description was revised to mitigate potential project impacts and supporting hydrodynamic and temperature modeling of the American River was completed. Long-term Warren Act coordination with USBR has been re-initiated based on a new project description. An amendment to the agreement with the Yuba County Water Agency (YCWA) to pursue a 10,000 AF/Year water transfer during summer months through 2025 has been approved by both Boards. Technical work for implementing the water transfer has begun. Discussions continued with several Sacramento River settlement contractors for establishing another long-term transfer agreement.

Progress continued toward development of a groundwater banking demonstration project in partnership with San Joaquin County. The operations and funding agreements were executed in October 2017, and in March 2018 the State Board approved the project's temporary change petition for water rights coverage. Delivery facilities have been built. Design is underway of EBMUD facilities necessary to convey extracted water to the Mokelumne Aqueducts in a future year. The project made its first delivery of Mokelumne River water to farmers in July 2018.

EBMUD also partnered with the Contra Costa Water District (CCWD) on the initial stages of the Los Vaqueros Reservoir Expansion Project. While determining whether or not to participate in the project, EBMUD is participating in planning level efforts including preparation of environmental documents and funding applications. In July 2018, the California Water Commission awarded the Los Vaqueros Project \$457 million in funding from Proposition 1.

Water Conservation: In FY18, EBMUD continued implementing conservation strategies and programs identified in the Water Conservation Master Plan (WCMP). Activities advanced educational, technical and financial conservation services to assist customers with reducing their water use. Water management tools and services such as residential home water reports, irrigation landscape water budgets, and potential leak notifications to manage water use has remained an area of interest for customers and a key focus for the District's customer engagement efforts.

Although water consumption gradually increased during the post drought rebound period, customers continued to maintain water efficiency practices to sustain approximately a 12 percent overall demand reduction in comparison to the 2013 pre-drought base year. These water use and conservation trends are expected to continue at similar levels during average water years going forward, as the District works to lock in water conservation savings in support of long-term supply reliability goals.

In March 2018, the California Water Efficiency Partnership (formerly the California Urban Water Conservation Council) was officially launched as a new non-profit organization to provide leadership on water efficiency issues in California. As a result, the Best Management Practices Memorandum of Understanding resulting in compliance with the MOU is no longer an applicable KPI.



Water Recycling: The target for water recycling is to reduce demand for potable water by 20 MGD by the year 2040. Recycled water use of 9 MGD has been achieved through a combination of irrigation and industrial reuse projects. Existing recycled water uses include refinery processes, irrigation, and commercial applications in Richmond, Oakland, Emeryville, Alameda and San Ramon.

In FY18, a study was in progress to evaluate water quality treatment improvements for the East Bayshore project while irrigation customer conversions continued in Emeryville. The new agreement with the North Richmond refinery was completed. The DERWA treatment plant expansion project was completed and was approved for a \$2.5 million principal forgiveness loan from the state. Customer retrofit work continued in San Ramon to connect more users to the recycled water systems. CEQA and property acquisition work continued on EBMUD's proposed recycled water pump station in San Ramon. Also, work continued on updating the recycled water master plan.

Climate Change: This KPI ensures the District's future water supply and infrastructure planning incorporates adaptation to and mitigation of climate change. The Climate Change Monitoring & Response Plan (CCMRP) was updated in 2014 and summarizes the District's work on climate change based on the Intergovernmental Panel on Climate Change's (IPCC's) Fifth Assessment Report, and the 2014 US National Climate Assessment Report. New or revised recommended actions include:

- Conducting an inventory of the District's greenhouse gas emissions annually;
- Investigating new renewable energy projects consistent with Energy Policy 7.07; and
- Updating the District's Energy Management Strategy.

Staff continues to work on these actions.

The District completed climate change assessments using version 2.0 of the EPA's Climate Resilience Evaluation & Awareness Tool (CREAT). The EPA developed the CREAT software tool to assist water and wastewater utilities in understanding potential climate change threats and assessing the related risks at their individual utilities.

The IPCC is preparing its Sixth Assessment Report and the CCMRP will be reviewed and updated once the report is released. In addition, staff is investigating alternative approaches to advancing the District's adaptation and mitigation measures, including a sustainability master plan.

Water Quality and Environmental Protection

Goal: Meet or surpass environmental and public health standards and protect public trust values.

Strategy 1

Manage the Mokelumne and East Bay watersheds to ensure a high quality water supply and protect natural resources while providing appropriate public access.



Strategy 2

Operate and maintain District facilities to surpass federal and state drinking water regulations.

Strategy 3

Operate and maintain District facilities to anticipate and meet all water discharge, air emission, and land disposal requirements to protect and enhance the environment.

Strategy 4

Minimize impacts to the environment by reducing, recycling, reusing and reclaiming waste, and by conserving natural resources.



Strategy 5

Ensure protection and stewardship of San Francisco Bay.

Strategy 6

Operate Pardee and Camanche Reservoirs and facilities jointly as an integrated system to achieve multiple objectives including municipal water supply, stream flow regulation, environmental protection, flood control, hydropower, and releases for downstream requirements.

Key Performance Indicators - Water Quality and Environmental Protection

Key Performance Indicator	FY18 Target	FY18 Performance	Target Met?
Watershed Protection			
Mokelumne River fall-run chinook salmon escapement (long-term average)	4,734	13,021	++
Compliance with Drinking Water Regulations			
% of water quality goals met	100%	97%	+
% of water quality regulations met	100%	100%	++
Compliance with Wastewater Regulations			
Number of NPDES and Waste Discharge Permit Notices of violation received	0	0	++
Sustainable Resource Management			
Reduce indirect GHG emissions to zero by 2040 and direct emissions by 50% by 2040 compared to the 2000 baseline	36,177 MT CO2	20,884 MT CO2	++
Capture biogas sufficient to produce on-site energy in excess of Main Wastewater Treatment Plant electric power demand	130% of plant power demand	143%	++
Protect SF Bay			
Implement Private Sewer Lateral Program to reduce wet weather flows and achieve a high compliance rate at point of sales	90%	94%	++
Operate Pardee and Camanche			
Meet JSA Mokelumne River minimum flow releases 100% of the time	100%	100%	++

Watershed Protection: The target for the number of fish returning (escapement) to the Mokelumne River was based on the long-term average since 1940. FY18 performance represents the average escapement over the past six-years (2 cohorts). The escapement for FY18 alone was 19,954 fish, which is the highest return recorded since 1940.

Through the Lower Mokelumne River Partnership, the District initiated management actions including pulse flow events in the fall and other strategies to improve juvenile survival during drought years. As a result, the return to the Mokelumne was 411 percent of the long-term average. The Mokelumne population made up roughly 20 percent of California’s commercial catch and 35 percent of the recreational ocean fisheries. The Mokelumne River Fish Hatchery continues its leadership role within Central Valley hatcheries and produced roughly 6 million juvenile Chinook salmon; most of the escapement on the Mokelumne is comprised of hatchery origin fish.



Compliance with Drinking Water Regulations: In FY18, the District again met 100 percent of state and federal drinking water regulations. At the end of the fiscal year, 97 percent of the District’s internal water quality goals were met, the same as in FY17 and greater than the 94 percent in FY16. The District has voluntarily set 125 water quality goals that are more stringent than federal and state standards to further improve water quality for its customers. Levels of chlorinated disinfection byproducts exceeded District goals but remained below regulatory levels. Levels of n-nitrosodimethylamine (NDMA) and post-filter turbidity at the treatment plants also exceeded District goals. Major taste and odor events were avoided while ozone facilities at two water treatment plants were offline to support construction. The District also continued its efforts to minimize customer’s potential exposure to lead in water. Lead sampling for K-12 schools is ongoing, and staff anticipates no problems completing this program by the regulatory deadline. These issues are detailed in the August 2018 Water Quality Program Semi-Annual Update presented to the Planning Committee.

Compliance with Wastewater Regulations: The District met its goal with no violations of the National Pollutant Discharge Elimination Permit (NPDES) and Waste Discharge Requirements permits. In addition, there were no NPDES violations at the Main Wastewater Treatment Plant, demonstrating 222 consecutive months of continued compliance.

Sustainable Resource Management: District policy established a 2040 goal to be carbon-free for indirect emissions, and to reduce direct emissions by 50 percent compared to the 2000 baseline. The District’s 2017 direct and indirect emissions were under the interim targets and overall emissions reductions are in line with the long-term goals. These results will be discussed at the October 2018 Sustainability/Energy Committee meeting.

The goals for producing on-site energy in excess of the electric power demand at the Main Wastewater Treatment Plant (MWWTP) are to reduce costs, increase revenues and minimize greenhouse gas emissions associated with wastewater operations. Supported by both energy conservation efforts and the Resource Recovery program, the on-site generation provided 143 percent of MWWTP energy demand, exceeding the new target of 130 percent. The MWWTP met this KPI for the fifth consecutive year.

Protect SF Bay: Cracks in Private Sewer Laterals (PSLs) lead to infiltration during wet weather, which cause discharges of partially treated wastewater into SF Bay through the Wet Weather Treatment facilities. Therefore, compliance with the District’s point-of-sale PSL Program reduces wet weather discharges and protect the Bay. Over time the program will also position the District for compliance with the Wet Weather Consent Decree. The PSL Program achieved 94 percent compliance, exceeding the target and similar to the 95 percent in FY17.

Long-Term Infrastructure Investment

Goal: Maintain and improve the District’s infrastructure in a cost effective manner to ensure sustainable delivery of reliable, high quality service now and in the future, addressing economic, environmental, and social concerns.

Strategy 1

Maintain coordinated master plans for all facilities and assets.

Strategy 2

Meet operational needs and reliability goals by effectively maintaining the infrastructure.

Strategy 3

Implement the master plans and set priorities in the operating and capital budget process to reflect the needs identified in those plans.



Key Performance Indicators - Long-Term Infrastructure Investment


Key Performance Indicator	FY18 Target	FY18 Performance	Target Met?
Effective Management of Infrastructure			
Number of water system pipeline breaks per 100 miles of pipe	≤ 20	21.4	--
% of water system corrective work order hours classified high priority	≤ 10%	3.4%	++
Miles of Pipe Surveyed	800	1,775	++
% of water system valves exercised	10%	6.1%	--
Infrastructure Leakage Index	N/A - New Indicator	3.06	N/A
% of high priority meter repair orders completed in 60 days	90%	97%	++
Capital Budget Priorities			
Miles of distribution pipe replaced	15	15.05	++
Design errors and omission change orders on construction contracts	<3%	3.0%	++
Number of steel water tanks rehabilitated	3	3	++
Cumulative % of interceptor assets with major defects that have been repaired	90%	93%	++
Number of pumping plants rehabilitated	3	3	++

Effective Management of Infrastructure: For the 4,246 miles of pipe in the system, there were a total of 891 breaks which is slightly less than FY17, and 25 percent less than FY16. However, the number of pipeline breaks still exceeded the target. The goal of the Pipeline Rebuild Program is to increase the miles of pipe replaced each year, which is expected to decrease the number of breaks.

There were 285 high priority work orders completed out of a total 8,412 corrective work orders, or 3.4 percent. This was an improvement over the 5.7 percent in FY17, and met the target of having less than 10 percent of water system corrective work orders classified as high priority.

In FY18, the District surveyed 1,775 miles of pipe, more than twice the target of 800 miles. EBMUD continued to pilot satellite imagery, and also installed 1,000 leak detection loggers on hydrants to monitor water distribution pipes near creeks. Other loggers were placed throughout the distribution system to monitor leaks before they surface in high risk areas, such as pipes in slide areas and/or near fault lines.

In FY18, a total of 3,523 of the 57,432 (6.1 percent) system valves were exercised, 1,741 of which were planned inspections and 1,782 were operated in response to main breaks. This does not meet the target of 10 percent, and is less than the 4,138 that were exercised in FY17 as staff was reassigned to



the Pipeline Rebuild program. This KPI covers only the system valves used to isolate leaks during main breaks and other maintenance activities.

The Infrastructure Leakage Index (ILI), a new KPI in FY17, is the ratio of Current Annual Real Losses (leaks in the distribution system) to Unavoidable Annual Real Losses to provide a benchmark for water loss in the distribution system. The Unavoidable Annual Real Loss is a calculation of the theoretical lowest leakage possible using the best available technologies. AWWA studies showed that the average ILI ranges between 2.5 and 3.0, where the lower the number the better. The District's 2017 calendar year index of 3.06 was calculated using AWWA software, and was greater than the 2016 index of 2.29 which indicates that losses in the water distribution system are slightly above the AWWA average. Water Treatment Plant (WTP) flow meters play a key role in the District's ILI value. In 2017, more accurate flow meters were installed at Orinda, the WTP that produces the greatest percentage of the District's water. The new flow meters are the probable cause of the increased ILI value for 2017. Verification of all WTP effluent flow meters will be conducted in the future.

In FY18, the target for meter repair orders completed within 60 days was met with 97 percent completed, similar to the 98 percent in FY17.

Capital Budget Priorities: Pipeline replacements again exceeded the target totaling 15.05 miles in FY18, similar to the 15.2 miles in FY17, and greater than the 13.5 miles replaced in FY16.

Design errors and omissions change orders on combined Water and Wastewater System contracts were 3.0 percent: the Water System was 3.5 percent on contracts worth \$46.1 million, an increase from contracts worth \$15.0 million in FY17; and Wastewater was 0.3 percent on contracts worth \$8.3 million, a decrease from contracts worth \$22.5 million in FY17.

In June 2018, the District awarded a contract to rehabilitate three steel reservoirs: Arcadian in Castro Valley, Larkey in Walnut Creek and Rheem in Lafayette. The work will extend the life of these water storage assets and includes demolishing deficient wood roofs, installing new aluminum dome roofs, installing exterior stairs and platforms for safe access, recoating the interior of the tanks, painting the exterior and installing security fencing.

The KPI regarding the repair of interceptor assets with major "Class D" rated defects tracks the progress in correcting defects or deterioration in the interceptor system. In FY18, 738 linear feet (LF) of "Class C" pipeline and 746 LF of "Class B" pipeline were rehabilitated. In addition, one "Class D" and two "Class C" manholes were rehabilitated. The FY18 work was part of a multi-year construction project under which much of the "Class D" rehabilitation had been addressed in a previous year.

The District met the KPI to replace, rehabilitate, or demolish an average of 3 pumping plants per fiscal year. In FY18, final designs and contract documents were completed to replace or rehabilitate three pumping plants: University in Berkeley, and Fire Trail and Jensen in Castro Valley. Pumping plant rehabilitation projects are normally awarded in the same fiscal year that they are designed. However, due to unanticipated delays in the City of Berkeley's Panoramic Hill Paving Project and additional time needed to address constructability issues, these pumping plant rehabilitation projects will be awarded in FY19.

Long-Term Financial Stability

Goal: Manage the District’s finances to meet funding needs and maintain fair and reasonable water and wastewater rates.

Strategy 1

Maintain a Long-Range Financing Plan that sets forth the long-term funding needs of the District.



Strategy 2

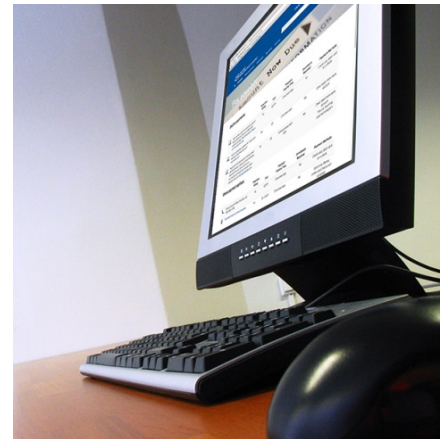
Implement water and wastewater rates and charges that are legal, fair, reasonable, and equitable.

Strategy 3

Ensure integrity, accountability and transparency in financial management.

Strategy 4

Implement technologies that improve the efficiency and effectiveness of business processes.




Key Performance Indicators - Long-Term Financial Stability

Key Performance Indicator	FY18 Target	FY18 Performance	Target Met?
Sufficient Revenue/Fair Rates & Charges			
Rates as compared to other Bay Area agencies	At or below median	Water – below median Wastewater – above median	++ --
Financial Position			
% of capital program funded from debt	≤ 65%	Water – 44% Wastewater – 15%	++ ++
Debt service coverage	≥ 1.6 times coverage	Water – 2.15 Wastewater – 2.51	++ ++
Actual reserves as % of target	≥ 100%	Water >100% Wastewater >100%	++ ++
Integrity, Accountability and Transparency			
% of planned audits completed	100%	100%	++
% of audit findings resolved within 90 days	100%	100%	++
Budget Performance			
Operating expenditures as a percentage of operating budget	≤ 100%	Water - 91% Wastewater - 95%	++ ++
Capital expenditures as a percentage of capital budgeted cash flow	90% - 110%	Water - 116% Wastewater –85%	-- --

Sufficient Revenue/Fair Rates & Charges: The District uses a comparison of rates and charges with other Bay Area agencies as an indicator of whether these costs are fair and reasonable. EBMUD’s annual water bill for an average single family using 8 Ccf per month was below the median of surveyed agencies as 9 of the 12 agencies had higher bills. The annual wastewater bill for an average single family discharging 6 Ccf per month was above the median as 3 of the 15 agencies surveyed had higher bills. The wastewater bill includes non-EBMUD charges such as community collection charges that represent more than 50 percent of the overall bill.

Financial Position: The District has a policy to limit debt funded capital to no greater than 65 percent of the total capital program over each five-year planning period. The percent of the Water System capital program funded by debt was 44 percent, less than the 56 percent in FY17 and the 53 percent in FY16. The percent of the Wastewater System capital program funded by debt was 15 percent, a decrease from the 32 percent in FY16 and the 48 percent in FY16.

The District has a policy to maintain an annual revenue bond debt service coverage ratio of at least 1.6 times. The Water System debt coverage was 2.15 which exceeded the 1.87 and 1.65 coverage in FY17 and FY16 respectively. The Wastewater System debt coverage ratio was 2.51 which exceeded the 2.24 and 1.98 in FY17 and FY16 respectively.



The District's goal is to meet or exceed the target for operating reserves. The target reserve levels of \$148.8 million for the Water System and \$78.0 million for the Wastewater System were exceeded which allows the balance in excess of the target to be used to fund capital projects.

Integrity, Accountability and Transparency: The Internal Audit section provides assurance that assets are properly maintained, controlled and accounted for; financial and operating reports are accurate; and that staff complies with District policies and procedures as well as applicable regulations, ordinances and statutes. Audits of departments, programs, processes and/or functions are performed to assess the internal control environment and determine the adequacy and effectiveness of the preventive and or detective controls in place to mitigate risks.

Four of the five projects listed in the initial FY18 plan were completed, and one of the audits was postponed due to an initiative undertaken by staff. Instead, a review was conducted related to the recruitment process as well as follow-up on a previously completed review of the Customer Assistance Program. The status of internal audit efforts was provided as part of the Semi-Annual and Annual Internal Audit Report presented to the Finance/Administration Committee in January and July 2018.

Corrective actions have been initiated to address all recommendations related to the identified findings. Follow-up review and testing will be conducted on an ongoing basis to confirm corrective actions, once fully implemented, remain in place.

Budget Performance: This KPI measures the variance between spending and the amended budget, with a target not to exceed 100 percent of the operating budget which includes debt service, and capital spending to be between 90 and 110 percent of budget.

The FY18 Water System operating expenditures were 91 percent of budget primarily due to: lower expenditures for self-insured liability and workers' compensation claims; the North Richmond Water Reclamation Plant being out-of-service during the fiscal year; contract services such as program costs for lead sampling in K-12 schools; labor savings attributable to a large number of vacant positions driven by retirements and the recruitment lead time; higher than budgeted offset for the administration of capital; and unspent contingency funds. In FY17, water expenditures were 93 percent of budget. The FY18 Wastewater System operating expenditures were 95 percent of budget primarily due to lower than planned use of chemicals related to solids thickening and the dechlorination processes; a higher than budgeted offset for the administration of capital; and unspent contingency. In FY17, wastewater expenditures were 93 percent of budget.

Capital spending was 116 percent of budget for the Water System, but fell within the total amount of multi-year capital appropriations approved by the Board. The higher expenditures were primarily due to: spending more than planned for the ozone system improvements at the Sobrante and Upper San Leandro water treatment plants; an increase in the number of hydrants and new service installations; and greater than budgeted administration of capital. Capital spending was 85 percent of budget for the Wastewater System primarily due to contract delays in the Digester Upgrade project and 3rd Street Sewer Interceptor Rehabilitation project, but was partially offset by greater than budgeted administration of capital.

Customer and Community Services

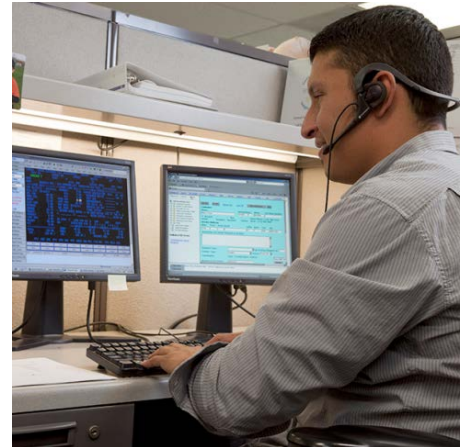
Goal: Maintain and enhance service excellence through continuous improvement.

Strategy 1

Understand customer expectations, opinions and satisfaction levels by obtaining feedback, and use input to inform our business decisions.

Strategy 2

Enhance the customer experience and improve operational efficiencies by investing in cost effective technology.



Strategy 3

Provide reliable, responsive, and quality service to customers at fair and reasonable rates and charges.

Strategy 4

Maintain an active Emergency Preparedness Program to plan for and manage the District's functions during an emergency and allow for an efficient and effective recovery following an emergency.




Key Performance Indicators - Customer and Community Services

Key Performance Indicator	FY18 Target	FY18 Performance	Target Met?
Customer Satisfaction			
% of customers rating customer services field response as "Good" or "Excellent"	90%	96%	++
% of customers rating "Overall Job" as "Good" or "Excellent"	70%	n/a	N/A
Average speed of answer to calls coming into the Contact Center	≤ 60 seconds	44 seconds	++
Contact Center service level: % of calls answered within the target of ≤60 seconds	80%	79%	+
Abandonment rate	3%	3%	++
Timely billing of customer statements as scheduled	99%	99.6%	++
% of time customer dependent systems are available	99.9%	99.9%	++
Unplanned water service interruptions per 1,000 active accounts			
< 4 hours	≤ 10	5.9	++
4-12 hours	≤ 5	5.5	--
> 12 hours	≤ 2	1.1	++
Electronic bill presentment & payment enhancements	No Target Set	Completed May 2017	N/A
Implement new telephony and Interactive Voice Response systems	Complete installation by December 2017	Completed March 2018	+
Odor complaints near the MWWTP	≤ 30 complaints	17	++
Emergency Preparedness			
Update the District's Emergency Operation Plan every two years and conduct an EOT exercise annually	100%	100%	++
Update all Business Continuity Plans every two years and conduct an exercise for each annually	100%	100%	++
Draft and/or update 2-3 event-specific emergency communication plans annually	100%	100%	++

Customer Satisfaction: In FY18, the District completed a total of 187 field service survey responses compared to 162 in FY17. Ratings continue to be high at 96 percent of customers rating service as "good or excellent" which is similar to the 96 percent in FY17 and the 98 percent in FY16.

The biennial residential customer opinion survey was not scheduled to take place in FY18. An RFP will be issued and the survey will take place in FY19 to gather, analyze and report on customer feedback



regarding the District’s water and wastewater services. In FY17, 73 percent of surveyed customers rated the “overall job EBMUD is doing” as “good” or “excellent”.

The Contact Center receives over 300,000 calls and emails annually. In FY18, the Contact Center effectively achieved its service level by answering 79 percent of calls within 60 seconds while implementing the new telephony system. The FY18 result is less than the 85 percent achieved in FY17, but greater than the 78 percent in FY16. The Contact Center met its goal of answering calls in less than 60 seconds with an average time of 44 seconds, and a call abandonment rate of 3 percent.

The timely billing of 99.6 percent of customer statements met the goal. Significant progress has been made in this area over the last four years. In FY18, the average weekly number of delayed bills was 372, higher than the 291 in FY17, but considerably lower than the 711 in FY16 and the 1,310 in FY15.

The availability of automated systems used by customers (Internet, Call Center and Dispatch Center telephones, Customer Information System, and Integrated Voice Response (IVR) self-service applications) is also a measure of customer satisfaction. The systems supporting the KPI had minimal system interruption during FY18, with the exception of intermittent customer call disruptions during two weeks in March 2018. During that period, the District was transitioning the Contact Center IVR system to an Internet-based call center.

Minimizing the impacts to customers from unplanned water service interruptions is vital. The District did not meet its KPI for interruptions lasting 4-12 hours, but achieved a 14 percent improvement compared to FY16, and improved in all three categories for the second year in a row. The improvement is likely due to a decrease in the number of main breaks which resulted in a reduced number of shutdowns required for repairs.

The District completed the electronic bill presentment and payment project in May 2017, which enables customers to pay via text and immediately sign up for electronic bill presentment and payment directly from EBMUD’s website. The service portal was enhanced and integrated with the District’s website, and customers are now able to view an array of information and access their service accounts. Since the implementation, customers have enrolled at a rate nearly five times higher than in previous years, improving customer satisfaction.

With the completion of the new telephony system in March 2018, the Contact Center is anticipating an improvement in the customer self-service IVR system and overall Contact Center phone technology. Staff continues to explore the new technology to improve the customer experience, performance management, and reporting capabilities.

Another KPI is to have no more than 30 odor complaints attributable to the Wastewater Treatment Plant. In FY18, the District met the target with 17 odor complaints received, which is less than the 28 complaints received in FY17. The continued decrease in the number of odor complaints is likely related to several factors including proactively planning work to minimize the potential for generating odors, continuing to optimize operational and maintenance practices to minimize the potential for creating odors, and proceeding with capital projects to enhance odor control management.



Emergency Preparedness: These KPIs measure the District’s ability to maintain an active emergency preparedness program by retaining current documentation and testing emergency response and business continuity plans. In FY18, the District continued to make significant progress in mitigating risk, preparing for a disaster, and improving its readiness to respond to emergencies.

The Emergency Operations Plan was updated in FY17. The District conducted or participated in 47 exercises, tests and drills including those with other agencies and mutual assistance partners. The exercises included: a key functional exercise of the Emergency Operations Team with a major main break and potential cross contamination with a sewer line; the bi-annual District-wide emergency communications drill; functional exercises of alternative work locations; and a functional exercise of the Board of Director’s Alternative Work Location Plan by conducting a Board meeting in Orinda.

For the sixth year in a row, the District met the KPI for updating Business Continuity plans (BCPs) every two years and conducting exercises for each BCP once a year.

Details concerning the BCP and emergency preparedness programs are contained in the Annual Readiness Report and Program Update presented to the Planning Committee in August 2018.

Workforce Planning and Development

Goal: Create an environment that attracts, retains and engages a high performing diverse workforce in support of the District’s mission and core values.

Strategy 1

Maintain robust workforce plans to determine future needs, identify gaps and implement actions to close the gaps.

Strategy 2

Continue to develop employees to meet workforce demands.

Strategy 3

Integrate District values, recognize employee contributions, and establish clear performance measures to achieve a high performance culture.

Strategy 4

Enhance the District’s ability to recruit a highly qualified, diverse staff.




Key Performance Indicators - Workforce Planning and Development

Key Performance Indicator	FY18 Target	FY18 Performance	Target Met?
Employee Development			
% of competing Leadership Program graduates who place on applicable promotional lists	75%	69%	+
Annual average training hours per employee	30	43	++
Number of employees in development programs (academies, rotations, internships, mentorships)	Performance Measure Only	361	N/A
Performance Culture			
% of performance plans completed on time	>99%	100%	++
% of performance appraisals completed on time	>99%	100%	++
Number of injury & illness incidents resulting in time away from work per 100 employees	≤ 3.0	1.1	++
Annually implement outreach campaigns on wellness ("Well Being") themes	4	40	++
Recruitment			
% of exams resulting in hiring lists within 60 days or less	80%	93%	++
% of District eligibility lists with AA hire opportunities	Performance Measure Only	90%	N/A
Number of Internships	Performance Measure Only	42	N/A

Employee Development: The effectiveness of our developmental academies (e.g., LEAD and Pathways) is measured by the percentage of competing Leadership Program graduates who place on promotional lists. In FY18, 69 percent of all LEAD and Pathways graduates placed on hire lists. LEAD Academy graduates placed at an 80 percent rate. With only six remaining Pathways graduates available for promotion, three of the six placed on hire lists. In FY17, 75 percent of all LEAD and Pathways graduates placed on hire lists.

The annual average number of training hours per employee is a common indicator benchmarked by employers. During FY18, employees averaged 43 training hours. This significant increase from 35.8 hours in FY17 is in large part due to the numbers of new employees, activation of new equipment (technical training), and HR Compliance training (harassment prevention).

The number of employees in development programs measures the engagement and the development of employees. In FY18, 361 employees participated in such programs including engineering rotations,



values and organizational improvement teams, internships, career counseling, and mentoring new employees. In FY17, 329 employees participated in such programs.

Performance Culture: This KPI measures the percent of employees with performance plans and appraisals completed within the past 13 months. For the first time in the fourteen years that this data has been tracked, 100 percent of employees have a current performance plan and appraisal in place.

The Employee Injury and Illness Lost Time Incidence Rate is used by OSHA and the Bureau of Labor Statistics to show the number of job-related injuries and illnesses that result in one or more lost workdays by employees. For FY18, the rate was 1.1 (there were 19 lost time injuries recorded, a decrease from the 24 in FY17) which is less than the FY17 rate of 1.5, and the FY16 rate of 1.3.

The number of wellness campaigns significantly increased this year numerous events held in January's Wellbeing Month. The fiscal year began with the JP Morgan Chase Corporate Challenge held in San Francisco which is a 3.5-mile running event open to groups of full-time employees from organizations within the business and public sectors. EBMUD had over 30 participants. The District kicked off a robust Wellbeing month in January with many employee volunteers designated as wellbeing champions who helped host 18 diabetes roadshow presentations, 9 presentations on sleep, personal finance and mindfulness, 12 workouts, the "Inspired by TED" event where 6 employees gave short talks on Wellbeing and the impact in their personal lives, and organic fruit delivery to all employees. The cost of these wellness events was partially offset by a \$2,000 grant received from the Association of California Water Agencies Joint Powers Insurance Authority. In May, the Wellbeing Champions promoted Bike to Work Month and the new tracking tools that allowed for EBMUD teams to challenge each other, as well as teams in other companies across the East Bay. Staff also hosted meetings with Fidelity Investments for financial wellbeing throughout the year.

Recruitment: The percent of exams resulting in hiring lists within 60 days is a measure of the hiring process, and is based on the time from the close of application filings to the establishment of eligible lists. In FY18, there were 116 exams completed and 108 resulted in hiring lists within 60 days. This is the fifth year in a row where the KPI exceeded 90 percent. In FY17, there were 85 exams completed.

The District tracks the diversity of candidates considered for employment to determine if recruitment efforts are attracting sufficiently diverse qualified candidates. In FY18, the AA Opportunity Rate (the percent of qualified underutilized candidates of the total qualified candidates considered during the hiring interviews) was 90 percent which is greater than the previous three years. This KPI does not measure the diversity of candidates actually hired. We report performance on this measurement, but do not set targets. Key outreach strategies launched in FY15 are attributable to the steady rise in AA opportunities. During FY19, the District will continue these outreach efforts as well as launch other outreach and workforce development programs to continue attracting qualified diverse candidates.

In FY18, the District launched the annual Summer Youth Program hosting 42 high school interns. This internship program introduces diverse members of the community to career opportunities with the District, including in the trades, and develop a pipeline of candidates for our future workforce. In FY17, two internship programs were launched with a total of 39 interns.

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GLOSSARY

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Glossary

Accrual Basis	Accounting method that records income items when they are earned and records deductions when expenses are incurred.
Administration of Capital	A method for allocating administrative support function costs to a capital project. Costs are allocated using a rate applied to direct labor. Administration of capital in the operations budget will decrease operating expense by a like amount and reallocate the cost to the capital budget.
Adopted Budget	A balanced financial plan for a specific period of time authorized by the Board of Directors.
Amended Budget	A budget that reflects budgetary transfers that occurred after adoption of the budget. The total amended budget amount does not exceed the Board approved appropriation.
Appointment Type	Indicates the character of a staff position. The following are the appointment types: Regular, Civil Service Exempt, Intermittent, Temporary, Part-Time, Limited-Term, and Temporary Construction.
Authorized FTE	An FTE (full-time equivalent) approved by the Board of Directors.
AWWA	American Water Works Association.
Bargaining Unit	Employees represented by American Federation of State, County and Municipal Employees, Locals 444 and 2019; the International Federation of Professional and Technical Engineers, Local 21; and the International Union of Operating Engineers, Local 39.
Benefit Costs	The District's costs associated with employee compensation over and above salary and wages such as retirement, health care, Social Security, disability and unemployment insurance.
Board of Directors	The seven public officials elected to represent the wards within the District service area. Also known as "the Board".
Bonds	A form of borrowing where bonds are sold to investors, and the proceeds are used to pay for capital expenditures. Debt service payments are made to repay the bond holders. The District's goal is to limit debt funded capital to no more than 65% of the total capital program.
Build America Bonds	A type of municipal bond created under the American Recovery and Reinvestment Act of 2009.
CAFR	Comprehensive Annual Financial Report.

Capital Appropriation	Board approved funding for capital projects for which relatively accurate time estimates can be made. Unspent appropriations carry forward to the next fiscal year.
Capital Budget	A financial plan for purchasing, constructing or rehabilitating fixed assets such as equipment, facilities, and systems.
Capital Cash Flow	Cash disbursements for capital projects. The estimated capital cash flow is used to calculate the rates, and the amount and timing of borrowings to meet the projected expenditure needs for a given time period.
Capital Expenditures/ Expenses	Expenditures related to capital projects such as the purchase or construction of equipment, building structures, aqueducts and water/sewer pipelines that have a useful life greater than three years and a cost greater than \$5,000.
Capital Improvement Program (CIP)	The Board approved set of capital projects that typically results in the construction of new capital facilities, or the modification or upgrade of existing facilities over a 5-year period. Project costs include all expenditures to purchase, study, plan, design, construct or repair/upgrade new or existing physical facilities.
Capital Labor	The portion of District labor costs supporting the capital improvement program.
Capital Steering Committee (CSC)	Capital Steering Committee is responsible for the oversight and development of the biennial CIP recommendation to the General Manager.
CCF	One hundred cubic feet of water which equals 748 gallons or one unit.
Civil Service	The status of an employee who occupies a full-time Regular or less-than-full-time Regular position and has completed probation in that classification.
Commercial Paper	Short-term financing for capital projects.
Consent Decree	An agreement or settlement to resolve a dispute between two parties.
Contingency	Funds budgeted each fiscal year to cover projected labor-related expenses such as the employee cost of living adjustment which is based upon each year's February Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) in the San Francisco-Oakland-Hayward area. The contingency budget also includes funding for unanticipated needs which may arise before the next budget cycle.
Cost of Service Study	Allocates expenses to customers based on use and use characteristics consistent with Proposition 218 requirements and industry standards.
CSMFO	California Society of Municipal Finance Officers.

Customer Information System	The District's system for billing customers, collecting revenue, and recording account information.
Debt-Funded Capital	Expenditures for capital projects which are funded by bonds, loans, or other debt.
Debt Service	Expenditures for interest and principal repayment on bonds or other debt.
Debt Service Coverage	The ratio of net revenues to debt service requirements, calculated in accordance with the District's bond documents. The District's policy is to maintain a debt coverage ratio of at least 1.6.
Department	A major organizational unit with overall managerial responsibility for functional programs of the District.
DERWA	Dublin San Ramon Services District, East Bay Municipal Utility District, Recycled Water Authority, a joint program to supply recycled water to portions of San Ramon, Danville, Blackhawk and surrounding areas. Dublin San Ramon Services District, East Bay Municipal Utility District, Recycled Water Authority, a joint program to supply recycled water to portions of San Ramon, Danville, Blackhawk and surrounding areas.
Distribution System	Water treatment plants, storage reservoirs, pumping plants, pipelines, and appurtenances that treat and transmit water to customers.
Division	A major organizational unit of a Department. Most departments have several divisions, each providing different services.
Drought	A decrease in the total water system storage at EBMUD reservoirs over an extended period of time which results in a water shortage for meeting customers' demand.
DSOD	The California Department of Water Resources Division of Safety of Dams
EBMUD	East Bay Municipal Utility District. A publicly owned utility formed in 1923 under the Municipal Utility District Act to provide water service, and in 1944 wastewater service in portions of Alameda and Contra Costa Counties. Also referred to as "the District" and "EBMUD".
ECP	Extendable Commercial Paper.
Encumbrance	The obligated but unspent portion of a contingent liability established through a purchase order. The budget recognizes an encumbrance as an obligation.
Enterprise Fund	A type of proprietary fund in which a user charge, rather than taxes, is charged to external users for goods or services, and costs are recovered.

ERF	Equipment Replacement Fund.
Expenditure	The payment of an obligation.
Expenditure Category	There are three types of operating expenditure categories: labor, contracts, and all other costs or operation/maintenance.
Fiduciary Fund	A fund in which assets are held by a governmental unit in a trustee capacity or as an agent for individuals, private organizations, and/or other governmental units. EBMUD has four types of fiduciary funds: Pension (and other employee benefit), Investment, Private-Purpose and Agency.
Fiscal Year (FY)	The 12-month period that begins July 1 and ends June 30 of the following calendar year.
FM&O	Fully-Manned and Operated.
Freeport Regional Water Project	A joint project with the Sacramento County Water Agency to secure a supplemental dry-year water supply.
Full-Time Equivalent (FTE)	Ratio of the number of hours an employee is paid compared to the number of working hours. An employee who works full-time (2,080 hours per year) counts as 1 FTE.
Fund	A fiscal entity with a set of accounts recording financial resources, together with all related liabilities, which are segregated for the purpose of carrying on specific activities in accordance with special regulations or restrictions. The primary District funds are the Water System Fund and Wastewater Fund.
Funded Position	Authorized position that the Board of Directors has appropriated funding for a fiscal year.
GAAP	Generally Accepted Accounting Principles.
GASB	Governmental Accounting Standards Board.
General Fund Reserves	An account used to record funds that are not legally restricted for specified purposes. General Fund Reserves provide for self-insurance claims, unplanned revenue changes, working capital, worker's compensation, and unanticipated contingencies.
General Manager	The chief executive officer of the District, hired by the Board of Directors.
GFOA	Government Finance Officers Association.
GPD	Gallons Per Day.
HRIS	Human Resources Information System.

Infrastructure	The tangible physical components that ensure delivery of reliable, high quality water and wastewater service such as reservoirs, pumping plants, pipelines, and anaerobic digesters.
Intermittent (INT)	Intermittent employees are less than full-time, but work more than part-time, or 1,040 aggregate hours per payroll year.
Intradistrict	Certain internal service accounts such as vehicle expenses are included in balance sheets to assure that internal expenses are not counted twice within the operations budget.
Key Performance Indicators (KPI)	Indicators with specific targets that measure how well the District is progressing in achieving its goals under the Strategic Plan.
Limited-Term (LT)	Positions of a limited duration (maximum of four years) intended to augment regular District staff to accomplish work or other operational programs and activities.
MG	Million Gallons.
MGD	Million Gallons per Day. (One MGD = 3.07 acre feet which is the volume of water required to cover 1 acre of land to a depth of 1 foot).
MMIS	Materials Management Information System.
Modified Cash Flow Basis	Income and expense accounting method that records revenue when cash is received, and records expenses when cash is paid.
MUD Act	Municipal Utility District Act, passed by the California Legislature in 1921. Codified in the Public Utilities Code of the State of California, Ch. 764, Stats. 1951 and amended thereafter.
MWWTP	Main Wastewater Treatment Plant. Also known as SD-1 (Special District No. 1).
NPDES	A National Pollution Discharge Elimination System permit issued to the District by the California Regional Water Quality Control Board which regulates the District's discharge of treated wastewater.
NSRO	Nationally Recognized Statistical Credit Rating Organization.
Operating Budget	A financial plan to fund ongoing operations costs incurred to operate the District; excludes the building of capital assets which are included in the capital budget.
Operating Labor	The portion of the District's labor costs supporting the day-to-day operations.
Organization	A group of staff organized into one unit or section working under a division or department. This is the lowest level at which operating budgets are developed.

PAYGO	Capital financing strategy to pay-as-you-go by cash funding capital projects with current and accumulated revenues rather than borrowing funds that will be repaid with future revenues.
Part-Time	Part-time employees are restricted to working no more than 832 hours per year, and do not have civil service status.
PEPRA	California Public Employees' Pension Reform Act.
PGS	Power Generation Station.
PP	Pumping Plant.
Program	Broadly defined group of related capital reference projects combined to facilitate planning and decision making.
PZ	Pressure Zone.
Project or Reference Project	Project level identified in the CIP comprised of a discrete set of tasks that can be carried out independently, but require coordination with other projects to ensure overall program success. Appropriation requests are authorized at this level.
Proposed Budget	The recommended balanced financial plan for a specific period of time submitted for consideration to the Board of Directors prior to the start of the Proposition 218 notification process.
Proposition 218	Passed by California voters in 1996 gave taxpayers the right to vote on all local taxes, and requires taxpayer approval of property related assessments and fees.
Proprietary Fund	Proprietary funds are used to account for a government's ongoing activities that are similar to businesses found in the private sector. These funds are considered self-supporting in that the services rendered by them are generally financed through user charges or on a cost reimbursement basis. There are two types of EBMUD proprietary funds: Enterprise and Internal Service.
RARE	Richmond Advanced Recycled Expansion project.
Rates	Charges for services to District customers that cover the costs of such services while allowing the District to remain revenue neutral.
RCS	Regulator/Rate Control Station.
Reference Project	See Project.
Regular	A full-time civil service position.

Restricted Reserves	Monies that, by action of the Board, State Law or Bond Covenants, are required to be spent on specific programs or held for specified purposes.
Revenue	Monies the District receives from rates and charges, property taxes, sale of energy, and other sources. Revenues are used to pay expenditures and fund reserves.
Revenue Funded Capital	Expenditures on capital projects which are funded by current year revenues rather than by debt, grants or other funds.
SD-1	Special District No. 1. Created in 1944, responsible for the treatment and disposal of all domestic, commercial and industrial wastewater from the cities of Alameda, Albany, Berkeley, Emeryville, Oakland, Piedmont, and the Stege Sanitary District (City of El Cerrito, Richmond annex and the Kensington area).
Staffing	The number and character of positions that have been authorized by the Board of Directors and have been determined necessary to carry out District functions.
Strategic Plan	A document that provides a blueprint for how the District will respond to future challenges and changing priorities. It outlines specific goals, strategies and objectives to guide the District to where it wants to be and establishes criteria to measure progress.
Strategy	Highest level of capital improvement activities, generally a grouping of related programs. Represents key capital objectives as defined in the Mission Statement, Strategic Plan, and Board of Directors policies and directives.
Step Increases	Employee salary increases based on progression along a salary market range.
SWRCB	State Water Resources Control Board.
System Capacity Charges (SCC)	Charges paid at the time of new connections to the water system to compensate the District for construction of capital facilities that provide water service, such as reservoirs, transmission facilities, treatment facilities, and treated water storage facilities.
Temporary	Positions limited to six-month duration and do not have civil service status.
Temporary Construction (TC)	Positions of limited and specified duration, typically associated with a specific capital project. TC positions do not have civil service status.
Ultimate Service Boundary	The maximum area which the District can extend its delivery of water service without securing approval of the State Water Resources Control Board (SWRCB) and other governmental agencies.

Uniform System of Accounts for Water Utilities (USOA)	Guidelines established for the financial reporting of accounts, account structure and definitions, used to track revenue, expenses and asset and liability balances. The District uses the USOA established by the California Public Utilities Commission.
USL	Upper San Leandro.
Wastewater Capacity Fee (WCF)	Charges paid at the time of new connections to the wastewater system to compensate the District for capital facilities that provide wastewater treatment, such as interceptors, primary and secondary treatment facilities and wet weather treatment plants.
WSMP	The Water Supply Management Program is a plan for ensuring a reliable high quality water supply for the future that includes pursuing supplemental supplies, water conservation, and recycled water.