

Annual Operating Budget and Capital Improvement Program

Fiscal Year Ending December 31, 2019

San Antonio, Texas



ANNUAL OPERATING BUDGET AND CAPITAL IMPROVEMENT PROGRAM

FISCAL YEAR ENDING DECEMBER 31, 2019

DOUGLAS P. EVANSON
SENIOR VICE PRESIDENT & CHIEF FINANCIAL OFFICER

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GOVERNMENT FINANCE OFFICERS ASSOCIATION

*Distinguished
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San Antonio Water System

Texas

For the Fiscal Year Beginning

January 1, 2018

Christopher P. Morill

Executive Director

The Government Finance Officers Association of the United States and Canada (GFOA) presented a Distinguished Budget Presentation Award to **San Antonio Water System, Texas** for its annual budget for the fiscal year beginning **January 1, 2018**. In order to receive this award, a governmental unit must publish a budget document that meets program criteria as a policy document, as an operations guide, as a financial plan and as a communications device.

This award is valid for a period of one year only. We believe our current budget continues to conform to program requirements, and we are submitting it to GFOA to determine its eligibility for another award.

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**CITY OF SAN ANTONIO
MAYOR AND CITY COUNCIL**



**Ron Nirenberg
Mayor**



**Roberto C. Treviño
District 1**



**William "Cruz" Shaw
District 2**



**Rebecca J. Viagran
District 3**



**Rey Saldaña
District 4**



**Shirley Gonzales
District 5**



**Greg Brockhouse
District 6**



**Ana Sandoval
District 7**



**Manny Pelaez
District 8**



**John Courage
District 9**



**Clayton Perry
District 10**

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**SAN ANTONIO WATER SYSTEM
BOARD OF TRUSTEES**



Berto Guerra, Jr.
Chairman



Pat Jasso
Vice Chairman



Amy Hardberger.
Secretary



Pat Merritt
Assistant Secretary



David McGee



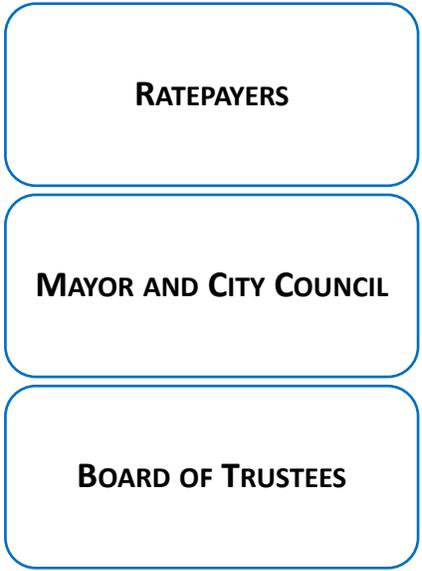
Eduardo Parra



Ron Nirenberg, ex Officio

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SAN ANTONIO WATER SYSTEM ORGANIZATION CHART



EXECUTIVE MANAGEMENT



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MISSION – VISION - VALUES



The mission and vision statements, combined with SAWS’ intrinsic core values, provide the compass which serves to guide the activities, goals and objectives of SAWS leadership team and workforce.

SAWS’ mission of sustainable, affordable water services defines its purpose in serving the ratepayers.

The vision statement – to be leaders in delivering responsible water services for life – along with the values of excellence, integrity and respect, make up SAWS’ core philosophy, describing what we as an organization believe, where we stand today, and where we wish to be in the future.

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November 13, 2018

Mr. Berto Guerra, Jr., Chairman
Ms. Pat Jasso, Vice Chairman
Ms. Amy Hardberger, Secretary
Ms. Pat Merritt, Assistant Secretary
Mr. David McGee, Trustee
Mr. Eduardo Parra, Trustee
Honorable Ron Nirenberg, Mayor

Honorable Mayor and Trustees:

I am pleased to present the 2019 Annual Operating Budget and Capital Improvement Program of the San Antonio Water System (SAWS), which has been prepared in accordance with the requirements of San Antonio City Ordinance No. 75686. Some of the key objectives of this budget are to:

- Integrate new long-term sources of water supply
- Maintain infrastructure to ensure reliability of service and compliance with regulatory requirements
- Ensure that employee pay and benefits remain fair and competitive while retirement obligations are adequately funded
- Continue to implement technological advancements in order to increase productivity and enhance customer interactions
- Balance the need for strong financial metrics and the maintenance of credit ratings with the affordability of our services

In November 2017 the Board of Trustees approved the 2018 budget and recommended to the City Council that rates be adjusted effective January 1, 2018 and 2019 to provide the resources necessary to achieve both the 2018 budget objectives and the projected operating and capital requirements for 2019. On December 7, 2017, the City Council adopted rate adjustments for 2018 and 2019. The 2019 rate adjustments consist of percentage increases of 0.4% for water delivery rates, 4.3% for water supply fee rates, 8.0% for wastewater rates, and 1.8% for recycled water rates. With these approved rate adjustments, the average residential customer's bill, assuming 7,092 gallons of water and 5,668 gallons of sewer, will increase 4.7% in 2019. The rate adjustments are projected to generate a total of \$26.9 million in additional revenues in 2019.

The 2019 budget balances revenue requirements for the fiscal year ending December 31, 2019 with available revenues and other funding sources. Highlights of the 2019 budget include:

- Assumes 2019 billed water usage of 65.9 billion gallons
- Assumes Water customer growth of 1.5% and wastewater growth of 1.6% for a combined growth of 1.5%
- Includes estimated total Sources of Funds of \$828.3 million, which is \$47.5 million or 6.1% more than the 2018 Sources of Funds and comprised of:
 - Operating revenues totaling \$729.4 million
 - Non-Operating revenues totaling \$24.6 million
 - Equity transfer of \$1.4 million
 - Capital recovery fees of \$72.9 million
- Provides for funding of \$350.4 million in operations and maintenance costs, reflecting a \$10.5 million or 3.1% increase when compared to the 2018 Budget

- Assumes funding for \$377.3 million of capital improvement projects
 - \$68.8 million in Water Supply projects
 - \$108.2 million in Water Delivery projects
 - \$200.2 million in Wastewater projects
 - \$0.1 million in Chilled Water projects
- Provides for \$9.7 million in capital outlay funding for vehicles, equipment, and computer related capital
- Provides for \$240.6 million in funding for debt service and expenses, which is \$4.4 million or 1.9% more than the 2018 budget for debt service and expenses
- Conservatively plans 1.73 times debt coverage on total bonded debt
- Includes a transfer of \$19.3 million to the City of San Antonio

The annual budget process is an effort to strike the appropriate balance between ensuring that rates remain affordable for SAWS customers and ensuring the ongoing operational and financial integrity of the organization. The 2019 Annual Operating Budget and Capital Improvement Program will allow the San Antonio Water System to continue providing high quality water, wastewater, recycled water, and chilled water services at reasonable costs, while also maintaining a healthy financial position.

Respectfully submitted,



Douglas P. Evanson
Senior Vice President/Chief Financial Officer

BUDGET SUMMARY

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BUDGET SUMMARY

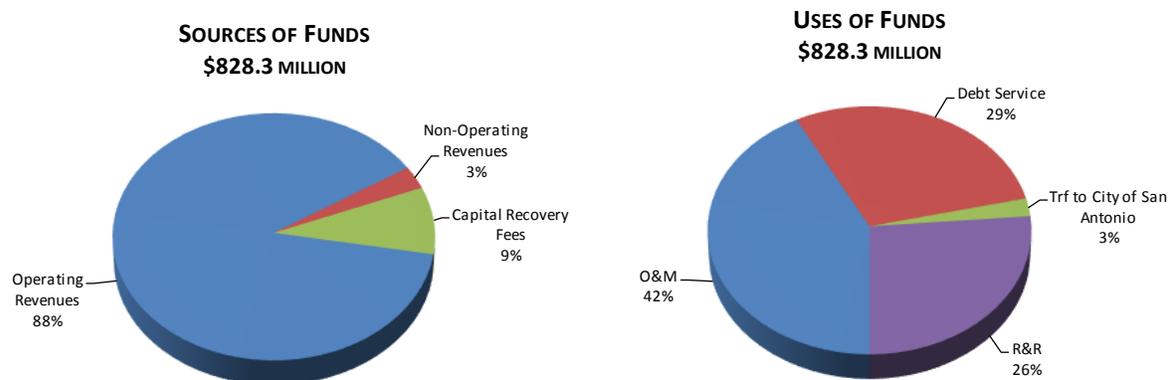
The 2019 Budget presents a comprehensive projection of San Antonio Water System (SAWS) operations from January 1, 2019 through December 31, 2019. This budget summary describes the key recommendations encompassing the 2019 Budget.

In November 2017, the Board of Trustees and in December 2017 the City Council adopted a combined 4.7% rate adjustment in 2019 water delivery, water supply and wastewater rates to support 2019 revenue requirements. A summary of these requirements, as well as the sources of funding to meet these requirements is provided in the table below.

	<i>\$ in Millions</i>			
	2018 Budget	2019 Budget	Change	% Change
Sources of Funds				
Operating Revenues	\$ 695.2	\$ 729.4	\$ 34.2	4.9%
Non-Operating Revenues	11.3	24.6	13.3	117.7%
Draw on Equity	1.4	1.4	-	0.0%
Capital Recovery Fees	72.9	72.9	-	0.0%
Total	\$ 780.8	\$ 828.3	\$ 47.5	6.1%
Uses of Funds				
Operations and Maintenance	\$ 339.9	\$ 350.4	\$ 10.5	3.1%
Debt Service and Expenses	236.2	240.6	4.4	1.9%
Transfer to City of San Antonio	18.1	19.3	1.2	6.6%
Available for Renewal and Replacement - Restricted	75.3	88.8	13.5	17.9%
Available for Renewal and Replacement - Unrestricted	111.3	129.2	17.9	16.1%
Total	\$ 780.8	\$ 828.3	\$ 47.5	6.1%

The 2019 budget presents a financial plan designed to continue SAWS' mission to provide sustainable affordable water services. The budget balances revenue requirements with available revenues and other funding sources. Some of the key objectives of the plan are:

- Continued repair and replacement of aging infrastructure,
- Sustained investment in water supply initiatives in support of the 2017 Water Management Plan, and
- Compliance with the requirements of the Consent Decree entered into with the United States Environmental Protection Agency and Texas Commission on Environmental Quality relating to the reduction of sanitary sewer overflows.



OPERATIONS AND MAINTENANCE (O&M) BUDGET HIGHLIGHTS

The 2019 O&M budget totals \$350.4 million. This is an increase of \$10.5 million, or 3.1% compared to \$339.9 million budgeted in 2018. The table below summarizes the primary drivers for the change in the O&M budget from 2018 to 2019.

	<u>\$ in Millions</u>
2018 O&M budget	\$ 339.9
Increase in base wages, other compensation and benefits	\$ 4.9
Additional costs to improve infrastructure maintenance	2.7
Vista Ridge Pipeline cathodic protection	1.0
Water pipeline leak reduction improvements	1.0
First year match to U.S. Army Corps of Engineers three-year study of Mitchell Lake	0.5
Other O&M changes (net)	<u>0.4</u>
Net Increase in O&M	<u>\$ 10.5</u>
2019 O&M budget	<u>\$ 350.4</u>

The increase in salary and benefits includes funds for employee wage increases averaging 3%, and an additional \$2 million in employee benefits to support increased health insurance costs. The budget also includes additional funds to perform necessary rehabilitation efforts on five of SAWS existing water tanks as well as to perform necessary cleaning of two of the digesters at the Dos Rios Water Recycling Center. Additionally, \$1.0 million in improvements are planned for enhanced water leak reduction programs to include increased pipeline valve maintenance, improvement of water main asset data management, and a pilot program using radar satellite imagery to identify likely distribution system leak locations. Finally, the budget also includes \$504,000 as the SAWS first-year match to the U.S. Army Corps of Engineers three-year study of aquatic ecosystem restoration of Mitchell Lake.

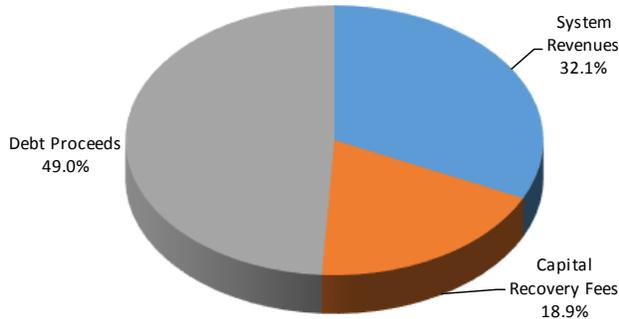
CAPITAL IMPROVEMENT PROGRAM (CIP) HIGHLIGHTS

The projected 2019 Capital Improvement Program (CIP) totals \$377.3 million. The planned projects include:

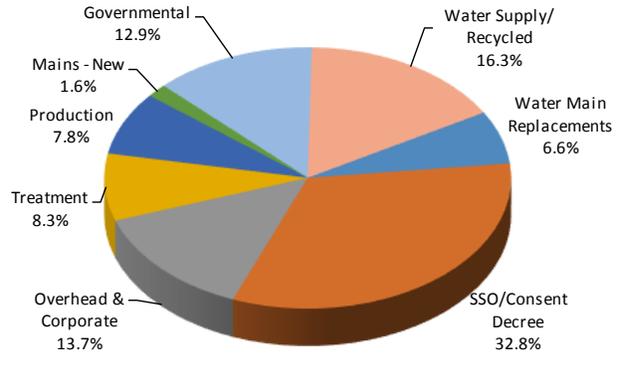
- Improvements necessary to comply with the federal Consent Decree requiring major capital improvements to address sanitary sewer overflows (SSOs),
- Improvements to water production and wastewater treatment facilities,
- Water and sewer main replacements and relocation that support City of San Antonio, Bexar County, and Texas Department of Transportation (TXDOT) street, highway, and drainage improvements,
- Replacement of other deteriorating water mains, and
- New water and sewer mains in support of growth within SAWS service area.

The 2019 budget assumes that approximately 51.0% of the funds necessary to complete the 2019 CIP will be provided by existing renewal and replacement funds, capital recovery fees and investment income with the remaining funds to be provided by the issuance of additional debt.

**SOURCES OF FUNDS
2019 CIP FUNDING
\$377.3 MILLION**



**USES OF FUNDS
2019 CIP BY CATEGORY
\$377.3 MILLION**



FIVE-YEAR CIP PROJECTION BY CATEGORY

Over the next five years, SAWS expects to invest \$2.3 billion in capital improvements, the majority of which will be focused on improvements to our wastewater system in support of our obligations under the federal Consent Decree.

\$ in millions

Core Business/Category	2019	2020	2021	2022	2023	Total 2019-2023
Water Delivery						
Overhead and Corporate - WD	\$ 19.0	\$ 37.3	\$ 49.0	\$ 35.2	\$ 35.3	\$ 175.8
Governmental	30.9	32.0	29.3	27.9	28.7	148.8
Mains - New	4.4	8.2	15.6	18.7	45.0	91.9
Main Replacements - Water	24.6	25.0	21.7	22.5	22.9	116.7
Production	29.3	14.2	27.3	62.7	39.8	173.3
Water Delivery Total	108.2	116.7	142.9	167.0	171.7	706.5
Wastewater						
Overhead and Corporate - WW	25.3	25.2	37.6	31.0	28.2	147.3
Governmental	17.4	30.7	29.3	27.9	28.7	134.0
Main Replacements - Sewer	122.8	255.9	131.1	78.2	130.5	718.5
Mains - New	1.8	1.0	17.1	2.6	1.1	23.6
Collection Facilities	1.8	5.3	18.7	-	-	25.8
Treatment	31.1	23.4	56.4	103.6	23.6	238.1
Wastewater Total	200.2	341.5	290.2	243.3	212.1	1,287.3
Water Resources						
Desalination	7.5	-	-	-	10.3	17.8
ASR	-	16.3	10.1	4.6	8.5	39.5
Overhead and Corporate - WR	7.1	30.0	26.4	24.4	23.0	110.9
Water Resources Int. Pipeline (WRIP)	-	96.1	-	-	-	96.1
Central Water Int. Pipeline (CWIP)	52.4	-	1.6	-	15.6	69.6
Edwards Aquifer	1.4	-	-	-	-	1.4
Water Resources Total	68.4	142.4	38.1	29.0	57.4	335.3
Recycled Water	0.4	2.1	0.8	4.7	7.0	15.0
Chilled Water	0.1	0.2	0.1	0.1	0.1	0.6
Grand Total	\$ 377.3	\$ 602.9	\$ 472.1	\$ 444.1	\$ 448.3	\$ 2,344.7

IMPACT ON RATES

To support the projected revenue requirements of the 2019 budget, in late 2017, the Board of Trustees and the City Council pre-approved a 4.7% rate adjustment for the average residential customer (assuming 7,092 gals water and 5,668 gallons sewer usage per month). (1)

Rate Category	2019 Adjustment
Wastewater	8.00%
Water Delivery	0.40%
Water Supply	4.30%
Combined Impact on Average Residential Customer *	4.70%
Recycled Water	1.80%

* Average based on 7,092 gallons water/5,668 gallons sewer usage per month excluding EAA and TCEQ pass-through fees and City storm water fees.

(1) Additionally, a rate adjustment was approved for recycled water service which mirrors the average impact of Water Delivery and Water Supply rate adjustments on the average residential customer for potable water service.

COMMUNITY PROFILE

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COMMUNITY PROFILE



Beyond its role as a significant population and business center within the state of Texas, San Antonio possesses a deep history that dates back to the 1700's. In 1718, Spanish monks built a mission named San Antonio de Valero on the site of a Coahuiltecan Indian village. Eventually, this mission would be named the Alamo, where Texan forces fought Mexican soldiers to the death during the Texas revolution. This battle has made the Alamo a symbol of Texas' liberty and prosperity. Following the revolution, Texas was annexed into the United States and San Antonio served as a place of cultural convergence that has shaped it into the city that it is today.

LOCATION

San Antonio, the county seat of Bexar County (pronounced "bear"), is located in south central Texas. The city encompasses a total geographic area of 486 square miles and is:

- 80 miles south of Austin (state Capitol)
- 280 miles south of Dallas
- 200 miles west of Houston
- 140 miles northwest of the Gulf of Mexico
- 150 miles northeast of the city of Laredo on the Mexican border



CLIMATE

With its location on the northwest edge of Texas' Gulf Coastal Plain, San Antonio experiences a modified subtropical climate. Average temperatures range from 50 degrees in January to the mid-90s in July and August. While the summer is hot, with daily temperatures above 90 degrees over 80% of the time, extremely high temperatures are relatively uncommon. Mild weather prevails during the winter months, with temperatures below freezing occurring on an average of about 20 days per year. Average yearly long-term rainfall is approximately 32 inches. The extremes vary from 10.11 inches in 1917 to 52.28 inches in 1973.

POPULATION

According to 2017 estimates by the US Census Bureau, the City of San Antonio is the seventh most populous city in the United States and the second most populous city in Texas. From 2016 to 2017, the City of San Antonio had the largest numeric population growth of any city in the United States with an increase of 24,208 new residents. The San Antonio-New Braunfels Metropolitan Statistical Area (MSA) includes Atascosa, Bandera, Bexar, Comal, Guadalupe, Kendall, Medina, and Wilson counties and was estimated to contain 2.47 million people in 2017. The San Antonio-New Braunfels MSA ranks twenty-fourth among national MSAs and third among those in Texas.

The following table provides the population of the City, Bexar County, and the San Antonio-New Braunfels MSA for the years shown:

Year	City of San Antonio	Bexar County	San Antonio-New Braunfels MSA
2017 (Estimated)	1,511,946	1,958,578	2,473,974
2010	1,327,407	1,714,773	2,142,508
2000	1,144,646	1,392,931	1,711,703
1990	935,933	1,185,394	1,407,745
1980	785,880	988,800	1,154,648
1970	654,153	830,460	951,876
1960	587,718	687,151	796,792
1950	408,442	500,460	603,775
1940	253,854	338,176	437,854
1930	231,542	292,533	389,445
1920	161,379	202,096	289,089

Beginning in 2000, the number of counties in the MSA was increased from four to eight: Atascosa, Bandera, Kendall, and Medina counties were added to Bexar, Comal, Guadalupe, and Wilson counties.

Sources: U.S. Census Bureau

EDUCATION

Within 50 miles of San Antonio, 15 colleges and universities offer degrees in all major fields of study and educate almost 163,000 students.

Institution	Certified Fall 2016	Certified Fall 2017	Change	Percent Change
Texas State University	38,808	38,666	(142)	-0.37%
University of Texas at San Antonio	28,959	30,674	1,715	5.92%
San Antonio College	19,028	19,385	357	1.88%
Northwest Vista College	16,793	16,752	(41)	-0.24%
St. Philip's College	11,604	12,050	446	3.84%
Palo Alto College	9,108	9,368	260	2.85%
University of the Incarnate Word	8,597	8,192	(405)	-4.71%
Texas A&M University-San Antonio	5,474	6,460	986	18.01%
Northeast Lakeview College	3,484	3,860	376	10.79%
St. Mary's University	3,531	3,625	94	2.66%
Wayland Baptist University	3,510	3,441	(69)	-1.97%
Univ. of Tex. Health Science Ctr. at San Antonio	3,250	3,270	20	0.62%
Our Lady of the Lake University	3,292	3,212	(80)	-2.43%
Trinity University	2,462	2,595	133	5.40%
Texas Lutheran University	1,295	1,391	96	7.41%
Total	159,195	162,941	3,746	2.35%

Source: Texas Higher Education Coordinating Board

ECONOMY

San Antonio boasts a favorable business environment that supports economic diversification and growth. This diversification can be seen by the large variety of industries that have major operations in the city, including the aerospace, bioscience/healthcare, environmental/green technology, financial services, information technology and cyber security, and manufacturing industries along with the military. All of these industries are supported by the city's commitment to strengthen infrastructure improvements and to invest in a growing and dedicated workforce.

The San Antonio Economic Development Foundation (SAEDF), a private, nonprofit organization that assists business and industry relocating or expanding into the San Antonio area, the Greater San Antonio Chamber of Commerce and the U.S. Bureau of Labor Statistics are the sources of the following information on local industry.

AEROSPACE/AVIATION

The local aerospace industry includes a range of businesses that manufacture aircraft equipment and parts, service and repair aircraft, produce and distribute air transportation equipment and supplies, provide both scheduled and unscheduled air transportation, and operate flight schools. Most of the more than 13,000 jobs provided by this industry are concentrated at the San Antonio International Airport and Port San Antonio which occupies the facilities formerly operated by the U.S. Air Force as Kelly Air Force Base.

BIOSCIENCE/HEALTHCARE

As one of San Antonio's leading industries, the healthcare and bioscience industry has shown steady growth and innovation over the past two decades. The industry is composed of health services and related industries such as research, pharmaceuticals, and medical device manufacturing. In the Hospitals and Ambulatory Health Care Services employment subsectors alone there are over 97,700 jobs as of the end of July 2018 in the local area. Employment in these two subsectors has increased by over 28% since the end of 2009.

FINANCIAL SERVICES

The Financial Services industry in San Antonio includes the following sectors: banking and credit; investment activities; insurance; funds, trusts and other financial vehicles; accounting and bookkeeping. San Antonio's financial sector employs more than 88,200 people as of the end of July 2018. It is one of the city's most stable, promising and significant business sectors and has grown in number of jobs by over 31% since the end of 2009.

INFORMATION TECHNOLOGY/CYBER SECURITY

The Information Technology industry plays a significant role in San Antonio. This steady sector has more than 20,500 jobs in the area as of the end of July 2018. Since the end of 2009, the number of jobs locally in the industry has increased by over 10%. According to SAEDF, the local information industry products sector includes computer and related component manufacturers, and Internet and software publishing. Information services companies include computer programming and internet service providers, web hosting firms, information technology trainers, and equipment repair services. The services companies now provide nearly 80% of the industry's jobs and a majority of its economic impact.

MANUFACTURING

San Antonio has a large and diverse manufacturing industry, with a representation of every major sector of U.S. manufacturing present in the community, including materials and electricity, equipment and metal, transportation, and diversified products. This sector employs 49,000 people in the San Antonio area as of July 2018.

MILITARY/DEFENSE

The U.S. military has had a significant and historic presence in San Antonio dating back well into the 19th century. The military mainly operates in San Antonio today under the framework known as Joint Base San Antonio (JBSA).

JBSA has a substantial impact on the local economy in San Antonio and in Texas. In fact, JBSA contributes 65% of Texas' total military GDP and generates an annual disposable personal income of approximately \$17 billion. SAEDF estimates that direct active duty military and related civilian jobs in the area number over 77,000 and account for over 7% of the area's total employment. Indirect employment generated by the local military bases is estimated by SAEDF to total more than 205,000.

EMPLOYMENT

The San Antonio economy has experienced robust, sustained growth since the mid-1990's. This economic growth coupled with the net in-migration trends experienced in many areas of Texas has resulted in population growth that has exceeded national averages. While job growth slowed significantly during the national downturn experienced from 2009-2013 (average annual growth of 1.6%), growth has steadily increased from 2014 through July 2018 at an average annual rate of 2.3%. The diversity of the San Antonio economy has provided a measure of stability through up and down economic cycles. Specifically, San Antonio's strategic positions in key employment sectors including government and military, biomedical sciences, medical services, tourism, and hospitality contribute to this stability. San Antonio's favorable economic position relative to the nation is reflected in the fact that, according to the U.S. Bureau of Labor Statistics, as of July 2018, the San Antonio MSA unemployment rate was 3.5%, while the nation's was 3.9%.

A summary of San Antonio's nonagricultural employment by industry since 2009 is as follows:

San Antonio MSA Non-Farm Employment by Industry (2009 - 2018)
as of December of each year 2009-2017

	2018 *	2017	2016	2015	2014	2013	2012	2011	2010	2009
Natural Resources, Mining and Construction	65,700	63,100	57,400	58,700	57,900	51,100	47,000	44,000	45,200	48,600
Manufacturing	49,000	48,300	48,100	47,400	47,000	46,300	46,900	46,400	45,300	43,500
Trade, Transportation and Utilities	182,700	187,100	186,500	181,300	175,000	166,700	159,000	153,700	149,400	148,500
Information	20,500	20,500	21,100	21,500	21,800	21,500	20,500	19,700	18,400	18,600
Financial Activities	88,200	90,100	89,000	86,200	82,400	78,600	76,300	71,900	69,800	67,100
Professional and Business Services	134,300	138,000	133,500	126,900	122,800	117,300	114,100	108,200	104,300	105,800
Educational and Health Services	165,900	163,100	161,300	153,900	147,400	142,200	138,700	137,100	131,900	127,100
Leisure and Hospitality	138,700	134,000	127,800	123,000	117,700	114,200	110,800	105,600	101,200	97,500
Other Services	39,600	38,000	37,300	36,100	35,900	35,300	34,500	32,800	33,000	32,000
Government	166,400	174,100	172,300	171,300	168,200	165,700	164,300	163,700	166,200	163,900
Total Non-Farm Employment	1,051,000	1,056,300	1,034,100	1,005,500	976,100	938,900	912,100	883,100	864,700	852,600

Source: U.S. Bureau of Labor Statistics

* 2018 Preliminary through July 2018

In addition to the wide selection of employment and job opportunities, the cost of living in San Antonio is the lowest among the top 10 cities in the U.S. in terms of population. According to the www.bestplaces.net, in 2018 the average cost of living among the nine other top ten U.S. cities is 60.5% higher than that in San Antonio. In other words, an annual household income of \$80,296 would be needed on average among the nine other cities to match the buying power of the median household income in San Antonio (\$50,444). These advantages help to attract San Antonio's workforce, employers, and students to the City.

SAN ANTONIO WATER SYSTEM PROFILE

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SAN ANTONIO WATER SYSTEM PROFILE

HISTORY

SAWS was created in 1992 through the consolidation of three predecessor agencies: the City Water Board (the previous city-owned water supply utility); the City of San Antonio Wastewater Department (a department of the city government responsible for sewage collection and treatment); and the Alamo Water Conservation and Reuse District (an independent city agency created to develop a system for reuse of the city's treated wastewater). In addition, the water resources planning staff of the City Planning Department was realigned to the new agency to provide combined water related services for the San Antonio area.

On January 1, 2017, SAWS completed all legally required steps to fully integrate the operations and customers of the former Bexar Metropolitan Water District (BexarMet) with SAWS. This final step of full integration included the application of consistent rates for both existing SAWS and former BexarMet customers.



GOVERNANCE

San Antonio Water System is a public utility owned by the City of San Antonio. Complete management and control of SAWS is vested in a Board of Trustees consisting of the mayor and six members who are appointed by the San Antonio City Council, and serve staggered four-year terms. The mayor of San Antonio serves as an ex-officio voting member. The general operations of the utility are under the supervision of the President/Chief Executive Officer.

SERVICE AREA

WATER DELIVERY AND WASTEWATER

SAWS' water delivery service area currently extends over approximately 941 square miles, making it the largest water purveyor in Bexar County. The service area includes most of Bexar County, several suburban municipalities and parts of adjacent counties. In addition to serving its own retail customers, SAWS also provides wholesale water to a few smaller utility systems within this area.

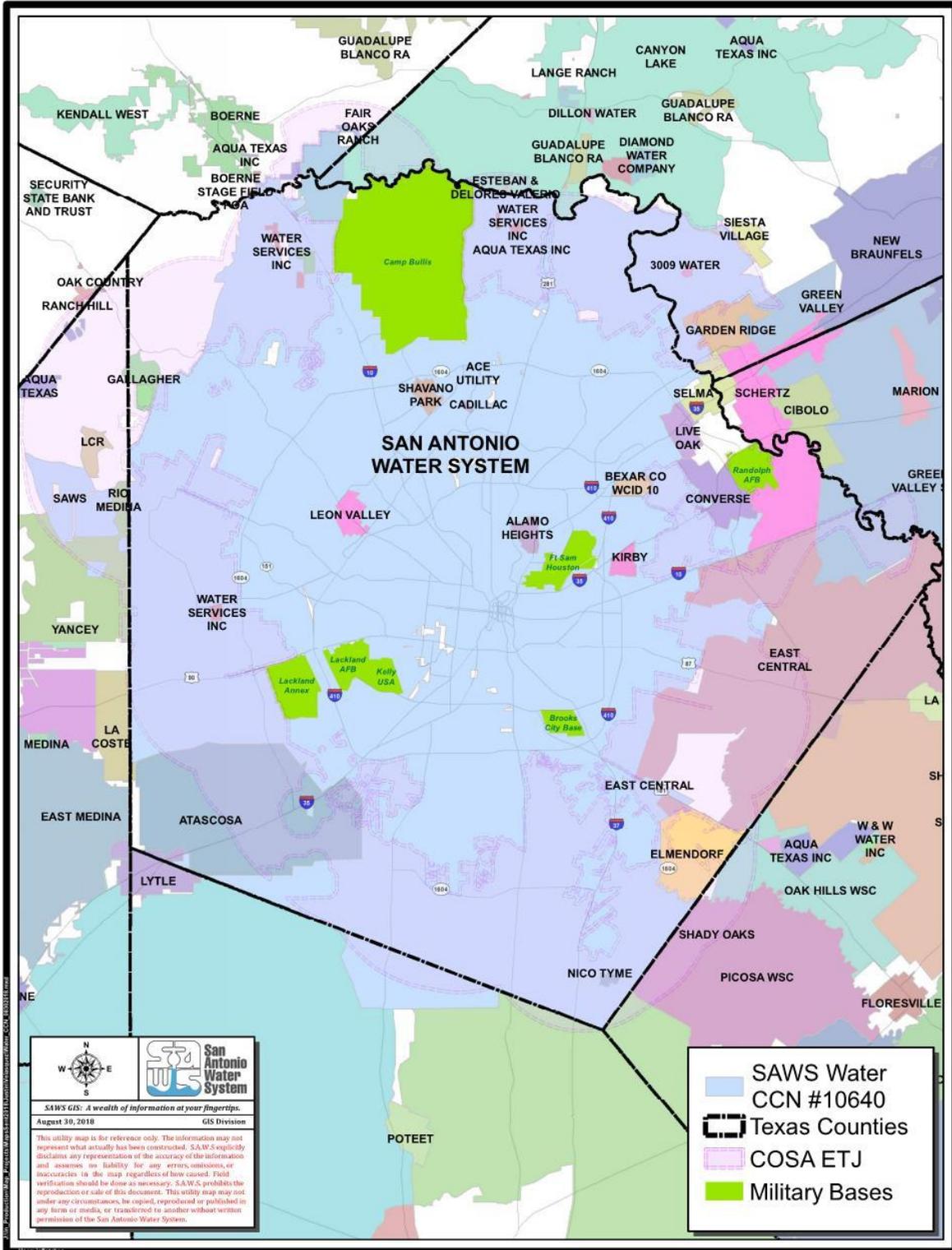
SAWS provides potable water service to residential, commercial, multifamily, industrial and wholesale accounts. As of July 31, 2018, the water delivery system provides potable water service to 502,823 customer connections.

The water delivery system currently utilizes 125 elevated and ground storage tanks with a combined storage capacity of 277.2 million gallons. As of July 31, 2018, SAWS had installed 7,108 miles of distribution mains, ranging in size from 1 inch to 96 inches in diameter and 41,330 fire hydrants were in service.

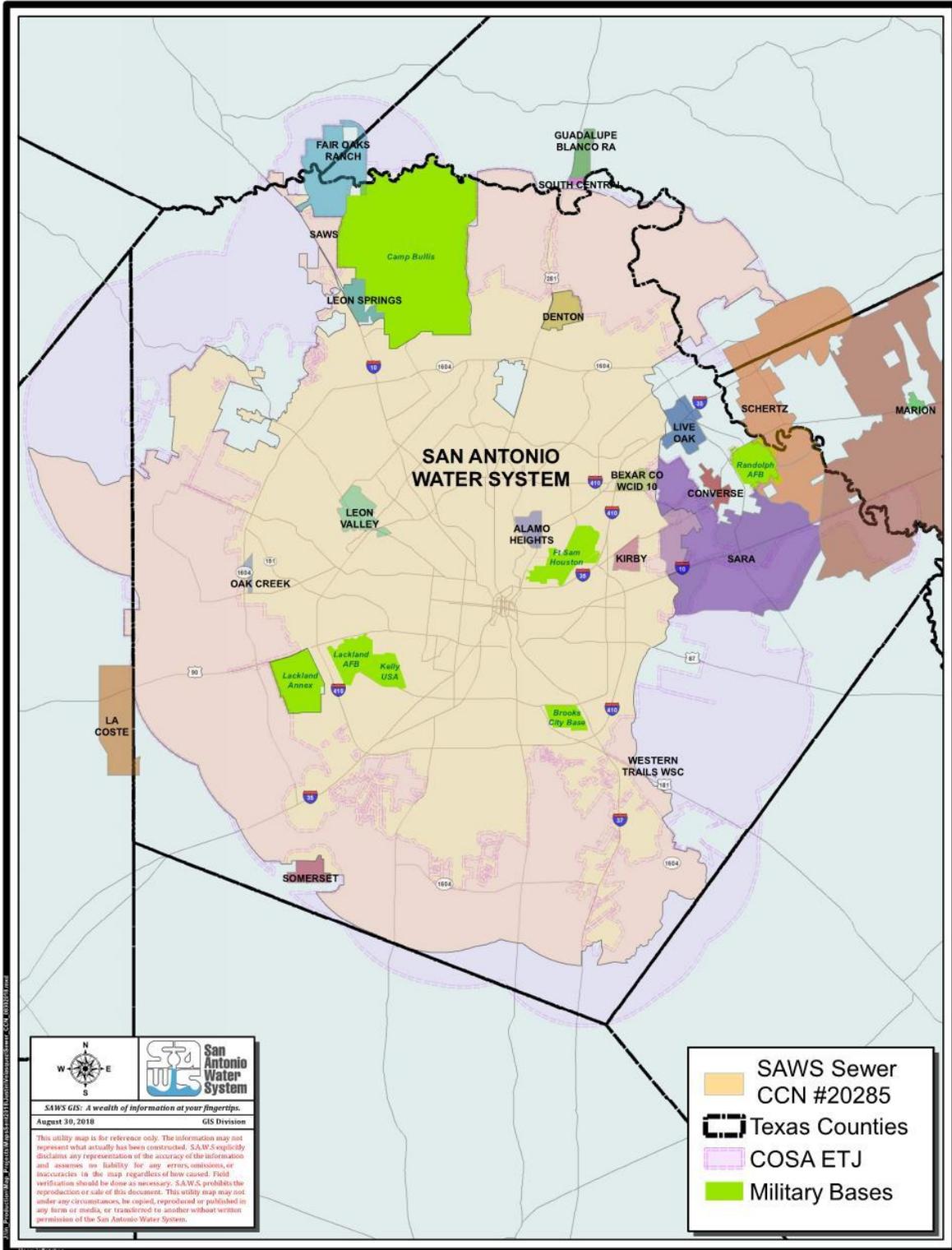
A somewhat different area, following natural watersheds, is defined for wastewater collection and treatment. SAWS is the largest wastewater treatment agency in the San Antonio area. SAWS also provides collection and treatment services by contract to developments outside its defined service area to avoid unnecessary proliferation of state wastewater discharge permits. The wastewater system has certain prescribed boundaries that currently cover an area of approximately 862 square miles. As of July 31, 2018, SAWS provided wastewater services to 450,612 customer connections, including 12 wholesale sewer connections.

Also as of July 31, 2018, the wastewater system is composed of 5,514 miles of mains and three major treatment plants: Dos Rios Water Recycling Center, Leon Creek Water Recycling Center and Medio Creek Water Recycling Center.

WATER SERVICE AREA



WASTEWATER SERVICE AREA

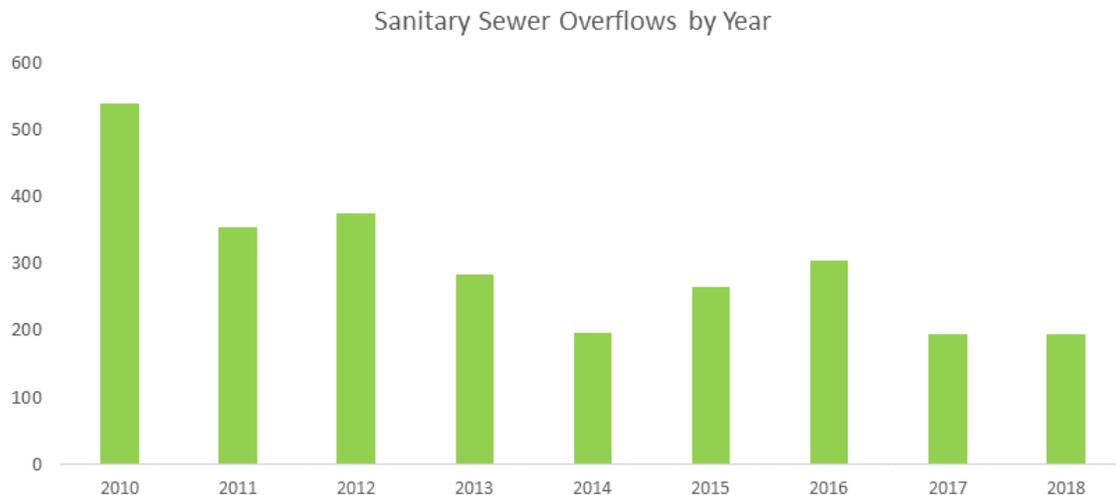


CHILLED WATER SYSTEM

SAWS owns, operates, and maintains five thermal energy facilities providing chilled water services to governmental and private entities. Two of the facilities, located in the City’s downtown area, provide chilled water to twenty-one customers. They include various City facilities such as the Henry B. Gonzalez Convention Center and the Alamodome, which constitute a large percentage of the downtown system’s chilled water annual production requirements. In addition to City facilities, the two central plants also provide chilled water service to a number of major hotels in the downtown area. The other 2 thermal facilities, owned and operated by SAWS, are located at the Port San Antonio industrial area and provide chilled water to 5 large industrial customers. SAWS’ chilled water producing capacity places it as one of the largest producers of chilled water in south Texas.

SEWER MANAGEMENT

In June 2013, SAWS approved a settlement with the U.S. Environmental Protection Agency (EPA) that requires additional work over 10 to 12 years to reduce sanitary sewer overflows (SSOs). The work required to comply with the consent decree includes system-wide inspection, cleaning and evaluation of sanitary sewer pipelines. Additionally, increased investment in the replacement and rehabilitation of aging sewer infrastructure is necessary. The targeted replacement and rehabilitation program has been specifically tailored based on extensive condition assessments currently being performed. SAWS has significantly reduced the number of SSOs as result of efforts made since 2010 to clean and replace sewer pipelines. The following chart shows the number of SSOs since 2010.



*2018 reporting through September.
Higher number of SSO’s reflects unusually heavy rains in September*

The 2019 O&M budget includes \$30 million in operating costs related to program management, televising and cleaning sewer mains, capacity assessment activities, and repair of sewer infrastructure. Additionally, \$138.6 million in capital project investments are planned in 2019 to rehabilitate aging sewer infrastructure and address system capacity issues.

WATER SUPPLY

Historically, San Antonio obtained nearly all of its water from the Edwards Aquifer. In 1993, the Texas Legislature created the Edwards Aquifer Authority (EAA) as a conservation and reclamation district. The EAA has broad powers to manage, conserve, preserve, and protect the Edwards Aquifer and to increase the recharge of, and limit withdrawals from, the Edwards Aquifer through a permitting system that ensures continuous minimum spring flows of the Comal Springs (in New Braunfels) and the San Marcos Springs are maintained to protect endangered and threatened species.

In 1996, the City Council appointed a 34-member Citizens Committee to develop strategic policies and goals for water resource management. The Citizens Committee on Water Policy report, entitled “A Framework for Progress: Recommended Water Policy Strategy for the San Antonio Area,” was unanimously accepted by City Council, becoming the foundation for SAWS’ 1998 Water Resource Plan. In November 1998, the City Council accepted the 1998 Water Resource Plan “Securing our Water Future Together” as the first comprehensive, widely supported water resource plan for San Antonio. The 1998 Water Resource Plan established programs for immediate implementation, as well as a process for developing long-term water supplies. In October 2000, the City Council created a permanent funding mechanism, the Water Supply Fee, for water supply development and water quality protection.

The 1998 Water Resource Plan has been updated numerous times. The 2017 Water Management Plan is the current version of SAWS long range planning efforts. The 2017 Water Management Plan charts the path that SAWS plans to pursue to meet the long-term needs of current and future San Antonio residents through 2070 – even during periods of extreme drought.

CURRENT SOURCES OF WATER SUPPLY

The table below provides a summary of the available sources of water supply under non-drought conditions for SAWS:

Source	Acre-Feet
Edwards Aquifer	272,358
Recycled Water (CPS Energy Power Plants)	50,000
Recycled Water (Direct Customers)	25,000
Regional Carrizo	11,580
Canyon Regional Water Authority	5,300
Medina Surface Water	-
Canyon Lake	8,500
Local Carrizo	9,900
Trinity Aquifer	13,262
Brackish Groundwater Desalination	13,441
Total	409,341

EDWARDS AQUIFER

The largest amount of SAWS water holdings is Edwards Aquifer permitted groundwater withdrawal rights. In 2019, SAWS has budgeted for a total inventory of 272,358 acre-feet per year of EAA-permitted groundwater withdrawal rights. Access to these permitted groundwater withdrawal rights is subject to varying levels of availability (cutbacks) depending on a management system using water levels at key index wells and spring flows. These cutbacks in any given year may range from 0% to 44%. The following table shows annual average cutbacks for the last five years.

Year	EAA Cutback	J-17 Index Well - average level
2014	34.90%	636.3
2015	19.71%	652.9
2016	0.00%	672.3
2017	3.40%	670.4
2018	8.68%	658.0

As of October 31, 2018, the J-17 Index Well was at 683.5’ and was continuing to rise daily as a result of the record breaking rainfall in recent months. Based on this level and the “El Niño” weather conditions that are being forecasted over the next several months by the National Weather Service, EAA enforced cutbacks are not anticipated for 2019

Through SAWS’ Aquifer Storage and Recovery facility (ASR), SAWS is able to store Edwards Aquifer water in a portion of the Carrizo Aquifer located in southern Bexar County during wet times or periods of low customer demand. This water can be recovered during periods of drought in order to augment SAWS’ available water supplies to meet customers’ water demands. As of September 30, 2018, 164,160 acre-feet of Edwards Aquifer is currently stored in the ASR.

In connection with the EAA’s directive by the Texas Legislature to ensure that continuous minimum spring flows of the Comal Springs and the San Marcos Springs are maintained to protect endangered and threatened species, the Edwards Aquifer Recovery Implementation Program (EARIP) was established in 2007. The EARIP was developed through a consensus-based process that involved input from the U.S. Fish and Wildlife Service (USFWS), other appropriate federal agencies, and all interested stakeholders in the Edwards region. Together, these entities over a four-year period developed and approved a springflow protection and habitat restoration plan, the Edwards Aquifer Habitat Conservation Plan (EAHCP).

The primary parties to the EAHCP include the EAA, SAWS, the City of New Braunfels, the City of San Marcos and Texas State University. The EAHCP was used by the USFWS as the basis for issuing an Incidental Take Permit (ITP) which will protect San Antonio and the region from the threat of future environmental lawsuits and federal control of the aquifer over a 15-year term. This ITP was issued by the USFWS on March 18, 2013.

A major component of the EAHCP includes the use of the SAWS ASR facility in conjunction with other measures to contribute to modeled spring flow protections during severe droughts. After the approval of the EAHCP, SAWS and the EAA entered into an Interlocal Contract in August 2013 that details the implementation of the ASR strategy contributing to springflow protection. The EAA itself, or by use of an agent, acquires Edwards Aquifer groundwater withdrawal rights which are conveyed to SAWS for storage at ASR. An amount commensurate to the water conveyed on behalf of the region will be forborne from SAWS Edwards Aquifer production when specified triggers during a drought similar to Texas’ drought of record are met. The contract, and amount of water leased by the EAA and conveyed to SAWS to store, limits the forbearance SAWS is obligated to perform over the term of the ITP. SAWS is reimbursed by the EAA for the incremental cost of storing EAHCP water in ASR and withdrawing that water during drought of record conditions to cover its forbearance requirements under the agreement.

RECYCLED WATER

The San Antonio Water System has the largest recycled water system in the United States and is permitted to sell Type I (high quality) recycled water from its wastewater treatment plants. The water recycling program is designed to provide up to 25,000 acre-feet per year of recycled water to commercial and industrial businesses in the City. This water recycling system was originally comprised of two transmission lines, running north and south on the eastern and western sides of the city. In 2008, these two major transmission lines were interconnected at the northern end, providing additional flexibility to this valuable water resource. Currently, approximately 130 miles of pipeline deliver highly treated effluent to 140 customer connections. Recycled water is being delivered for industrial processes, cooling towers, and irrigation of golf courses and parks, all of which would otherwise rely on potable-

quality water. Aside from supporting the local economy, this water recycling system also releases water into the upper San Antonio River and Salado Creek to sustain river flows. The result has been significant and lasting environmental improvements for the aquatic ecosystems in these streams.

Under a recycled water supply contract, SAWS also provides up to 50,000 acre-feet of water to San Antonio’s municipally owned electric and gas utility, CPS Energy. This water is discharged by San Antonio’s three Water Recycling Centers and then flows to a downstream location on the San Antonio River where CPS Energy diverts the water into Braunig and Calaveras Lakes to provide cooling water for its nearby power plants.

REGIONAL CARRIZO

As part of diversifying SAWS’ water portfolio, a regional partnership with Schertz-Seguin Local Government Corporation (SSLGC) was formed. The Regional Carrizo project is located in Gonzales County, approximately 50 miles from San Antonio. This project allows SAWS to utilize available capacity in an existing pipeline and water treatment plant owned and operated by SSLGC. In 2019, SAWS has budgeted for 11,580 acre-feet of water from the Regional Carrizo project, including the purchase of an additional 500 acre-feet of water from SSLGC.

BRACKISH GROUNDWATER DESALINATION

The Brackish Groundwater Desalination (BGD) plant produces brackish water from the Wilcox Aquifer in southern Bexar County and treats it to drinking water quality standards. Phase I of the plant has the capacity to provide up to 13,440 acre-feet per year of drought-proof desalinated groundwater to San Antonio’s taps. Future phases will eventually bring the total supply from this program to 33,600 acre-feet per year. The desalination plant is located at the newly named H₂Oaks Center in south Bexar County, where three sources of water are managed: Brackish Groundwater, Aquifer Storage and Recovery (ASR) and Local Carrizo. The Center provides research facilities for college/university students to help improve water technology and processes and offers educational tours to the public.

FUTURE SOURCES OF WATER SUPPLY

VISTA RIDGE – REGIONAL WATER SUPPLY



In October 2014, the City Council adopted an ordinance, approving the execution of a Water Transmission and Purchase Agreement (WTPA) between the City, acting by and through SAWS, and Vista Ridge LLC to provide up to 50,000 acre-feet of potable water per year for an initial period of 30 years. This project represents a significant

diversification of SAWS' water sources as the water provided, if delivered at the maximum amount, will account for approximately 20% of the SAWS' current annual usage.

The project achieved financial close in November 2016 and is now in the construction phase. During this phase, Vista Ridge LLC will construct well fields to withdraw water from the Carrizo and Simsboro aquifers in Burleson County, Texas pursuant to currently-held long-term leases with landowners and construct a 142-mile pipeline from this well field to northern Bexar County. The pipeline will be connected to the SAWS distribution system at a delivery point in northern Bexar County.

In accordance with the WTPA, SAWS will pay costs arising under the Agreement for water made available. In May 2016, SAWS exercised its contractual right to fix the Capital and Raw Groundwater Unit Price under the Agreement based on the methodology provided for therein. This action served to lock in the price of the water component of SAWS annual payment requirement at \$1,606 per acre foot for the entire 30 year term of the WTPA. In addition to the Capital and Raw Groundwater Unit Price, SAWS will pay operations and maintenance costs as a direct pass through under the Agreement and electricity cost. It is estimated that the water will initially cost \$2,000 - \$2,100 per acre foot, depending on electrical and O&M costs, resulting in an estimated initial annual cost of approximately \$100 - \$105 million for 50,000 acre feet of delivered water

At the end of the WTPA, the well fields, pipeline and related infrastructure will transfer to SAWS at no additional cost. Under an agreement with Blue Water Vista Ridge, the owner of the groundwater leases, SAWS will have the ability to continue production for an additional 30 year term.

Delivery of water from the Project is expected to begin in 2020. In 2015, the City Council approved a series of increases to the water supply fee through 2020 to support the acquisition of new water supplies, including water supplied from this project.

CONSERVATION

The cost of developing and acquiring additional water supplies to meet the increased water demands of San Antonio's projected future population is high. SAWS recognizes that efforts to promote conservation are a cost-efficient approach to minimizing the increase in demand for water caused by population growth. Beginning in 1994, SAWS implemented progressive water conservation programs aimed at reducing the number of gallons of water used. These programs target both indoor and outdoor residential, commercial and industrial uses. SAWS' conservation efforts over time have had a dramatic impact on water usage per customer and helped to avoid the need to develop even more water supplies to support the city's population growth over the last 20 years. Continued reductions in customer demand as a result of these programs is an important component of SAWS water planning efforts. The 2017 Water Management Plan assumes that conservation efforts will reduce customer demand from 117 gallons per capital per day (GPCD) to 88 GPCD by 2070.

INTEGRATION

Western Pipeline

The Western Pipeline was designed to provide the ability to integrate water produced from the various sources at the H₂Oaks Center and delivering that water to western Bexar County. Phase I of the pipeline was completed in 2016 and includes 28 miles of large capacity water transmission pipeline and new pump stations at the H₂Oaks facility and the Old Pearsall Pump Station. Phase II will extend the pipeline 17 miles to Anderson Pump Station at Hwy 151 and Loop 1604. This project is planned to be operational by 2021. With the addition of the Anderson Pump Station facility as a water integration point, the rated capacity of both phases of the pipeline will be up to 75 MGD.

Central Water Integration Pipeline

The Vista Ridge project will introduce approximately 45 MGD of water to the SAWS system through a single entry point. The purpose of the Central Water Integration Pipeline (CWIP) capital project is to integrate and distribute the Vista Ridge water supply with the SAWS water transmission and distribution system.

The biggest integration challenge SAWS faces in the early years of this project will be distributing this constant rate water supply during times of low customer demand. This typically occurs in the cooler winter months when demand is lower. During cold and/or wet periods during the early years of the project, the Vista Ridge water will make up approximately one-third of the total water demand of the system. This water must be conveyed to locations in the distribution system where it can be effectively consumed. This will require a number of integration improvements including modifications to existing infrastructure as well as the construction of new pipelines, control valves, tanks and pumps. The anticipated capital cost of the CWIP improvements necessary to receive and distribute this water is approximately \$208 million.

The completion of the Central Water Integration Pipeline comes with a number of benefits to customers. Water distribution operators will have greater flexibility to feed multiple pressure zones across San Antonio and to provide water as far south as Calaveras Lake. The integration of Vista Ridge water allows SAWS to eliminate an outdated former BexarMet facility in need of major renovations, saving customers over \$9 million.

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FINANCIAL POLICIES

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FINANCIAL POLICIES

BASIS OF ACCOUNTING

SAWS' financial statements are prepared using the accrual basis of accounting with the economic resources measurement focus as prescribed by the Governmental Accounting Standards Board (GASB). SAWS operates as an enterprise fund and applies all applicable GASB pronouncements and presents its financial statements in accordance with the GASB Codification of Governmental Accounting and Financial Reporting Standards. Under this approach, all assets, deferred outflows of resources, liabilities and deferred inflows of resources of SAWS are reported in the statement of net position, revenues are recorded when earned and expenses are recorded at the time liabilities are incurred.

RECOGNITION OF REVENUES

Revenues are recognized as goods or services are provided. Customers' water meters are read and bills are prepared monthly based on billing cycles. SAWS uses historical information to estimate and record earned revenue not yet billed.

REVENUE AND EXPENSE CLASSIFICATION

Enterprise funds distinguish operating revenues and expenses from non-operating items. Operating revenues and expenses generally result from providing services in connection with an enterprise fund's principal ongoing operations. The principal operating revenues of SAWS are charges to customers for water supply, water delivery, wastewater, and chilled water services. Operating expenses include costs of service, administrative expenses and depreciation on capital assets. All revenues and expenses not meeting this definition are reported as non-operating revenues and expenses.

ANNUAL BUDGET

Approximately sixty days prior to the beginning of each fiscal year, SAWS presents to the SAWS Board of Trustees an annual budget prepared on an accrual basis to serve as a tool in controlling and administering the management and operation of the organization. The annual budget reflects an estimate of gross revenues and disposition of these revenues in accordance with the flow of funds required by Ordinance No. 75686. The annual budget is also submitted to the City Council for review and consultation.

The annual budget should be a balanced budget that projects Gross Revenues sufficient to fund estimated financial requirements. The annual budget is prepared on a comprehensive basis and includes all water supply, water delivery, wastewater and chilled water operations as well as a capital improvement program. The Board of Trustees may subsequently modify its approved budget by giving notice thereof to the City.

The basis of budgeting used is the same as the basis of accounting, with the exception of budgeting for employee benefits and capital asset impairments. Contributions to employee retirement plans, both pension and post-retirement medical, are budgeted on a cash basis, rather than accrual basis. Periodically SAWS reviews its capital assets for possible impairment. Employee benefit expenses which do not require a current outlay of cash and capital asset write-offs do not meet the definition of Operations and Maintenance Expense in accordance with Ordinance No. 76586, as they do not require current period expenditures of cash.

Encumbrances are not formally recorded in the accounting system, however, SAWS monitors and controls spending by utilizing budget variance reports for each accounting unit, which are periodically reviewed by the CFO and the Executive Management Team.

All funds are appropriated in the 2019 annual operating budget. Capital Improvement Program financial projections are not appropriated. Any amendments to the annual operating budget which are expected to reduce the annual unrestricted transfer to the Renewal and Replacement Fund must be approved by the Board of Trustees.

CORE BUSINESSES

SAWS' operations are segregated into four core businesses as follows:

- Water Delivery – the functions of distributing water to the customer
- Water Supply – the functions related to the development and provision of additional water resources
- Wastewater – the functions of collecting and treating wastewater from the user customer
- Chilled Water – the functions related to providing chilled water service to specific customers of SAWS

RESTRICTED RESOURCES

When an expenditure is made for purposes for which both restricted and unrestricted resources are available, it is SAWS policy to choose the appropriate resource based on the availability of resources and funding goals established by management for those expenditures.

CASH EQUIVALENTS

SAWS considers investments with an original maturity of three months or less at the time of purchase to be cash equivalents.

INVESTMENTS

City Ordinance No. 75686, SAWS' Investment Policy, and Texas state law allow SAWS to invest in direct obligations of the United States or its agencies and instrumentalities. Other allowable investments include direct obligations of the State of Texas or its agencies and instrumentalities; secured certificates of deposit issued by depository institutions that have their main office or a branch office in the State of Texas; defined bankers acceptances and commercial paper; collateralized direct repurchase agreements, reverse repurchase agreements; no-load money market mutual funds; investment pools; municipal bonds; and other types of secured or guaranteed investments. These investments are subject to market risk, interest rate risk, and credit risk which may affect the value at which these investments are recorded. Under the provisions of GASB Statement No. 31, money market investments, including US Treasury and agency obligations, with a remaining maturity at time of purchase of one year or less are reported at amortized cost. All other investments are reported at fair value.

ACCOUNTS RECEIVABLE

Accounts receivable are recorded at the invoiced amounts plus an estimate of unbilled revenue receivable. The allowance for uncollectible accounts is management's best estimate of the amount of probable credit losses based on account delinquencies and historical write-off experience. Account balances are written off against the allowance when it is probable the receivable will not be recovered. A provision to increase the allowance for uncollectible accounts is recorded as an offset to operating revenue.

INVENTORY

Inventories are valued at the lower of weighted average cost or market. Inventories are reported in the Statements of Net Position in Other Current Assets.

RESTRICTED ASSETS

Assets restricted by City Ordinance (which incorporates the bond indentures) to pay current liabilities are reported as current assets in the Statement of Net Position, regardless of their relative liquidity. Assets restricted for the acquisition of capital assets or to pay noncurrent liabilities are reported as noncurrent assets in the Statement of Net Position.

CAPITAL ASSETS

Assets in service are capitalized when the unit cost is greater than or equal to \$5,000. Utility plant additions are recorded at cost, which includes materials, labor and direct internal costs.⁽¹⁾ Included in capital assets are intangible assets, which consist of purchased water rights and land easements, costs associated with acquiring additional Certificates of Convenience and Necessity (CCN) related to new service areas and development costs for internally generated computer software. Assets acquired through capital leases are recorded on the cost basis and included in utility plant in service. Assets acquired through contributions, such as those from developers, are recorded at estimated acquisition value at date of donation. Maintenance, repairs, and minor renewals are charged to operating expense; major plant replacements are capitalized. Capital assets are depreciated on the straight-line method. This method is applied to all individual assets except distribution mains and intangible assets. Groups of mains are depreciated on the straight-line method over an estimated average useful life of 50 years. Mains are included in the Distribution and Transmission System asset category. Intangible assets not considered to have indefinite useful lives are amortized over their estimated useful life. Capital assets are tested for impairment when a significant unexpected decline in its service utility occurs.

- (1) Beginning in 2019, interest expense during the construction period will no longer be capitalized as part of the cost of capital assets.

CAPITAL CONTRIBUTIONS

Capital Contributions consist of plant contributions from developers, capital recovery fees, and grant proceeds received from governmental agencies for facility expansion. Capital Contributions are recognized in the Statement of Revenues, Expenses, and Changes in Net Position, after non-operating revenues (expenses), when eligibility requirements are met.

Capital recovery fees are charged to customers to connect to the water or wastewater system. By Texas law, these fees are to be used for capital expenditures that expand infrastructure capacity or to reimburse SAWS for the cost associated with existing excess infrastructure capacity. In certain instances, infrastructure that facilitates expansion of SAWS' service capacity is contributed by developers. In these instances, SAWS records the donated infrastructure as plant contributions and abates future capital recovery fees due from the developer equal to the acquisition value of the excess capacity of the infrastructure contributed. These abatements are conditional based on the type of development and in certain instances, time requirements and geographic restrictions.

COMPENSATED ABSENCES

It is SAWS' policy to accrue earned but unused employee vacation pay as well as the employer portion of Social Security taxes and required employer pension contributions related to the accrued vacation pay. Sick leave is not accrued as a terminating employee is not paid for accumulated sick leave.

SELF-INSURANCE

SAWS is self-insured for a portion of workers' compensation, employee's health, employer's liability, public officials' liability, property damage, and certain elements of general liability. A liability is recorded for the estimated amount of eventual loss which will be incurred on claims arising prior to the end of the period including incurred but not reported claims.

RATES AND CHARGES

In accordance with City of San Antonio, Texas Ordinance No. 75686 requirements, SAWS must establish and maintain rates and charges to produce sufficient Gross Revenues in each fiscal year to:

- A. Pay Operations and Maintenance Expenses;
- B. Produce Pledged Revenues sufficient to pay:
 - 1) 1.25 times the senior lien annual debt service requirements and
 - 2) The amounts required to be deposited in any reserve fund created for the payment and security of senior lien obligations;
- C. Pay outstanding debt service obligations;
- D. Fund payments to the City of San Antonio; and
- E. Pay any other debt payable from the net revenues.

FUNDS FLOW

City Ordinance No. 75686 adopted April 30, 1992 requires that Gross Revenues of the System be applied in sequence to:

1. Pay Operations and Maintenance Expenses, including a two-month operating reserve
2. Deposit into Debt Service fund the amount required for:
 - a. Senior Lien debt obligations and Reserve Fund obligations
 - b. Junior Lien debt obligations
 - c. Subordinate Lien debt obligations
 - d. Inferior Lien debt obligations
3. Equal payments to the City of San Antonio's General Fund and to SAWS Renewal and Replacement Fund

PAYMENTS TO THE CITY OF SAN ANTONIO GENERAL FUND

City Ordinance No. 75686 requires SAWS to make payments to the City each month after making all other payments required by the City Ordinance. The amount of the payment is determined by City Council from time to time and cannot exceed 5% of Gross Revenues. Currently SAWS pays 2.7% of Gross Revenues to the City. Payments to the City are reported as non-operating expense in the Statement of Revenues, Expenses and Changes in Net Position.

FUND STRUCTURE

Within SAWS' enterprise fund accounts, separate self-balancing sub-funds are maintained to account for resources for various purposes, thereby distinguishing balances restricted by City Ordinance or other enabling legislation from unrestricted resources.

SYSTEM FUND

All Gross Revenues shall be credited to this fund upon receipt, unless otherwise provided in City Ordinance No. 75686. All current expenses of operations and maintenance shall be paid from this fund as a first charge against the gross revenues so credited. Before making any deposits to other funds required to be made from the System Fund, the Board of Trustees shall retain in the System Fund at all times an amount at least equal to two months of the amount budgeted for the current fiscal year for current operations and maintenance expenses.

DEBT SERVICE FUND

The sole purpose of this fund is for the payment of principal and interest on all bonds which are payable from pledged revenues.

RESERVE FUND

This fund shall be used to pay the principal and interest on any bonds when and to the extent the amounts in the Debt Service Fund are insufficient for such purpose, and may be used for the purpose of finally retiring the last of any bonds.

PROJECT FUND

This fund shall be used to account for the proceeds of debt obligations and investment earnings thereon. Funds may only be used to pay for capital improvements in accordance with bond agreements and Internal Revenue Service regulations related to tax-exempt borrowings.

RENEWAL AND REPLACEMENT FUND

This fund shall be used for the purpose of

1. Paying the costs of improvements, enlargements, extensions, additions, replacements, or other capital expenditures, or
2. Paying the costs of unexpected extraordinary repairs or replacements for which System Funds are not available
3. Paying unexpected or extraordinary expenses of operations and maintenance for which System Funds are not otherwise available
4. Depositing any funds received by SAWS pursuant to the CPS Energy contract
5. Paying bonds or other SAWS' obligations for which other System revenues are not available
6. Making up any shortfall in the Payment to the City of San Antonio General Fund as required by Section 17 of Ordinance 75686 and
7. For any other lawful purpose.

DEBT MANAGEMENT**CAPITAL PLANNING**

A five-year Capital Improvement Program is developed and updated annually, including anticipated funding sources. During the annual budgeting process, the current year's proposed capital improvement projects are reviewed and prioritized to ensure consistency with SAWS' goals and objectives.

CAPITAL FINANCING

Capital financing will typically include two types of funding – pay-as-you-go and debt financing.

1. Pay-as-you-go financing is an integral part of the overall capital-financing plan. Pay-as-you-go financing is defined as all sources of funding other than debt issuance and includes unrestricted resources, capital recovery/impact fees, investment earnings and certain grant proceeds.
2. The use of debt financing will be based, in part, on SAWS' long-term needs and the amount of funds available for pay-as-you-go financing. The following criteria will be used to evaluate pay-as-you-go versus debt financing:
 - Factors which favor pay-as-you-go financing:
 - Current revenues and adequate liquidity are available
 - Debt levels would adversely affect SAWS' credit rating or market conditions are unstable or present difficulties in marketing debt.
 - Factors which favor debt financing include:
 - Revenues available for debt service are considered sufficient and reliable so that debt financing can be marketed with the appropriate credit rating
 - Market conditions present favorable interest rates and demand for municipal financings
 - Federal or state subsidized debt is available to finance specific capital improvements and current revenues and liquidity are insufficient to pay the cost of those improvements

DEBT LIMIT

There is no statutory debt limitation on the issuance of revenue indebtedness by the San Antonio Water System, acting on behalf of the City of San Antonio, Texas. SAWS has established its own policies regarding the utilization of debt instruments.

The currently outstanding bond ordinances impose conditions precedent on the issuance of additional revenue bonds and require Net Revenues of 125% of maximum annual debt service in order to issue senior lien revenue bonds and 100% of average annual debt service in order to issue junior lien revenue bonds in a public offering.

DEBT POLICY

- Debt financing should only be used to fund capital improvements and should not be used for operating purposes.
- SAWS shall maintain rates and charges sufficient to ensure that Net Revenues equal or exceed 1.25 times the Annual Debt Service Requirements for the current fiscal year on SAWS' outstanding Senior Lien Obligations as required by the bond indenture. SAWS currently targets to maintain Net Revenues equal to at least 2.00 times Annual Senior Lien Debt Service and 1.70 to 1.75 times Total Annual Debt Service to ensure the required debt coverage in times of revenue fluctuations.
- SAWS shall analyze each new debt issue to ensure compliance with SAWS' debt policies and determine the impact of the new debt issue on SAWS' overall debt capacity.
- SAWS shall move toward a goal of funding approximately 50% of capital expenditures with non-debt sources.
- SAWS may maintain a variable rate component of debt of no more than 30% of its outstanding debt.
- SAWS shall employ an interest rate mitigation strategy to mitigate interest rate risk associated with variable rate debt.
- SAWS seeks to maintain or improve its current credit rating to ensure continued access to capital markets and minimize borrowing cost.
- The term of debt issued should not exceed the expected useful life of the capital improvements being financed.

RESERVE POLICIES

- As required by ordinance, an operating reserve shall be maintained in the SAWS System Fund consisting of a two-month reserve of the current year's budgeted maintenance and operation expenses.
- SAWS' target is to maintain unrestricted Days Cash on Hand of approximately 300 days.
- The Debt Service Fund will be funded with revenues sufficient to pay the principal and interest of SAWS' bonded debt as it becomes payable.
- Deposits shall be made to the Renewal and Replacement Fund in amounts equal to the amount payable to the City of San Antonio pursuant to the bond indenture. These funds will typically be used to fund capital improvements.
- Deposits shall be made to the Reserve Fund pursuant to SAWS bond indentures. These deposits will be made with proceeds from bonds issued or with unrestricted resources. SAWS may provide surety policies in amounts equal to all or part of the required reserve amount in lieu of depositing cash into the Reserve Fund.

FINANCIAL PLANNING PROCESS

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FINANCIAL PLANNING PROCESS

LONG RANGE FINANCIAL PLANNING

Long-range financial planning is critical for SAWS to accomplish its mission. The overriding goal of financial planning, analysis, and strategy development is to improve SAWS financial position in order to meet its short-term and long-term operational and strategic objectives. In developing the SAWS financial plan, concerns of all stakeholders are considered with various scenarios and potential risks evaluated by executive management in reaching the optimum balance of limited resources with organizational needs and stakeholder concerns.

The financial plan is organized into two distinct planning horizons in order to facilitate management of the system: Short-term of five years in length, and long-term of five to twenty years in length. The planning horizons play a key role in prioritizing SAWS' strategic, operational, and financial needs and resources.

The short-term planning horizon is the basis for implementing, through the formalized budget, short-term goals and objectives in support of the strategic plan. The long-term planning process sets the course of the overall direction of financial, operational, and capital resource allocation priorities of the system.

Major strategic policy guidelines emphasized are long-term water supply needs and infrastructure replacement goals. Strategic priorities include, but are not limited to, water supply, system expansion, environmental sustainability, system reliability and service consistency, innovation and technology, financial strength, and human resource development. All priorities are planned through operational, capital, and financial resource assessment and allocation.

A crucial component of SAWS' financial management strategy is the comprehensive 20-year Multi-Year Financial Plan (MYFP). The MYFP serves as a foundation supporting SAWS' strategic, operational, investment, and financial planning functions. Through analyses of cash flow probabilities and risk, investment and financing opportunities and constraints, and strategic plan goals and targets, financial forecasts are made in the MYFP to assist executive management in the allocation of SAWS' resources.

The MYFP provides a critical planning platform to perform statistical risk and resource allocation analyses through scenario, simulation and constraint modeling on revenues, operations and maintenance expense, capital expenditures, capital financing, including cash and debt financing and rate requirements. Resource utilization analyses and planning help identify factors affecting SAWS' strategic outcomes and provide opportunities for new strategies and program development to allocate resource costs for various growth and replacement scenarios.

The fundamental structure of the MYFP is the calculation of the flow of funds and rate adjustment requirements based on SAWS enabling Ordinance 75686, adopted on April 30, 1992. This ordinance outlines important financial requirements and calculations that SAWS uses in the MYFP to calculate rates and charges, flow of funds, pledged revenues toward debt service, debt coverage ratios and fund requirements. The MYFP incorporates forecasts and requirements by each of SAWS' core businesses: Water Supply, Water Delivery, Wastewater and Chilled Water.

ANNUAL BUDGET PROCESS

The annual budget process begins with updating the MYFP. As part of this process, Business Planning staff review SAWS' financial activity, levels of service provided, customer growth and consumption patterns, weather trends and financial market trends. In addition, the following variables are also evaluated:

- Available funding
- Financial risk
- Regulatory requirements
- Level of services that can be sustained
- Capital investment requirements
- Future commitments and resource demands
- Other variables that could cause a change in the level of revenue

Business Planning staff and executive management review the resulting financial forecasts and plans to ensure that forecasted revenues are sufficient to meet projected financial needs. If it becomes evident that forecasted revenues are not sufficient to address forecasted operations, maintenance, infrastructure and water supply needs, then staff evaluates rate scenarios to calculate the optimum rate adjustment that will balance affordable and competitive rates with the need to continue providing necessary services.

All potential pricing adjustments are evaluated in the context of customer affordability measures and key financial statistics. The affordability of customer bills is evaluated relative to the income of SAWS' customers and price competitiveness with other utilities. Key financial statistics include: debt coverage ratios for total debt, percentage of capital financed with cash, and overall level of cash balances.

2019 BUDGET PROCESS

The 2019 budget process began with identifying SAWS' short-term priorities. The focus of the 2019-2023 financial forecast included the following objectives:

- Integrating new sources of water supply
- Employee pay and benefits are fair and competitive
- Retirement obligations are valued appropriately and adequately funded
- Infrastructure is adequately maintained to ensure reliability of service and compliance with regulatory requirements
- Technology advancements are implemented in order to increase productivity and enhance customer interactions
- Strong financial metrics and debt ratings are maintained

REVENUE FORECAST

One of the key elements of the financial planning process is the assessment of risk and impact of errors in forecasted revenues. Errors in the revenue forecast will cause inefficiencies to the system. The value of these inefficiencies will be evident once management has to take corrective action due to the forecast error. Overestimating revenues causes excess allocation of capital resources. Adjusting these resources or changing to alternative resources can be time intensive and costly. On the other hand, underestimating revenues results in underutilization of resources in the current period. However, these resources can be put to use in subsequent planning periods. The risk to the system from overestimating revenues are assumed to be of greater significance than the risk to the system from underestimating revenues. As a result, SAWS' revenue forecast is generally conservative in nature. The table below includes a sample of the issues driving the 2019 revenue forecast.

Revenue Source	Drivers
Operating Revenues	Mitigate impacts of sustained periods of above normal rainfall
	Effect of conservation programs and tiered water rates on customer usage
Non-operating Revenues	Gradual improvement in short-term interest rates
Capital Recovery Fees	Utilized for capital funding - dependent upon development activity

OPERATIONS AND MAINTENANCE BUDGET

Current Services Level

The 2019 budget process involved a calculation of the Current Services Level budget, which was an estimate of the cost required to maintain the current level of services in 2019. The Current Services Level budget served as the baseline for all subsequent 2019 budget changes and was developed from the following components:

- Current employee wage and benefit costs
- Estimated 2019 utility costs including provision for any electric and gas utility rate increases
- Estimated 2019 fuel costs
- Elimination of one-time 2018 budgeted expenses

Improvements and/or Mandates

Departments requiring additional funding for improvements or newly identified mandates that exceeded the 2019 Current Services Level were required to submit decision packages to include detailed justification for each specific request.

Budget Development and Review

- Vice presidents/department directors reviewed current programs, activities and current levels of service provided to their customers. Additionally, they evaluated and prioritized new departmental needs.
- During individual departmental reviews, current spending levels were compared to current and proposed budget spending levels, with appropriate adjustments being made.
- The Executive Management Team (EMT) conducted a comprehensive review of decision packages submitted. During this review, all requests for additional funding were prioritized and were approved or denied based on this prioritization. This review by the EMT further ensured that departmental budgets were aligned with corporate goals and objectives.

CAPITAL IMPROVEMENT PROGRAM

The 2019 CIP was developed using a project prioritization process. Projects generated by the CIP stakeholder groups from SAWS’ Treatment, Production, Master Planning, Facilities Engineering, Operations, and Distribution and Collection departments were reviewed and evaluated by a CIP Planning Group consisting of submitting vice presidents, directors and managers from SAWS Engineering and Operations groups. The evaluation and prioritization process addressed the business risk exposure, independent of available funds, by prioritizing the projects as either Mandatory, Critical, or High priority.

Mandatory	Critical	High
• Loss of life or limb	• Risk of Injury	• Corporate initiatives
• Legal/Regulatory requirements	• Legal/Regulatory implications	• City or State conflicts
• High Customer dissatisfaction	• Customer dissatisfaction	• Customer dissatisfaction
• Significant mission disruption	• Mission delay	• Needed system improvements

Projects were totaled by dollar amount and compared to the long term funding strategy. The CIP projects were developed using recent cost estimates; SAWS overhead and an inflation factor of 2.8% per year were added to develop the programmed costs for 2019 and future years. The 2019 and 5-year CIP project lists were reviewed in detail, final selection was made by SAWS' Executive Management Team.

The 2019 CIP projects were collected, reviewed, and summarized in SAWS Capital Project Management System (CPMS), which was brought online in mid-2015. This system streamlines the CIP into an enterprise project management system that increases the efficiency and visibility of the program.

2019 BUDGET TIMELINE

Action		2018				2019
		Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan
Develop Multi-Year Financial Plan	Review financial outlook	■				
	Compile assumptions for Multi Year Financial Plan (MYFP)	■				
	Review budget and rates plan with key internal stakeholders	■				
	Management review and approval of MYFP		■	■		
	Develop revenue forecast		■	■		
Establish Executive Directives	Review policy and guideline statements		■			
	Provide guidance on employee compensation issues		■			
	Establish O&M and CIP expectations		■			
Budget Development	Review and update CIP needs		■	■		
	Develop workforce budget from current workforce data		■	■		
	Develop Current Services Level Budget		■	■		
	Develop departmental budgets			■	■	
Rate Development	Review authorized Water/Wastewater rate adjustments			■	■	
Review and Analysis	Review of O&M and CIP budgets by Business Planning staff			■	■	
	Review of O&M and CIP budgets by Executive Mgt.			■	■	
Develop Budget Documents	Prepare Budget / Rates presentation				■	
	Develop Proposed Budget document				■	
	Develop Adopted Budget document				■	
Board Review and Approval	Budget briefings for Board of Trustees				■	
	Formal Board approval of 2019 annual budget				■	
	Submit Budget to City Council for review and consultation				■	
Implementation	2019 rates become effective					■
	2019 Annual Operating Budget and Capital Improvement Program become effective					■

SHORT-TERM FIVE YEAR FORECAST

The current projection of SAWS sources and uses of funds for the period 2019 – 2023 is shown in the table below.

<i>\$ in Millions</i>	2019	2020	2021	2022	2023
	Budget	Forecast	Forecast	Forecast	Forecast
Sources of Funds					
Revenue, incl. prior adjustments	\$ 702.5	\$ 737.5	\$ 839.2	\$ 846.7	\$ 903.2
Rate Adjustment, incremental	26.9	96.6	-	49.5	38.9
Nonoperating Revenues	24.6	26.8	26.5	24.3	20.4
Draw on Equity	1.4	-	-	-	-
Capital Recovery Fees	72.9	72.9	72.9	72.9	72.9
Total Sources of Funds	\$ 828.3	\$ 933.8	\$ 938.6	\$ 993.4	\$ 1,035.4
Uses of Funds					
Operations and Maintenance	\$ 350.4	\$ 435.3	\$ 470.8	\$ 478.0	\$ 487.2
Debt Service & Expenses	240.6	261.4	278.1	297.4	316.3
Transfer to City of San Antonio	19.3	22.2	22.3	23.8	25.0
Available for R&R Restricted	88.8	82.3	77.5	77.6	76.9
Available for R&R Unrestricted	129.2	132.6	89.9	116.6	130.0
Total Uses of Funds	\$ 828.3	\$ 933.8	\$ 938.6	\$ 993.4	\$ 1,035.4

The sources of funds primarily include revenues from metered customers, with anticipated adjustments to the metered revenues required to fund the projected operational and capital needs of the system. A discussion of the drivers of the revenues, growth in customers, and changes in use per customer are discussed in the revenue section of this book.

Projected increases in operations and maintenance costs over the forecast period are driven by inflationary pressures as well as operating costs associated with the acquisition of new water supplies. SAWS will begin receiving water from the Vista Ridge project in early to mid-2020, contributing to the increases in operations and maintenance expenses in 2020 and 2021.

The growth in debt service reflects the allocation of capital resources toward major strategic priorities of water resources, infrastructure replacement, system growth, and sustainability. The five year 2019 – 2023 capital improvement program is projected at \$2.4 billion as shown below. A significant priority includes wastewater capital replacement projects associated with the wastewater Sanitary Sewer Overflow Reduction Program (SSORP).

CIP (\$ in Millions)	2019	2020	2021	2022	2023	Total
Water Supply	\$ 68.8	\$ 144.5	\$ 38.9	\$ 33.7	\$ 64.4	\$ 350.3
Water Delivery	108.2	116.7	142.9	167.0	171.7	706.5
Wastewater	200.2	341.5	290.2	243.3	212.1	1,287.3
Chilled Water	0.1	0.2	0.1	0.1	0.1	0.6
Total	\$ 377.3	\$ 602.9	\$ 472.1	\$ 444.1	\$ 448.3	\$ 2,344.7

The forecasted amounts for 2020-2023 will continue to be analyzed and adjusted as additional efficiencies are identified, circumstances change, or priorities shift.

Funding for the five year capital improvement program is projected to come from a mixture of renewal and replacement, impact fees, investment income, and bond proceeds. While SAWS long term goal is for approximately 50% of capital improvements to be funded from non-debt sources, during the 2019-2023 five year forecast, the percentage of the capital improvements funded with non-debt sources is currently projected to average 44.1%.

Capital Improvement Program					
	2019	2020	2021	2022	2023
CIP Budget \$M	\$ 377.3	\$ 602.9	\$ 472.1	\$ 444.1	\$ 448.3
Capital Improvement Program Funding					
	2019	2020	2021	2022	2023
Revenue/Renewal & Replacement	32.1%	35.2%	35.6%	18.9%	28.3%
Capital Recovery Fees	18.9%	13.8%	18.5%	8.0%	9.9%
Bonds/Commercial Paper	49.0%	51.0%	45.9%	73.1%	61.8%
Total	100.0%	100.0%	100.0%	100.0%	100.0%
Cash Funding \$M	\$ 192.3	\$ 295.5	\$ 255.2	\$ 119.6	\$ 171.1
Debt Funding \$M	\$ 185.0	\$ 307.4	\$ 216.9	\$ 324.5	\$ 277.2

ANNUAL OPERATING BUDGET

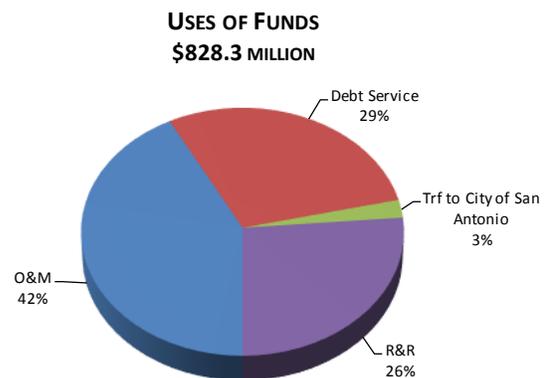
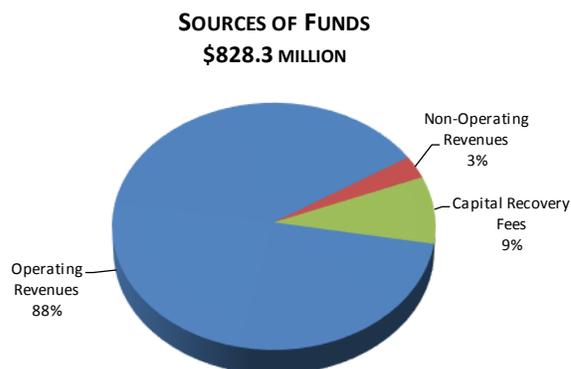
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ANNUAL OPERATING BUDGET

FINANCIAL PLAN SUMMARY

The following table summarizes the consolidated Sources and Uses of Funds that comprise the SAWS Annual Operating Budget.

<i>(dollars in thousands)</i>	2016 Actual	2017 Actual	2018 Budget	2019 Budget
SOURCES OF FUNDS				
Operating Revenues				
Sewer Service Charges	\$ 229,445	\$ 246,174	\$ 249,969	\$ 270,210
Metered Water Sales	195,887	207,329	225,247	230,890
Water Supply Fee	133,421	152,030	161,513	169,784
EAA Fee	25,513	23,530	24,023	23,761
Chilled Water Sales	11,541	11,368	10,327	10,415
Conservation	10,579	11,012	11,049	10,818
Industrial Waste Surcharge	6,292	6,259	6,114	6,114
Stormwater	4,967	5,108	5,204	5,204
Recycled Water System	5,657	5,616	5,496	5,771
Recovery of TCEQ Fees	1,908	1,855	1,957	2,332
Reduction for Affordability Program	(2,753)	(3,530)	(5,681)	(5,909)
Total Operating Revenues	622,457	666,751	695,218	729,390
Nonoperating Revenues	4,492	6,813	7,826	21,150
Build America Bonds Subsidy	3,653	3,595	3,524	3,496
Total Revenues	630,602	677,159	706,568	754,036
Capital Recovery Fees	67,991	72,846	72,877	72,878
Grant Revenue	3,866	7,926		
Draw on Equity	1,400	1,541	1,400	1,400
Total Sources of Funds	\$ 703,859	\$ 759,472	\$ 780,845	\$ 828,314
USES OF FUNDS				
Operations and Maintenance	\$ 315,238	\$ 318,318	\$ 339,852	\$ 350,447
Revenue Bond Debt Requirement	190,537	195,893	230,830	230,249
Other Debt Service Requirement	2,892	4,115	5,405	10,330
Transfer to the City of San Antonio	14,229	17,277	18,103	19,349
Balance Available for:				
Renewal and Replacement Fund (Restricted)	72,482	75,993	75,279	88,759
Renewal and Replacement Fund (Unrestricted)	108,481	147,876	111,376	129,180
Total Uses of Funds	\$ 703,859	\$ 759,472	\$ 780,845	\$ 828,314



FINANCIAL PLAN SUMMARY BY CORE BUSINESS

The San Antonio Water System consists of four core businesses. Each core business generates revenues that are designed to recover their respective cost of service. The core businesses are Water Supply, Water Delivery, Wastewater, and Chilled Water.

The following schedule reflects the 2019 budget for Sources and Uses of Funds by core business:

<i>(dollars in thousands)</i>	Water Supply	Water Delivery	Wastewater	Chilled Water	Total
SOURCES OF FUNDS					
Operating Revenues					
Sewer Service Charges	\$ -	\$ -	\$ 270,210	\$ -	\$ 270,210
Metered Water Sales		230,890			230,890
Water Supply Fee	169,785				169,785
EAA Fee	23,761				23,761
Chilled Water Sales				10,415	10,415
Conservation	10,818				10,818
Industrial Waste Surcharge			6,114		6,114
Stormwater	5,204				5,204
Recycled Water System	5,771				5,771
Recovery of TCEQ Fees		1,800	531		2,331
Reduction for Affordability Program	(1,374)	(1,378)	(3,157)		(5,909)
Intercompany Reallocations	5,630	(5,630)			-
Total Operating Revenues	219,595	225,682	273,698	10,415	729,390
Nonoperating Revenues	6,345	6,345	8,460	-	21,150
Build America Bonds Subsidy	906	1,075	1,515	-	3,496
Total Revenues	226,846	233,102	283,673	10,415	754,036
Capital Recovery Fees	27,463	20,596	24,819	-	72,878
Draw on Equity	1,400	-	-	-	1,400
Total Sources of Funds	\$ 255,709	\$ 253,698	\$ 308,492	\$ 10,415	\$ 828,314
USES OF FUNDS					
Operations and Maintenance	\$ 131,647	\$ 95,085	\$ 116,416	\$ 7,299	\$ 350,447
Revenue Bond Debt Requirement	48,895	77,098	101,186	3,070	230,249
Other Debt Service Requirement	1,660	4,495	4,021	154	10,330
Transfer to the City of San Antonio	5,206	6,256	7,606	281	19,349
Balance Available for:					
Renewal and Replacement Fund (Restricted)	42,287	20,933	25,520	19	88,759
Renewal and Replacement Fund (Unrestricted)	26,014	49,831	53,743	(408)	129,180
Total Uses of Funds	\$ 255,709	\$ 253,698	\$ 308,492	\$ 10,415	\$ 828,314

WATER SUPPLY CORE BUSINESS

The Water Supply core business is responsible for all functions related to the development and provision of additional water resources, including recycled water. In order to support the cost associated with these initiatives, SAWS implemented the Water Supply Fee in 2001, which is a separate funding mechanism for water supply development and water quality protection. The Water Supply core business also strives to extend SAWS' existing water supplies by promoting water conservation practices.

<i>(dollars in thousands)</i>	2016 Actual	2017 Actual	2018 Budget	2019 Budget
SOURCES OF FUNDS				
Operating Revenues				
Water Supply Fee	\$ 133,421	\$ 152,030	\$ 161,513	\$ 169,785
Conservation	10,579	11,012	11,049	10,818
EAA Fee	25,513	23,530	24,023	23,761
Recycled Water System	5,657	5,616	5,496	5,771
Stormwater	4,967	5,108	5,204	5,204
Reduction for Affordability Program	(729)	(783)	(1,289)	(1,374)
Intercompany Reallocations	5,630	5,630	5,630	5,630
Total Operating Revenues	185,038	202,143	211,626	219,595
Nonoperating Revenues				
Build America Bonds Subsidy	1,537	2,069	2,348	6,345
	956	938	924	906
Total Revenues	187,531	205,150	214,898	226,846
Capital Recovery Fees	24,719	28,335	27,463	27,463
Draw on Equity	1,400	1,400	1,400	1,400
Total Sources of Funds	\$ 213,650	\$ 234,885	\$ 243,761	\$ 255,709
USES OF FUNDS				
Operations and Maintenance	\$ 112,038	\$ 117,103	\$ 134,546	\$ 131,647
Revenue Bond Debt Requirement	50,570	50,061	54,125	48,895
Other Debt Service Requirement	628	877	1,094	1,660
Transfer to the City of San Antonio	3,592	4,645	4,897	5,206
Balance Available for:				
Renewal and Replacement Fund (Restricted)	24,828	29,994	27,893	42,287
Renewal and Replacement Fund (Unrestricted)	21,994	32,205	21,206	26,014
Total Uses of Funds	\$ 213,650	\$ 234,885	\$ 243,761	\$ 255,709

WATER DELIVERY CORE BUSINESS

The Water Delivery core business is responsible for the actual distribution of water from the source to the customers' premises. SAWS delivers potable water service to residential, commercial, multifamily, industrial and wholesale customers. Another primary function of this core business is the maintenance of the water system infrastructure.

<i>(dollars in thousands)</i>	2016 Actual	2017 Actual	2018 Budget	2019 Budget
SOURCES OF FUNDS				
Operating Revenues				
Metered Water Sales	\$ 195,887	\$ 207,329	\$ 225,247	\$ 230,890
Recovery of TCEQ Fees	1,460	1,420	1,497	1,800
Reduction for Affordability Program	(804)	(855)	(1,289)	(1,378)
Intercompany Reallocations	(5,630)	(5,630)	(5,630)	(5,630)
Total Operating Revenues	190,913	202,264	219,825	225,682
Nonoperating Revenues	1,290	1,930	2,348	6,345
Build America Bonds Subsidy	1,119	1,103	1,079	1,075
Total Revenues	193,322	205,297	223,252	233,102
Capital Recovery Fees	19,893	19,967	20,596	20,596
Grant Revenue	3,866	7,926	-	-
Draw on Equity	-	141	-	-
Total Sources of Funds	\$ 217,081	\$ 233,331	\$ 243,848	\$ 253,698
USES OF FUNDS				
Operations and Maintenance	\$ 84,377	\$ 85,787	\$ 89,351	\$ 95,085
Revenue Bond Debt Requirement	62,677	64,291	79,018	77,098
Other Debt Service Requirement	1,698	2,374	1,797	4,495
Transfer to the City of San Antonio	3,943	5,501	5,988	6,256
Balance Available for:				
Renewal and Replacement Fund (Restricted)	23,904	20,688	21,664	20,933
Renewal and Replacement Fund (Unrestricted)	40,482	54,690	46,030	49,831
Total Uses of Funds	\$ 217,081	\$ 233,331	\$ 243,848	\$ 253,698

WASTEWATER CORE BUSINESS

The Wastewater core business's primary function is the collection and treatment of wastewater. The functions also extend to monitoring wastewater discharged by large industries into the sewer collection system.

<i>(dollars in thousands)</i>	2016 Actual	2017 Actual	2018 Budget	2019 Budget
SOURCES OF FUNDS				
Operating Revenues				
Sewer Service Charges	\$ 229,445	\$ 246,174	\$ 249,969	\$ 270,210
Industrial Waste Surcharge	6,292	6,259	6,114	6,114
Recovery of TCEQ Fees	448	435	460	531
Reduction for Affordability Program	(1,220)	(1,892)	(3,103)	(3,157)
Total Operating Revenues	234,965	250,976	253,440	273,698
Nonoperating Revenues	1,498	2,674	3,130	8,460
Build America Bonds Subsidy	1,578	1,554	1,521	1,515
Total Revenues	238,041	255,204	258,091	283,673
Capital Recovery Fees	23,379	24,544	24,818	24,819
Draw on Equity	-	-	-	-
Total Sources of Funds	\$ 261,420	\$ 279,748	\$ 282,909	\$ 308,492
USES OF FUNDS				
Operations and Maintenance	\$ 111,332	\$ 107,799	\$ 109,326	\$ 116,416
Revenue Bond Debt Requirement	74,750	78,992	94,763	101,186
Other Debt Service Requirement	505	755	2,395	4,021
Transfer to the City of San Antonio	6,378	6,820	6,939	7,606
Balance Available for:				
Renewal and Replacement Fund (Restricted)	23,746	25,249	25,704	25,520
Renewal and Replacement Fund (Unrestricted)	44,709	60,133	43,782	53,743
Total Uses of Funds	\$ 261,420	\$ 279,748	\$ 282,909	\$ 308,492

CHILLED WATER CORE BUSINESS

The Chilled Water core business provides cooling services to SAWS customers, including various downtown hotels, the City of San Antonio Convention Center, Hemisfair Plaza, Alamodome, and Port San Antonio tenants.

<i>(dollars in thousands)</i>	2016 Actual	2017 Actual	2018 Budget	2019 Budget
SOURCES OF FUNDS				
Operating Revenues				
Chilled Water Sales	\$ 11,541	\$ 11,368	\$ 10,327	\$ 10,415
Total Operating Revenues	11,541	11,368	10,327	10,415
Nonoperating Revenues	167	140	-	-
Build America Bonds Subsidy	-	-	-	-
Total Revenues	11,708	11,508	10,327	10,415
Capital Recovery Fees	-	-	-	-
Draw on Equity	-	-	-	-
Total Sources of Funds	\$ 11,708	\$ 11,508	\$ 10,327	\$ 10,415
USES OF FUNDS				
Operations and Maintenance	\$ 7,491	\$ 7,629	\$ 6,629	\$ 7,299
Revenue Bond Debt Requirement	2,540	2,549	2,924	3,070
Other Debt Service Requirement	61	109	119	154
Transfer to the City of San Antonio	316	311	279	281
Balance Available for:				
Renewal and Replacement Fund (Restricted)	4	62	18	19
Renewal and Replacement Fund (Unrestricted)	1,296	848	358	(408)
Total Uses of Funds	\$ 11,708	\$ 11,508	\$ 10,327	\$ 10,415

NET POSITION

Net Position is the difference between the assets and liabilities of SAWS as reflected on the statement of net position and is a key indicator of financial condition. It is the measure of financial resources available for future use after payment of all obligations.

The largest portion of SAWS' net position reflects its net investment in capital assets. SAWS' net investment in capital assets represents the carrying value of capital assets and capital related deferred outflows of resources, less capital related borrowings. The primary reasons for an increase in the net investment in capital assets are capital assets acquired with non-debt resources, including assets contributed by developers, and repayments of debt. Depreciation expense serves to decrease the net investment in capital assets.

Funds that have been restricted for a specific purpose by legally enforceable legislation and bond covenants are classified as restricted net position. In accordance with City of San Antonio Ordinance 75686, SAWS must maintain an operating reserve equal to two months of the annual maintenance and operations budget. SAWS is also required to make monthly transfers to a Debt Service Fund sufficient to make the semi-annual debt service payments on outstanding bonds. Cash and investments restricted for construction purposes, net of any related liabilities, are also reflected in these totals. Finally, SAWS must accumulate and maintain a Debt Service Reserve equal to 100% of the maximum annual debt service requirements for senior lien debt obligations plus the average annual debt service on all junior lien debt obligations secured by the Debt Service Reserve. SAWS may provide surety policies equal to all or part of the required debt service reserve.

The remaining balance of SAWS' net position is unrestricted and may be used for any allowable purpose as outlined in Ordinance 75686.

SAWS is an enterprise fund and has no governmental funds. The following schedule reflects the components of projected Net Position at December 31, 2018 and 2019, for the entity as a whole.

	Net Investment in Capital Assets	Restricted - Operating Reserve	Restricted - Debt Service	Restricted - Debt Service Reserve	Restricted - Construction	Unrestricted	Total Net Position
<i>(\$ in thousands)</i>							
Projected Net Position, beginning of year	\$ 2,335,404	\$ 56,642	\$ 63,521	\$ 53,556	\$ 210,969	\$ 361,074	\$ 3,081,166
Operating income						378,943	378,943
Depreciation	(156,514)						(156,514)
Net non-operating income/(expense)						(131,768)	(131,768)
Capital Recovery Fees collected					72,878		72,878
Plant contributions	58,000						58,000
Transfer to Operating Reserve ¹		14,143				(14,143)	-
Required debt service transfers			219,598			(219,598)	-
Projected debt service payments	90,939		(214,178)			123,239	-
Non-debt funding of capital improvements	186,556				(85,221)	(101,335)	-
Projected Net Position, end of year	\$2,514,385	\$70,785	\$68,941	\$53,556	\$198,626	\$396,413	\$3,302,705
% Change in Net Position	7.7%	25.0%	8.5%	0.0%	-5.9%	9.8%	7.2%

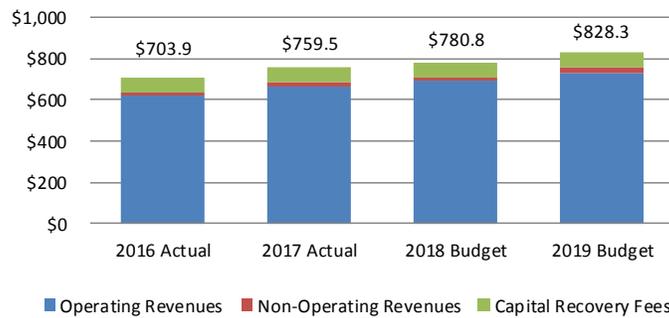
¹The amount restricted for operating reserve is based on two months of the projected O&M expense for the following year. In 2020 the O&M budget is expected to increase approximately \$85.9 million largely as a result of the projected Vista Ridge water payments. The required operating reserve related to the projected increase in O&M in 2020 is funded in 2019.

SOURCES OF FUNDS

The following table summarizes the 2018 budgeted Sources of Funds for all core businesses.

<i>(dollars in thousands)</i>	2016 Actual	2017 Actual	2018 Budget	2019 Budget
SOURCES OF FUNDS				
Operating Revenues				
Sewer Service Charges	\$ 229,445	\$ 246,174	\$ 249,969	\$ 270,210
Metered Water Sales	195,887	207,329	225,247	230,890
Water Supply Fee	133,421	152,030	161,513	169,784
EAA Fee	25,513	23,530	24,023	23,761
Chilled Water Sales	11,541	11,368	10,327	10,415
Conservation	10,579	11,012	11,049	10,818
Industrial Waste Surcharge	6,292	6,259	6,114	6,114
Stormwater	4,967	5,108	5,204	5,204
Recycled Water System	5,657	5,616	5,496	5,771
Recovery of TCEQ Fees	1,908	1,855	1,957	2,332
Reduction for Affordability Program	(2,753)	(3,530)	(5,681)	(5,909)
Total Operating Revenues	622,457	666,751	695,218	729,390
Nonoperating Revenues				
Build America Bonds Subsidy	4,492	6,813	7,826	21,150
	3,653	3,595	3,524	3,496
Total Revenues	630,602	677,159	706,568	754,036
Capital Recovery Fees				
Capital Recovery Fees	67,991	72,846	72,877	72,878
Grant Revenue	3,866	7,926		
Draw on Equity	1,400	1,541	1,400	1,400
Total Sources of Funds	\$ 703,859	\$ 759,472	\$ 780,845	\$ 828,314

SOURCES OF FUNDS (\$ IN MILLIONS)



REVENUES

Sources of funds include operating revenues, non-operating revenues, Build America Bonds subsidy, and capital recovery fees. Operating revenues consist primarily of revenues generated through metered billings for potable water, recycled water, wastewater and chilled water services. Additional operating revenues include special services fees designed to recover costs associated with providing services that typically benefit a particular customer or type of service. These services include various permit, sampling or laboratory fees, and account services.

WATER AND WASTEWATER CUSTOMER AND USAGE TRENDS

Over 95% of SAWS operating revenues come from the Water Supply Fee, Metered Water Sales, EAA Fee and Sewer Service Charges, which all vary based on customer's metered water usage. Fluctuations in system wide metered water usage are primarily tied to changes in:

- the number of customer connections
- the average use per customer

In the budget process, customer connections and usage data statistics and trends are tracked by each rate block to generate multiple revenue forecast projections, including:

- each rate class of SAWS (residential, general, wholesale and irrigation)
- each rate block
- inside and outside city limit customers

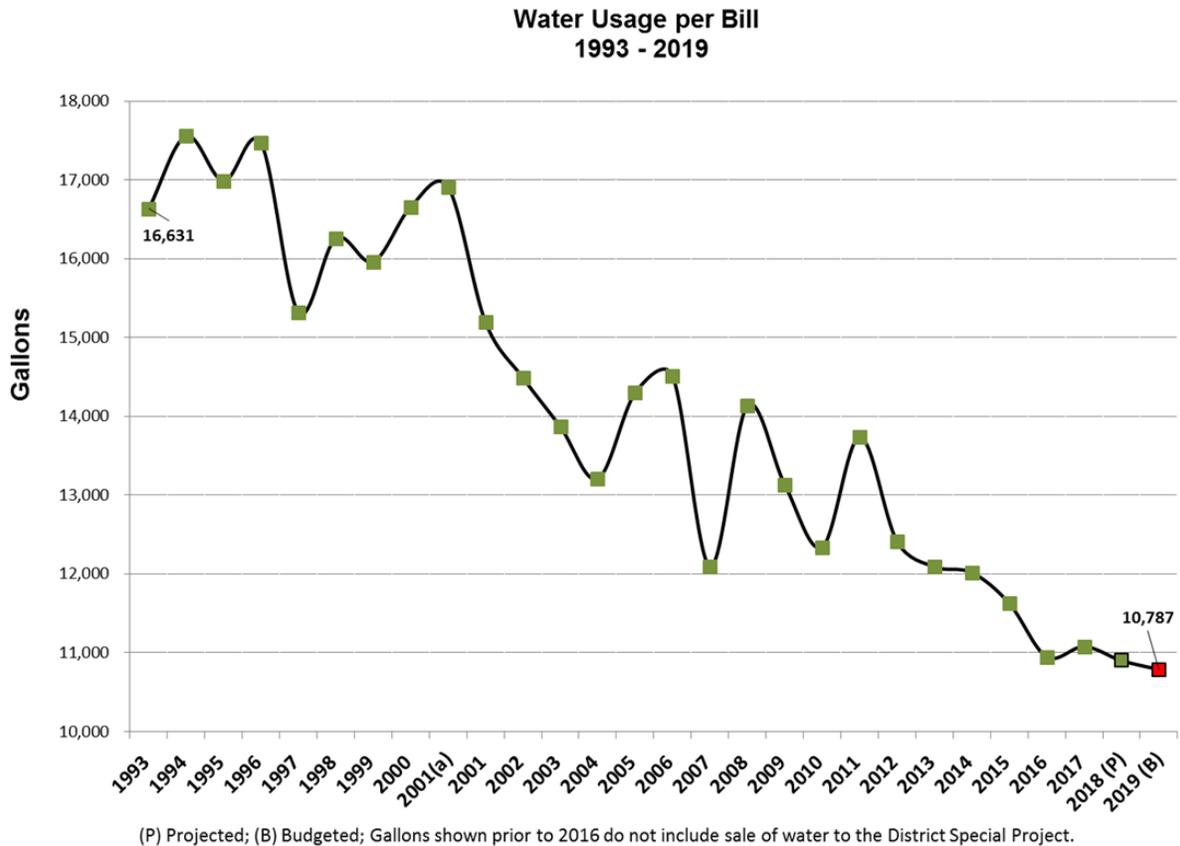
Through this systematic and comprehensive approach to forecasting metered revenues, SAWS has been able to identify developing shifts in usage patterns and underlying trends in customers' water usage. These customer connections and usage forecasts are aggregated to develop a comprehensive forecast for water and wastewater revenues of the system.

In recent years, the growth in wastewater customers has exhibited slightly higher growth than customers in the SAWS water service area. This trend is expected to moderate, and 2019 total combined water and wastewater customer growth is forecasted at 1.5% with approximately equal growth in both water and wastewater customers.

Average usage per customer is typically affected by weather (temperature and precipitation), seasonal, cyclical, price elasticity, conservation, and drought restriction variables. Therefore the modeling of the average usage per customer incorporates statistical forecasting to incorporate these variables.

The following chart shows the average monthly water usage for all customers by year since 1993. Beginning in 2016, the average usage includes water usage for customers in the former SAWS DSP service area. The average usage for these customers is substantially less than the historical average usage for SAWS customers. As a result average usage drops significantly in 2016. Other noticeable effects on average usage include:

- A significant, persistent downward trend through the whole data series
- Volatility in the trend after 2004 due to the weather variations
- Impacts of ongoing drought restrictions from 2013 through 2015



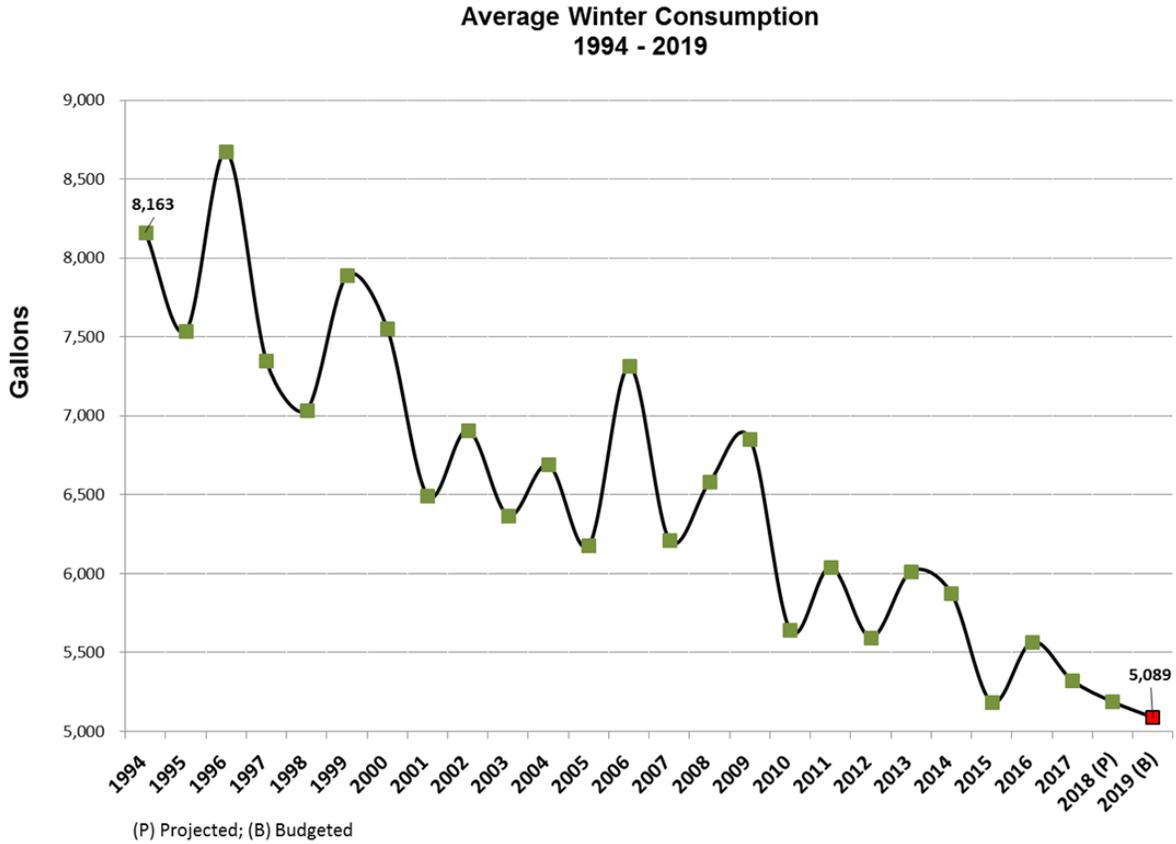
Weather fluctuations, from very rainy periods to drought conditions and related drought restrictions, factor into future water usage forecasts. Extreme weather profiles of very dry conditions in 2011 and wet conditions in 2015 and 2016 provide a starting proxy for the expected range of usage conditions in the future.

The drought that began in 2011 lasted into 2015. The resulting drought restrictions during that period, brought customer usage levels in 2013 and 2014 to what was up until then historically low usage levels. Extremely wet weather conditions during 2015 served to end the drought but also dampened average customer demand to a new historic low level of 11,645 gallons. 2016 was another very wet year. This, combined with the consolidation of the SAWS DSP service areas, resulted in average customer usage of 10,948 gallons for 2016. Average customer usage increased to 11,078 gallons in 2017 as the year was drier than 2015 or 2016, and 2018 is projected to be somewhat lower, around 10,899 gallons, as conditions have again turned wetter than 2017.

In order to minimize the financial risk to the system of overestimating revenues, 2019 budgeted revenues assume average customer use per bill of 10,787 gallons. This forecast allows for the possibility of either recurring wet conditions or drought restrictions as well as accounts for impacts of continuing conservation efforts. Total budgeted water usage of 65.9 billion gallons for 2019 is 0.8% more than the 65.4 billion gallons budgeted in 2018 but in line with actual 2018 water usage.

Metered wastewater volumetric revenues are based on contributed flow estimated through water usage. For the commercial class, all water usage with the exception of water used for irrigation is subject to wastewater charges. For the residential class, the contributed flow is estimated through the average winter consumption (AWC), which is the average water usage during three consecutive billing periods beginning after November 15 and ending on or about March 15 of each year.

The AWC, as shown in the following chart, has declined persistently since 1994 as a result of indoor conservation efforts and increasing public awareness about the winter averaging method and measurement period. The 2019 budgeted AWC of 5,089 projects that this trend will continue, although at a gradually slowing rate of decline.



OPERATING REVENUES

The 2019 revenue budget includes a rate adjustment of 4.7% on an average residential bill (7,092 gallons water; 5,668 wastewater assumed). Details of the rate adjustment are as follows:

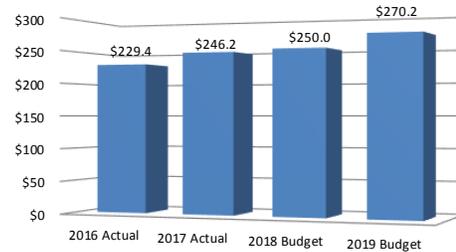
- 4.3% Water Supply Fee, 0.4% water delivery, and 8.0% wastewater rate adjustments
- Rate increases are effective for usage beginning January 1, 2019
- Rate adjustments are projected to result in additional operating revenue of \$26.9 million in 2019

WASTEWATER OPERATING REVENUES

Wastewater operating revenues recover the costs associated with Sewer service charges consist of a fixed monthly service availability customer's contributed wastewater flow. Residential contributed customer's water usage during three consecutive billing periods be other customers, actual monthly water usage, excluding any amount used to calculate contributed wastewater flow.

Wastewater operating revenues for 2019 consist primarily of \$270.2 million in sewer surcharge revenues. Net metered wastewater revenues generate \$19.6 million in additional wastewater revenue in 2019.

SEWER SERVICE CHARGES
(\$ IN MILLIONS)

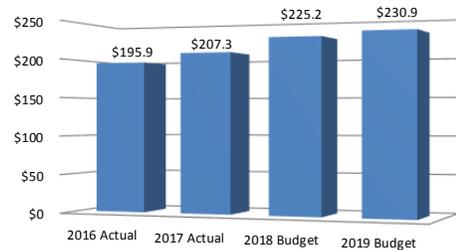


WATER DELIVERY OPERATING REVENUES

Water delivery operating revenues recover the costs associated with the production, transmission, and distribution of potable water to the customer primarily through monthly fixed and volumetric charges on each customer's metered water usage. 2019 metered water sales are forecast at \$230.9 million, including a 0.4% rate adjustment forecast to generate \$0.8 million in additional water revenue in 2019.

The 2019 revenue forecast assumes that water sales will total 65.9 billion gallons which is a 0.8% increase from the 65.4 billion gallons forecasted for the 2018 SAWS annual budget. The increase in assumed usage reflects increased customer growth offset slightly by declining per-customer usage in recent years.

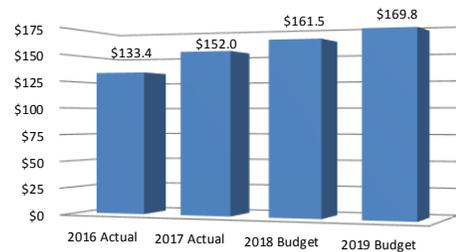
METERED WATER SALES
(\$ IN MILLIONS)



WATER SUPPLY OPERATING REVENUES

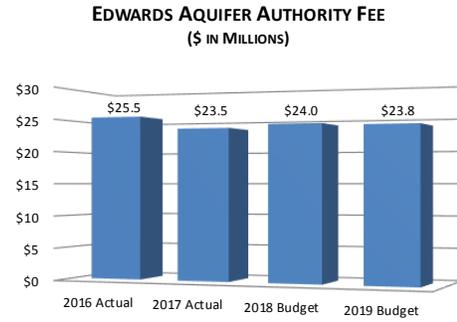
2019 budgeted water supply operating revenues consist primarily of revenues from: the Water Supply Fee; Edwards Aquifer Authority pass-through fees, and recycled water charges. Additionally, SAWS allocates a portion of water delivery charges to the water supply core business to fund conservation programs and receives fees from the City of San Antonio to provide services related to the City's storm water program.

WATER SUPPLY FEE REVENUES
(\$ IN MILLIONS)

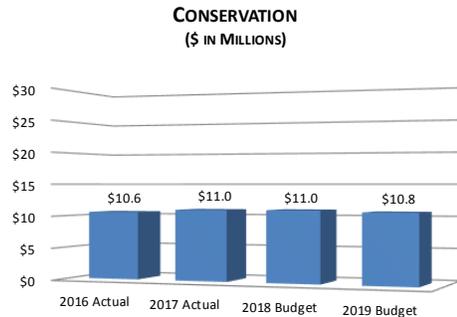


The Water Supply Fee was implemented in 2001 to support one of SAWS fundamental responsibilities: developing and procuring additional water supplies. The Water Supply Fees consists of volumetric charges assessed on customers' meter water usage. 2019 Water Supply Fee revenues are projected to be \$169.8 million which includes a 4.3% rate adjustment forecasted to generate \$6.5 million in additional revenue in 2019.

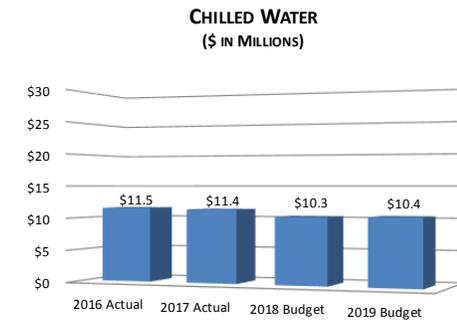
The Edwards Aquifer Authority (EAA) is statutorily empowered to impose an annual permit fee on all parties permitted to pump water from the Edwards Aquifer. The annual permit fee charged to SAWS is based on the number of acre-feet per year that SAWS is permitted to pump from the Edwards Aquifer and is recovered by SAWS through the assessment of a pass-through volumetric charge to its customers; the EAA Fee. The 2019 EAA Fee budgeted revenue is \$23.8 million.



Recycled water revenues are budgeted to be \$5.8 million in 2019, including a 1.8% rate adjustment on all metered recycle water sales not including the CPS Energy contract. The forecasted receipt of \$3.2 million from the CPS Energy contract is projected to contribute 56% of recycled water revenues.



Conservation revenues are used to fund residential and commercial conservation programs. Conservation revenues for 2019 will be recovered from a portion of the residential water charges for monthly usage in excess of 7,481 gallons, a portion of non-residential monthly meter charges, and a portion of the irrigation revenues from all usage blocks. For 2019, conservation revenues are budgeted at \$10.8 million or 4.2% of total Water Supply operating revenues.



SAWS bills storm water charges to customers and provides certain other services related to the City of San Antonio’s Storm Water Program. The City of San Antonio will provide a reimbursement to SAWS of \$5.2 million in 2019 to offset the cost of providing those services.

CHILLED WATER OPERATING REVENUES

SAWS provides chilled water for cooling purposes primarily to commercial customers located in downtown San Antonio and Port San Antonio. 2019 revenues are projected at \$10.4 million, slightly more than budgeted in 2018. Chilled water services comprise approximately 1.4% of total operating revenues.

NON-OPERATING REVENUE

2019 non-operating revenues, budgeted at \$24.6 million, are comprised of \$21.1 million of interest earnings on investments and a \$3.5 million federal subsidy to be received on previously issued Build America Bonds. Non-operating revenues account for 3.0% of the total sources of funds for 2018.

The average investment base is assumed to be \$900 million and the yield on those investments is estimated to be 2.35% in 2019.

DRAW ON EQUITY

The 2019 Draw on Equity of \$1.4 million comes from the final annual payment from the Lower Colorado River Authority (LCRA) to SAWS as a result of a lawsuit settlement.

CAPITAL RECOVERY FEES

Capital recovery fees, also referred to as impact fees, are codified in Chapter 395 of the Texas Local Government Code and provide for the collection of fees to recover capital improvement costs necessary to serve new development. Through the city ordinances that formed SAWS, capital recovery fees are not considered to be included in Gross Revenues in the flow of funds. Instead, these fees are treated as capital contributions dedicated to fund eligible projects in the capital improvement program.

The collection of capital recovery fees varies from year to year based on the number of new customer connections and the fees charged. SAWS typically performs an impact fee study every five years. The last impact fee study was completed in 2014. SAWS is currently conducting an impact fee study that is expected to be completed by mid-2019. The \$72.9 million budgeted for capital recovery fees in 2019 assumes no change in the fees charged. If adjustments to the fees result from the current study, the actual amounts collected in 2019 may vary from the amount budgeted.

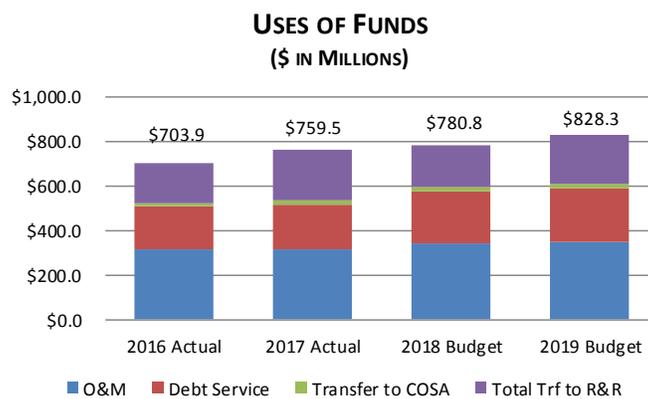
USES OF FUNDS

City of San Antonio, Texas Ordinance No. 75686 requires that Gross Revenues be pledged and appropriated to the extent required for the following uses and in the order of priority shown:

- 1 • Operations & Maintenance
- 2 • Debt Service & Reserve Fund Requirements
- 3 • Transfer to the City
- 4 • Any Surplus Transferred to R&R (provides cash for funding capital program)

Uses of funds are summarized in the following table and chart:

<i>(dollars in thousands)</i>	2016 Actual	2017 Actual	2018 Budget	2019 Budget
USES OF FUNDS				
Operations and Maintenance	\$ 315,238	\$ 318,318	\$ 339,852	\$ 350,447
Revenue Bond Debt Requirement	190,537	195,893	230,830	230,249
Other Debt Service Requirement	2,892	4,115	5,405	10,330
Transfer to the City of San Antonio	14,229	17,277	18,103	19,349
Balance Available for:				
Renewal and Replacement Fund (Restricted)	72,482	75,993	75,279	88,759
Renewal and Replacement Fund (Unrestricted)	108,481	147,876	111,376	129,180
Total Uses of Funds	\$ 703,859	\$ 759,472	\$ 780,845	\$ 828,314



OPERATION AND MAINTENANCE EXPENSE

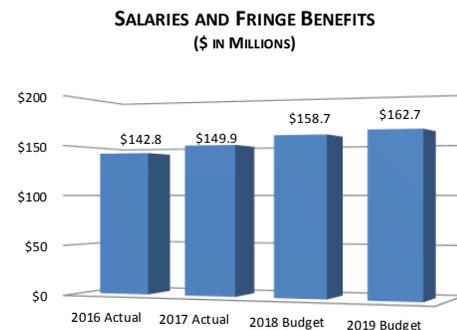
The cost to operate and maintain the system on a daily basis comprises the largest single use of SAWS' revenues. Approximately 48% of SAWS operating revenues are dedicated to supporting ongoing operations and maintenance. The 2019 budget for Operations and Maintenance (O&M) is \$350.4 million, which is an increase of 3.1% from the 2018 budget.

SAWS operation and maintenance expenses are categorized into four major expenditure types: Salaries and Fringe Benefits, Contractual Services, Materials and Supplies, and Other Charges. Additionally, a portion of these costs are capitalized in direct support of SAWS Capital Improvement Program.

	2016 Actual	2017 Actual	2018 Budget	2019 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	\$ 142,795	\$ 149,874	\$ 158,729	\$ 162,683
Contractual Services	170,845	168,350	181,534	181,764
Materials and Supplies	21,959	23,159	23,538	23,779
Other Charges	12,269	9,156	10,048	11,624
O&M Before Capitalized Cost Total	\$ 347,868	\$ 350,539	\$ 373,849	\$ 379,850
Capitalized Cost	(32,629)	(32,219)	(33,997)	(29,403)
Total O&M	\$ 315,239	\$ 318,320	\$ 339,852	\$ 350,447
Capital Outlay	\$ 8,894	\$ 10,395	\$ 10,477	\$ 9,684

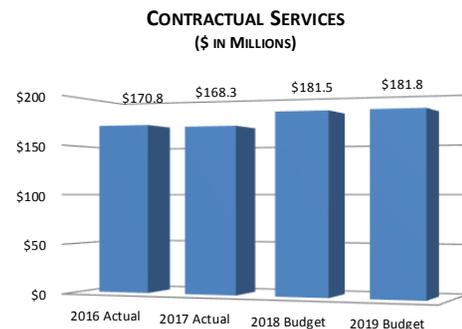
SALARIES AND FRINGE BENEFITS

Salaries and fringe benefits include wages and benefits for all full-time and part-time employees including: overtime, on-call pay, employees' insurance and retirement benefits, and contributions to a trust established to provide other post-employment benefits (OPEB). Total salary and fringe benefit costs for 2019 are estimated at \$162.7 million, or 42.8% of gross operation and maintenance expenditures (before capitalization) and reflect a 2.5% increase from prior year budget. The increased salary and fringe benefits are the result of projected wage adjustments and medical insurance cost increases. Included in wage adjustments is an increase in SAWS' minimum wage from \$14.50 per hour to \$15.25 per hour.



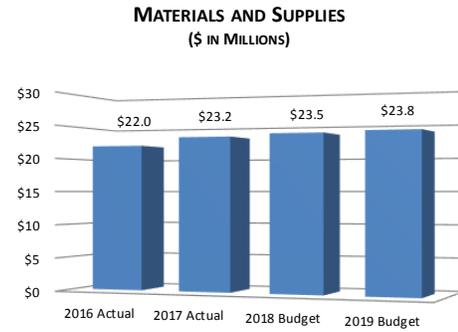
CONTRACTUAL SERVICES

Contractual Services expenditures represent operating services that are obtained through express or implied contracts. Total Contractual Services for 2019 are budgeted at \$181.8 million, which is 47.9% of the gross operation and maintenance expenditures (before capitalization) and reflect a 0.1% increase over the 2018 budget. The modest change results primarily from increased maintenance expenses associated with rehabilitation efforts on five of SAWS water tanks and the cleaning of two of the digesters at the Dos Rios Water Recycling Center.



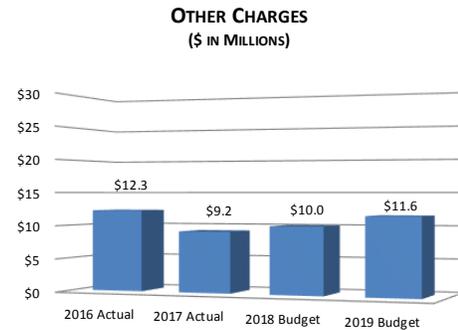
MATERIALS AND SUPPLIES

The Materials and Supplies budget of \$23.8 million is 6.3% of gross operation and maintenance expenditures and reflects an increase of 1.0% compared to the 2018 budget. The projected change is driven primarily by an estimated 7.4% increase in motor fuel and lubricant cost.



OTHER CHARGES

The Other Charges category includes property, casualty and workers’ compensation costs, retirees’ healthcare costs, and bank charges. The 2019 costs are estimated at \$11.6 million, or 3.1% of gross operation and maintenance expenditures, and reflect a 15.7% increase from the 2018 budget due to a projected increase in retirees’ healthcare costs in 2019.



CAPITALIZED COSTS

Operating and maintenance costs that support functions directly related to capital improvements are reflected as reductions to the gross Operations and Maintenance costs and are funded as part of SAWS’ Capital Improvement Program (CIP). In 2019, Capitalized Costs are estimated at \$29.4 million, or 7.7% of gross operation and maintenance expenditures.

OPERATION AND MAINTENANCE SUMMARY BY EXPENSE CLASSIFICATION

(\$ in thousands)	2016 Actual	2017 Actual	2018 Budget	2019 Budget
Salaries and Fringe Benefits				
511100 Salaries	\$ 91,183	\$ 96,782	\$ 104,117	\$ 107,238
511140 Overtime Pay	5,226	6,373	5,533	5,486
511150 On-Call Pay	617	663	544	639
511160 Employee Insurance	17,684	15,392	16,366	17,047
511162 Retirement	19,004	20,707	22,375	22,492
511164 Unused Sick Leave Buyback	(22)	17	70	70
511166 Personal Leave Buyback	846	929	950	950
511168 Accrued Vacation leave	674	1,412	1,200	1,200
511170 Incentive Pay	83	99	74	61
511175 Other Post Employment Benefits	7,500	7,500	7,500	7,500
Salaries and Fringe Benefits Total	142,795	149,874	158,729	162,683
Contractual Services				
511210 Operating Expense	2,120	2,446	2,012	1,969
511211 Rental of Facilities	241	368	364	351
511212 Alarm and Security	1,666	1,868	1,939	1,939
511214 Uniforms and Shoe Allowance	246	357	421	432
511216 Catering Svcs & Luncheons	94	140	108	109
511219 Conservation Programs	2,687	1,588	3,682	3,642
511220 Maintenance Expense	15,870	17,824	18,027	21,909
511221 Street Cut Permit Admin Fee	847	596	851	851
511222 St Pave/Repair Fee	1,776	1,535	1,801	1,801
511223 Preventive Maintenance	135	135	140	140
511224 Corrective Maintenance	1,804	1,334	1,350	1,350
511225 Damage Repair	286	191	179	179
511230 Equipment Rental Charges	621	321	291	305
511240 Travel	109	146	193	209
511245 Training	602	642	800	733
511247 Conferences	60	44	103	99
511250 Memberships and Subscriptions	495	388	435	438
511260 Utilities	26,662	29,882	31,612	31,444
511261 Water Options	46,616	43,158	44,347	44,169
511265 Ground Water District Pay	24,448	24,339	24,669	24,407
511270 Mail and Parcel Post	2,113	2,161	2,290	2,289
511280 Telemetering Charges	3	-	-	-
511309 Educational Assistance - Books	5	-	-	-
511310 Educational Assistance - Tuition	106	114	67	77
511312 Contractual Prof Svcs	31,294	27,341	33,337	28,727
511313 Inspect & Assessment Fees	1,791	1,920	2,247	2,286
511314 Water Treatment Plant Svcs.	5	-	-	-
511315 Temporary Employees	642	1,259	553	545
511320 Legal Services	1,481	1,355	2,170	3,390
511370 Communications	1,376	1,449	1,668	1,623
511381 Software and Hardware Maintenance	4,644	5,449	5,879	6,354
Contractual Services Total	170,845	168,350	181,534	181,764

OPERATION AND MAINTENANCE SUMMARY BY EXPENSE CLASSIFICATION (continued)

(\$ in thousands)	2016 Actual	2017 Actual	2018 Budget	2019 Budget
Materials and Supplies				
511410 Small Tools	696	814	715	680
511417 Copy and Printing Expense	18	21	25	24
511420 Operating Materials	2,554	2,377	2,366	2,297
511421 Heating Fuel	16	13	15	15
511422 Chemicals	6,192	6,418	7,763	7,557
511425 Education of School Children	30	31	30	30
511426 Public Awareness-WQEE	-	-	1	1
511427 Enforcement	-	-	5	5
511430 Maintenance Materials	8,887	9,540	8,566	8,951
511440 Safety Materials & Supplies	792	766	874	858
511441 Inventory Variances	(8)	(24)	15	15
511450 Tires and Tubes	733	854	703	703
511451 Motor Fuel & Lubricants	2,049	2,349	2,460	2,643
Materials and Supplies Total	21,959	23,159	23,538	23,779
Other Charges				
511510 Judgements and Claims	919	118	725	725
511511 AL & GL Claims - Cont. Liab.	-	(251)	330	330
511520 Bank Charges	2	-	-	10
511525 Cash Short/(Over)	6	(1)	-	-
511530 Employee Relations	170	162	204	198
511540 Retiree Insurance	8,096	7,026	6,440	8,011
511570 Casualty Insurance	997	1,054	1,140	1,140
511580 Unemployment Compensation	44	88	80	80
511590 Workers Comp Medical	1,773	960	1,130	1,130
511610 Workers' Compensation - Benefits and Payment	230	-	-	-
511620 Workers' Compensation - Misc. Claims Expendi	32	-	-	-
Other Charges Total	12,269	9,156	10,048	11,624
O&M Before Capitalized Cost Total	347,868	350,539	373,849	379,850
Capitalized Cost	(32,629)	(32,219)	(33,997)	(29,403)
Grand Total	\$ 315,239	\$ 318,320	\$ 339,852	\$ 350,447

REVENUE BOND DEBT SERVICE REQUIREMENT

The bonded debt service requirement is comprised of bond interest costs and the retirement of a certain portion of bond principal. This requirement is projected based on maturity schedules of existing debt and 30-year level debt service on new debt necessary to support the capital program. The 2019 debt service schedules assume the issuance of an additional \$199.5 million of bonds in 2019 to provide funds for the 2019 CIP. The amount necessary to fulfill total bonded debt service requirements in 2019 on existing and new bonded debt is projected to be \$230.2 million, which is 0.6% less than the 2018 budgeted level. Additional discussion of SAWS debt program is included in the Debt Service section of this report.

OTHER DEBT EXPENSE

SAWS expects to pay approximately \$10.3 million in debt related expenses in 2019. These expenses include interest on commercial paper and the following fees: remarketing agent, credit liquidity facility, rating agency, and paying agent. Remarketing agents are investment-banking firms responsible for the marketing and remarketing of variable rate obligations to investors as they mature. The credit liquidity facility provider commits to purchasing the maturing variable rate obligations should the remarketing agent be unable to remarket the variable rate obligations.

TRANSFER TO THE CITY OF SAN ANTONIO

Pursuant to City Ordinance No. 75686, SAWS is required to transfer to the General Fund of the City up to 5% of the gross revenues as defined by ordinance. Certain revenues are exempt from gross revenues for purposes of calculating the transfer. The actual percentage contributed is determined by City Council. Since the inception of SAWS in 1992, the transfer to the City has been set at 2.7% of non-exempt gross revenues. SAWS has budgeted \$19.3 million for this transfer in 2019 assuming a continuation of the 2.7% transfer amount.

BALANCE AVAILABLE FOR TRANSFER TO RENEWAL AND REPLACEMENT FUND

After meeting all other requirements of system revenues including operations and maintenance expenses, debt service, and transfer to the City's General Fund, \$217.9 million is estimated to be available for transfer to the Renewal and Replacement Fund (R&R) of which \$88.8 million is restricted primarily for use associated with SAWS Capital Improvement Program. Unrestricted R&R can be used for the purpose of funding improvements, extensions, additions, replacements, or other capital expenditures (including capital outlay) related to the System and for any other lawful purpose. At a minimum, SAWS is required to transfer to this fund an amount equal to the amount that is transferred to the City's General Fund each year.

Capital Outlay consists of expenditures for certain capital assets not included in SAWS Capital Improvement Program. These assets have an individual cost of \$5,000 or more and a useful life greater than one year but less than fifteen years. This includes machinery and equipment, computer hardware, software systems, laboratory equipment, vehicles, heavy equipment, and miscellaneous equipment. The Capital Outlay program is based on priorities established by executive management. The capital outlay program for 2019 consists of \$9.7 million in planned capital expenditures meeting the above criteria.

The following table summarizes the planned expenditures in 2019 for the capital outlay program:

(\$ in thousands)	2016 Actual	2017 Actual	2018 Budget	2019 Budget
Structures and Improvements	\$ -	\$ 400	\$ -	\$ -
Pumping Equipment	463	280	-	-
Machinery and Equipment	-	3,332	575	250
Computer Equipment	2,066	1,360	2,522	2,104
Software Systems	423	529	35	35
Lab Equipment	92	174	200	200
Miscellaneous Equipment	1,165	928	1,882	1,833
Automobiles and Trucks	1,576	2,841	2,916	2,915
Heavy Equipment	3,109	551	2,347	2,347
Grand Total	\$ 8,894	\$ 10,395	\$ 10,477	\$ 9,684

After funding of \$9.7 million for 2019 capital outlay expenditures, \$119.5 million in unrestricted funds is expected to be added to the R&R Fund in 2019. These unrestricted funds are expected to be utilized to provide pay-as-you-go funding to support the SAWS Capital Improvement Program in 2020 and beyond.

DEBT SERVICE

San Antonio Water System utilizes both long-term and short-term debt to finance the Capital Improvements Program (CIP). SAWS' currently outstanding revenue bonds consist of fixed-rate and variable rate obligations. Commercial paper provides SAWS with flexibility and efficiency in the timing and amount of debt issued. The commercial paper program and variable rate debt provides a hedge to partially offset the variable rate nature of SAWS' investment portfolio.

REVENUE BONDS

As of December 31, 2018 SAWS will have Senior and Junior Lien Water System Revenue Bonds outstanding.

- Senior Lien Water System Revenue Bonds** - comprised of Series 2009B, Series 2010B, Series 2011, Series 2011A, Series 2012, and Series 2012A outstanding in the amount of \$718,305,000 as of December 31, 2018 and collateralized by a senior lien and pledge of the gross revenues of the System after deducting and paying the current expenses of operation and maintenance of the System and maintaining an operating reserve for operating and maintenance expenses.
- Junior Lien Water System Revenue Bonds** - comprised of Series 2007, Series 2009, Series 2009A, Series 2010, Series 2010A, Series 2011, Series 2011A, Series 2012 (NO RESERVE FUND), Series 2012, Series 2013A, Series 2013B (NO RESERVE FUND), Series 2013C, Series 2013D, Series 2013E (NO RESERVE FUND), Series 2014A (NO RESERVE FUND), Series 2014C, Series 2014D, Series 2015A, Series 2015B (NO RESERVE FUND), Series 2016A (NO RESERVE FUND), Taxable Series 2016B (NO RESERVE FUND), Series 2016C (NO RESERVE FUND), Series 2016D, Series 2016E, Series 2017A (NO RESERVE FUND), Series 2018A (NO RESERVE FUND), and Series 2018B outstanding in the amount of \$1,714,525,000 as of December 31, 2018 and collateralized by a junior lien and pledge of the gross revenues of the System after deducting and paying the current expenses of operation and maintenance of the System, maintaining an operating reserve for operating and maintenance expenses, and paying the debt service on senior lien debt.
- Junior Lien Water System Variable Rate Revenue Bonds** – comprised of the Series 2013F (NO RESERVE FUND) Bonds (the "Series 2013F Bonds"), and the Series 2014B (NO RESERVE FUND) Bonds (the "Series

2014B Bonds), (together the "Bonds"). The Bonds were issued as multi-modal variable rate bonds, initially issued in a Securities Industry and Financial Markets Association (SIFMA) Index Mode for a three-year term. The Bonds have been remarketed into a Term Mode for a five year period. The Series 2013F Bonds were remarketed at a fixed interest rate of 2.00%, yielding 1.63% for a five year period ending October 31, 2021 and the Series 2014B Bonds were remarketed at a fixed interest rate of 2.00%, yielding 1.80% for a five year period ending October 31, 2022. Total Junior Lien Variable Rate Revenue Bonds outstanding as of December 31, 2018 was \$198,385,000. The debt service for the variable rate bonds is collateralized by a junior lien and pledge of the gross revenues of the System after deducting and paying the current expenses of operation and maintenance of the System, maintaining an operating reserve for operating and maintenance expenses, and paying the debt service on senior lien debt.

- **Subordinate Lien Revenue and Refunding Bonds - Interest Rate Hedge Agreement (Swap)** - In 2003, \$122.5 million of "City of San Antonio, Texas Water System Subordinate Lien Revenue and Refunding Bonds, Series 2003-A and 2003-B" (the "Subordinate Lien Obligations") were issued in a weekly interest rate mode. To hedge against changes in interest expenses, the City of San Antonio, through SAWS, entered into an interest rate hedge agreement (the "Swap Agreement") under which SAWS must pay a fixed rate of 4.18% and receive a variable rate which corresponds to the Municipal Swap Index published by SIFMA. The rates are applied to a specified notional amount which matches the amortization schedule of the principal amount of the Subordinate Lien Obligations. The payments under this obligation are collateralized by a subordinate lien and pledge of the gross revenues of the System after deducting and paying the current expenses of operation and maintenance of the system, maintaining an operating reserve for operating and maintenance expenses, and paying debt service on senior lien and junior lien debt.

In 2008, SAWS issued a Notice of Partial Redemption for \$110.6 million of the Subordinate Lien Obligations due to unfavorable market conditions relating to variable rate demand obligations, resulting in the related interest rate hedge agreement not providing an effective hedge against short term interest rate movements applicable to the related obligations. The Subordinate Lien Obligations were redeemed with commercial paper notes. At December 31, 2018, \$80,995,000 of the commercial paper notes outstanding are hedged by the Swap Agreement.

SAWS still considers the Swap Agreement to be a valuable variable rate management tool within its debt portfolio. The obligation to pay the fixed rate of 4.18% on the notional amount outstanding remains and is included in the 2018 budgeted debt service requirements of SAWS at the original principal amortization of the Subordinate Lien Obligations.

RESERVE FUND REQUIREMENT

SAWS' bond ordinance requires the maintenance of a reserve fund for the payment of senior lien and junior lien debt obligations in an amount equal to 100% of the maximum annual debt service requirement for the senior lien obligations and 100% of the average annual debt service requirement for the junior lien obligations requiring a reserve fund. The ordinance provides for the use of cash, debt, and surety policies or a combination thereof, to satisfy the reserve fund requirement. The debt service schedules for the bonds anticipated to be issued in 2019 assumes any required increase in the reserve fund will be funded with proceeds from bonds issued.

COMMERCIAL PAPER

SAWS also maintains a commercial paper program that is used to provide funds for the interim financing of a portion of the capital improvements program. The San Antonio City Council has authorized a commercial paper program of up to \$500 million (the "CP Program"). The CP Program provides for the issuance of subseries of notes, currently designated as Subseries A-1, Subseries A-2, and Series B. The CP Program is supported by two revolving credit agreements, one with JPMorgan Chase Bank, N.A. (the "Series A Agreement"), and the other with Wells Fargo Bank, N.A. (the "Series B Agreement"). JPMorgan Chase Bank, N.A. currently supports \$400 million of Series A CP notes which extends through October 4, 2023, and Wells Fargo Bank, N.A. currently supports \$100 million of

Series B CP notes through January 15, 2021. The Subseries A-1 and Series B CP notes are publicly marketed with the Subseries A-2 Notes placed directly with JPMorgan Chase Bank, N.A. under a note purchase agreement.

The 2019 Budget assumes approximately \$376 million of commercial paper is outstanding relating to the funding of capital improvement projects through 2019. As stated in the "Interest Rate Hedge Agreement (Swap)" section herein, an additional \$81.0 million of the commercial paper program is attributable to the redemption of the Subordinate Lien Obligations. The 2019 Budget assumes that the interest to be paid on the TECP attributable to the redemption of the Subordinate Lien Obligations will be offset in its entirety by the amount to be received under the variable rate leg of the Swap. SAWS' capital financing plan provides for the refunding of commercial paper as the outstanding balance trends toward the upper limit of the Agreement to ensure the outstanding balance does not exceed the revolving line of credit amount.

BOND AND COMMERCIAL PAPER RATINGS

In April 2018, SAWS' senior lien and junior lien revenue bond credit ratings were reaffirmed by the three major rating agencies. The Series A ratings under the CP Program were reviewed by the rating agencies in September 2018 due to the substitution of the revolving credit agreement with JPMorgan Chase Bank, N.A. Fitch Ratings upgraded the Series A-1 notes to F1+ from F1 and Moody's Investors Service and S&P Global Ratings affirmed the rating of P-1 and A-1+ respectively. SAWS' credit ratings are as follows:

	Senior Lien	Junior Lien	Commercial Paper	
			Subseries A-1	Series B
Fitch Ratings	AA+	AA	F1+	F1+
Moody's Investors Service, Inc.	Aa1	Aa2	P-1	P-1
S&P Global Ratings	AA+	AA	A-1+	A-1+

The high quality ratings reflects SAWS' large, diverse and growing service area, sound financial performance, long term planning in water supply and infrastructure needs, and competitive water and sewer rates.

DEBT COVERAGE

SAWS is required by ordinance to maintain a debt coverage ratio of 1.25 times the annual debt service on outstanding senior lien debt. The 2019 Annual Operating Budget projects an estimated 2019 Senior Lien Debt Coverage ratio of 4.61 times and 2018 Total Debt Coverage ratio of 1.73 times.

DEBT COVERAGE CALCULATION <i>(\$ in thousands)</i>	
Total Sources of Funds	\$828,314
Less Revenues from:	
City Public Service contract	3,223
Interest on CPS contract	
Capital Recovery Fees	72,878
Transfer from Renewal & Replacement Fund	1,400
Interest on Project Funds	1,739
Gross Revenues as defined by Ordinance No. 75686	\$ 749,074
Less: Operations & Maintenance	350,447
Pledged Revenues as defined by Ordinance No. 75686	\$ 398,627
2019 Senior Lien Debt Service Requirement	\$ 86,447
2018 Senior Lien Debt Coverage Ratio	<u>4.61 x</u>
Maximum Senior Lien Debt Service Requirement (Year 2027)	\$ 110,018
Maximum Senior Lien Debt Coverage Ratio	<u>3.62 x</u>
2019 Total Bonded Debt Service Requirement	\$ 230,249
2019 Total Bonded Debt Coverage Ratio	<u>1.73 x</u>
Maximum Total Bonded Debt Service Requirement (Year 2021)	\$ 231,530
Maximum Total Bonded Debt Coverage Ratio	<u>1.72 x</u>

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BUDGETED REVENUE AND REFUNDING BONDS DEBT SERVICE SCHEDULES

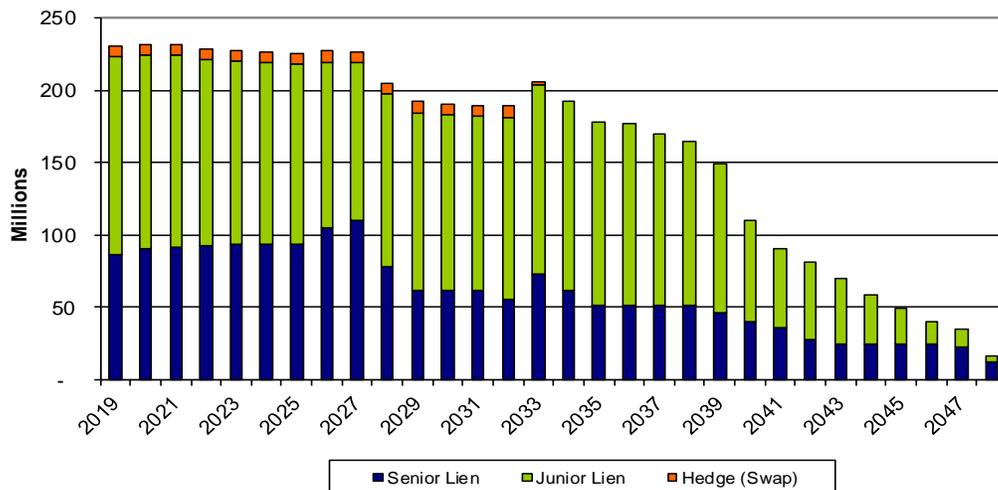
Fiscal Year December 31,	Senior Lien			Junior Lien		
	Principal	Interest	Total	Principal	Interest	Total
2019	\$ 33,645,000	\$ 52,801,900	\$ 86,446,900	\$ 63,170,454	\$ 73,357,190	\$ 136,527,645
2020	39,040,000	51,305,714	90,345,714	62,530,000	71,169,069	133,699,069
2021	42,298,333	49,467,246	91,765,579	63,593,334	68,865,770	132,459,104
2022	45,421,667	47,428,696	92,850,363	61,105,000	66,858,223	127,963,223
2023	48,003,333	45,219,602	93,222,935	62,198,333	64,852,507	127,050,841
2024	50,376,667	42,872,681	93,249,348	63,806,667	62,376,857	126,183,523
2025	53,600,000	40,399,230	93,999,230	64,370,000	59,823,979	124,193,979
2026	66,956,667	37,746,856	104,703,523	57,520,000	57,220,575	114,740,575
2027	75,545,000	34,472,516	110,017,516	53,915,000	54,911,316	108,826,316
2028	46,806,667	30,993,783	77,800,450	67,053,333	52,823,200	119,876,534
2029	32,791,667	28,733,624	61,525,291	72,811,667	50,152,107	122,963,773
2030	34,298,333	27,113,193	61,411,527	74,265,000	47,287,958	121,552,958
2031	35,856,667	25,416,547	61,273,213	76,316,666	44,392,808	120,709,475
2032	31,770,000	23,682,626	55,452,626	84,471,667	41,336,689	125,808,355
2033	50,601,667	22,160,455	72,762,121	92,840,000	37,879,839	130,719,839
2034	42,591,667	19,548,003	62,139,669	95,955,000	34,005,210	129,960,210
2035	34,273,333	17,263,066	51,536,399	96,676,667	30,050,770	126,727,437
2036	35,793,333	15,568,700	51,362,034	99,450,000	26,077,178	125,527,178
2037	37,375,000	13,799,650	51,174,650	96,213,333	22,217,875	118,431,209
2038	39,040,000	11,952,428	50,992,428	94,963,333	18,362,351	113,325,685
2039	36,560,000	10,023,509	46,583,509	87,765,000	14,326,841	102,091,841
2040	32,281,667	8,230,648	40,512,314	58,193,333	10,838,781	69,032,115
2041	29,188,333	6,791,266	35,979,599	45,795,000	8,684,483	54,479,483
2042	22,243,333	5,590,503	27,833,836	46,595,000	7,087,773	53,682,773
2043	19,760,000	4,637,025	24,397,025	39,733,333	5,448,650	45,181,983
2044	20,630,000	3,777,631	24,407,631	30,686,667	3,968,798	34,655,465
2045	21,525,000	2,880,563	24,405,563	22,752,933	2,563,276	25,316,210
2046	22,445,000	1,944,738	24,389,738	13,860,133	1,429,444	15,289,577
2047	21,955,000	999,563	22,954,563	11,072,533	744,408	11,816,941
2048	11,825,000	266,063	12,091,063	3,750,767	205,750	3,956,517
	<u>\$ 1,114,498,333</u>	<u>\$ 683,088,021</u>	<u>\$ 1,797,586,355</u>	<u>\$1,863,430,154</u>	<u>\$ 1,039,319,679</u>	<u>\$ 2,902,749,833</u>

Amounts represent transfers to the Debt Service Fund for existing and proposed debt, including obligations under the 2003 swap agreement.

BUDGETED REVENUE AND REFUNDING BONDS DEBT SERVICE SCHEDULES

Fiscal Year December 31.	Interest Rate Hedge (Swap)			Total Bonded Service		
	Principal	Interest	Total	Principal	Interest	Total
2019	\$ 3,996,667	\$ 3,277,468	\$ 7,274,135	\$ 100,812,121	\$ 129,436,559	\$ 230,248,680
2020	4,178,333	3,110,408	7,288,741	105,748,333	125,585,190	231,333,524
2021	4,370,000	2,935,753	7,305,753	110,261,667	121,268,770	231,530,437
2022	4,571,667	2,753,087	7,324,754	111,098,333	117,040,006	228,138,339
2023	4,780,000	2,561,992	7,341,992	114,981,667	112,634,101	227,615,768
2024	4,996,667	2,362,188	7,358,854	119,180,000	107,611,725	226,791,725
2025	5,226,667	2,153,327	7,379,994	123,196,666	102,376,536	225,573,202
2026	5,461,667	1,934,852	7,396,519	129,938,333	96,902,283	226,840,617
2027	5,710,000	1,706,555	7,416,555	135,170,000	91,090,386	226,260,386
2028	5,971,667	1,467,877	7,439,543	119,831,667	85,284,860	205,116,527
2029	6,243,333	1,218,261	7,461,594	111,846,667	80,103,992	191,950,659
2030	6,528,333	957,290	7,485,623	115,091,667	75,358,441	190,450,108
2031	6,825,000	684,405	7,509,405	118,998,333	70,493,760	189,492,093
2032	7,135,000	399,120	7,534,120	123,376,667	65,418,435	188,795,102
2033	2,413,333	100,877	2,514,211	145,855,000	60,141,171	205,996,171
2034	-	-	-	138,546,667	53,553,213	192,099,880
2035	-	-	-	130,950,000	47,313,836	178,263,836
2036	-	-	-	135,243,333	41,645,879	176,889,212
2037	-	-	-	133,588,334	36,017,525	169,605,859
2038	-	-	-	134,003,333	30,314,779	164,318,113
2039	-	-	-	124,325,000	24,350,350	148,675,350
2040	-	-	-	90,475,000	19,069,429	109,544,429
2041	-	-	-	74,983,333	15,475,749	90,459,082
2042	-	-	-	68,838,333	12,678,276	81,516,609
2043	-	-	-	59,493,333	10,085,675	69,579,008
2044	-	-	-	51,316,667	7,746,429	59,063,096
2045	-	-	-	44,277,933	5,443,839	49,721,772
2046	-	-	-	36,305,133	3,374,182	39,679,315
2047	-	-	-	33,027,533	1,743,971	34,771,504
2048	-	-	-	15,575,767	471,813	16,047,579
	\$ 78,408,333	\$ 27,623,460	\$ 106,031,794	\$3,056,336,821	\$1,750,031,160	\$4,806,367,981

Total Senior Lien, Junior Lien, and Interest Rate Hedge Debt Service



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ORGANIZATION AND STAFFING

ORGANIZATION AND STAFFING

OPERATIONS AND MAINTENANCE SUMMARY BY DEPARTMENT

(\$ in thousands)	2016 Actual	2017 Actual	2018 Budget	2019 Budget
Board of Trustees and Pres/CEO				
Board of Trustees	\$ 73	\$ 61	\$ 64	\$ 64
Board of Trustees Support	163	251	316	323
Office of the President-CEO	1,213	1,164	1,067	1,149
Internal Audit Dept	466	425	590	581
Board of Trustees and Pres/CEO Total	1,915	1,901	2,037	2,118
Engineering and Construction				
Office of the VP - Engineering and Construction	553	935	831	1,262
Construction	5,495	6,140	6,504	6,563
Development	3,975	4,365	4,521	4,958
Governmental Engineering	65	-	-	-
Pipelines	3,202	3,802	4,379	4,123
Plants and Major Projects	2,625	1,876	1,907	1,823
Central Water Integration Pipeline	-	203	440	618
Water Supply Implementation	52	-	-	-
Engineering and Construction Total	15,968	17,321	18,581	19,346
Water Resources and Governmental Relations				
Governmental Relations	916	1,011	1,071	1,022
Mitchell Lake Expanded Wetlands	-	-	-	888
Resource Protection & Compliance	7,479	8,303	9,003	8,580
Vista Ridge	402	1,059	6,220	2,299
Water Resources	73,238	71,000	71,435	69,993
Water Resources and Governmental Relations Total	82,034	81,372	87,728	82,782
Operations				
Ofc of Chief Operating Officer	714	840	1,104	881
Laboratory Technical Services	2,235	2,211	2,180	2,206
Operations Total	2,949	3,051	3,285	3,086
Distribution and Collection Operations				
Office of the VP - Distribution and Collection	533	591	779	616
Construction and Maintenance	22,070	26,181	24,682	25,159
Distribution and Collection Support Services	559	1,567	2,244	3,531
Eastern Operations Centers	11,484	10,332	10,951	11,031
Emergency Operations Center	1,126	1,295	2,462	1,449
Western Operations Centers	11,666	10,009	10,363	9,933
Distribution and Collection Operations Total	47,438	49,975	51,479	51,718
Production and Treatment				
Office of the VP - Production and Treatment	425	347	422	486
Ofc of Director - Production and Treatment	349	396	384	262
Fleet and Facilities Maintenance	21,100	22,017	22,041	22,458
Predictive Maintenance	384	407	330	340
Production	27,701	31,813	35,488	38,499
Security	2,858	3,458	3,491	3,486
Treatment Maintenance Management	14,697	15,592	14,216	16,882
Treatment Operations Management	21,464	21,105	21,239	21,253
Production and Treatment Total	88,979	95,136	97,611	103,665
Sewer System Improvements				
Capacity Assessment	2,242	1,402	1,320	1,010
Capacity Mgt O&M (CMOM)	5,591	4,277	4,289	4,300
Program Administration	8,056	6,737	5,235	3,892
Structural Sewer Assessment	4,733	2,290	2,075	3,594
Sewer System Improvements Total	20,623	14,705	12,919	12,796

OPERATIONS AND MAINTENANCE SUMMARY BY DEPARTMENT

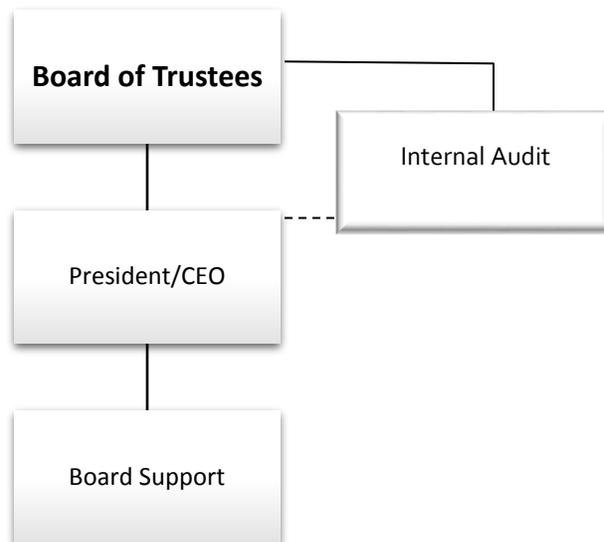
(\$ in thousands)	2016 Actual	2017 Actual	2018 Budget	2019 Budget
Financial Services				
Office of the CFO	395	410	394	413
Accounting	1,815	1,985	2,120	2,019
Continuous Improvement and Business Planning	1,093	1,237	1,313	1,340
Purchasing and Supply	1,862	1,766	1,877	1,961
Treasury	875	953	941	988
Financial Services Total	6,040	6,350	6,645	6,721
Information Systems				
Office of the CIO	634	698	862	1,987
Enterprise Solutions	4,613	5,291	6,104	7,475
IT Infrastructure & Operations	6,284	7,204	7,400	7,558
Program Mgmt - IT Support	1,762	1,607	1,357	-
Shared Services	5,340	5,997	7,018	6,869
Information Systems Total	18,633	20,797	22,741	23,889
Customer Service				
Customer Service Administration	959	562	515	485
Automated Metering Infra. (AMI)	-	293	1,642	219
Billing and Customer Care	6,596	7,137	7,493	7,393
Field Operations	5,829	6,217	6,094	6,386
Performance Analysis and Training	-	461	507	560
Quality and Revenue Protection	759	648	726	643
Customer Service Total	14,143	15,319	16,976	15,685
Legal				
Contracting	1,393	1,409	1,509	1,536
Corporate Real Estate	698	567	648	587
Legal	3,103	3,657	4,418	5,889
Legal Total	5,195	5,633	6,575	8,012
Human Resources				
Human Resources	3,602	4,025	4,186	4,755
Risk Management	2,838	2,843	3,155	2,956
Human Resources Total	6,439	6,869	7,341	7,711
Communications and External Affairs				
Communications Administration	462	551	507	592
Communications	1,448	1,280	1,625	1,566
Conservation	4,453	3,453	5,618	5,700
External Affairs	1,417	1,457	1,592	2,038
Communications and External Affairs Total	7,780	6,741	9,342	9,897
Other Requirements	29,732	25,368	30,588	32,424
Total O&M before Capitalized Costs	347,868	350,539	373,849	379,850
Capitalized Cost	(32,629)	(32,219)	(33,997)	(29,403)
Grand Total	\$ 315,239	\$ 318,320	\$ 339,852	\$ 350,447

OPERATIONS AND MAINTENANCE SUMMARIES BY GROUP

BOARD OF TRUSTEES AND PRESIDENT/CEO

The Board of Trustees and President /CEO Group provide the overall leadership, management, direction and policy implementation for the San Antonio Water System. It consists of the Board of Trustees, Office of the President/CEO, Board support functions, and the Internal Audit function.

- **Board of Trustees** – SAWS is governed by the San Antonio Water System Board of Trustees. The Board consists of the Mayor and six members appointed by the City Council. The Board of Trustees is responsible for setting the overall policy direction of the system.
- **President/CEO** – The President/CEO is responsible and accountable for leading and managing the San Antonio Water System, including the implementation of the policy goals set by the Board of Trustees and City Council. The President/CEO sets the vision and works alongside employees to achieve SAWS’ mission and goals.
- **Internal Audit** – The Internal Audit Office provides independent and objective assurance and consulting services designed to add value and improve SAWS’ operations. Internal Audit co-reports to the Board of Trustees.



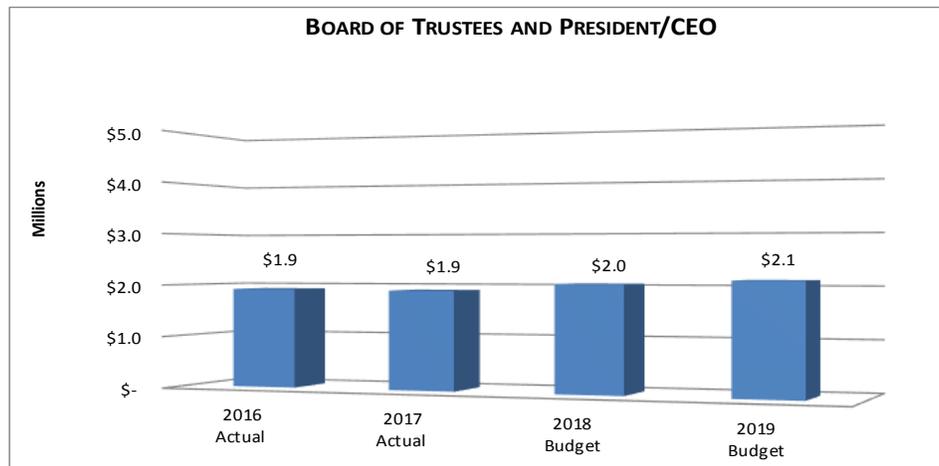
BOARD OF TRUSTEES AND PRESIDENT/CEO

(\$ in thousands)

Expenditures by Type	2016 Actual	2017 Actual	2018 Budget	2019 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	\$ 1,713	\$ 1,709	\$ 1,766	\$ 1,870
Contractual Services	196	185	258	238
Materials and Supplies	6	6	12	10
Other Charges	-	-	-	-
O&M Before Capitalized Cost Total	\$ 1,915	\$ 1,901	\$ 2,037	\$ 2,118
Capitalized Cost	-	-	-	-
Total O&M	\$ 1,915	\$ 1,901	\$ 2,037	\$ 2,118
Capital Outlay	\$ 2	\$ 1	\$ -	\$ -

Expenditures by Department	2016 Actual	2017 Actual	2018 Budget	2019 Budget
Board of Trustees	\$ 73	\$ 61	\$ 64	\$ 64
Board of Trustees Support	163	251	316	323
Office of the President-CEO	1,213	1,164	1,067	1,149
Internal Audit Dept	466	425	590	581
O&M Before Capitalized Cost Total	1,915	1,901	2,037	2,118
Capitalized Cost	-	-	-	-
Grand Total	\$ 1,915	\$ 1,901	\$ 2,037	\$ 2,118

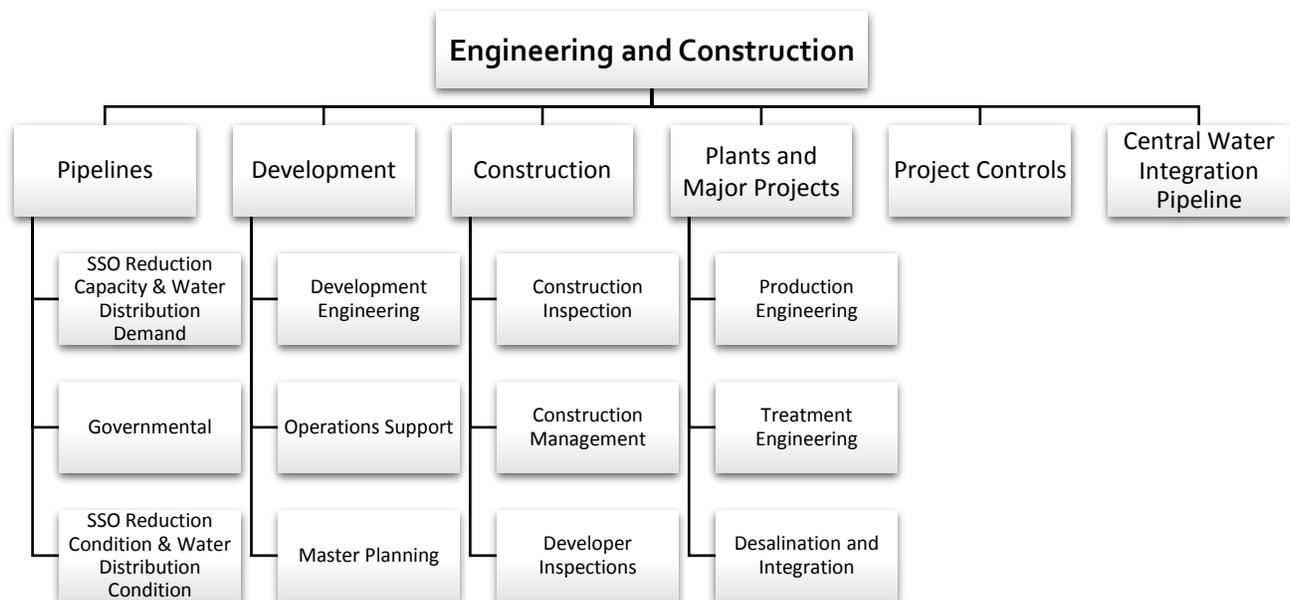
Full-time Equivalent Positions	2016 Budget	2017 Budget	2018 Budget	2019 Proposed Budget
Board of Trustees	-	-	-	-
Board of Trustees Support	4.0	5.0	4.0	4.0
Office of the President-CEO	1.0	1.0	2.0	2.0
Internal Audit Dept	4.0	4.0	4.0	4.0
Total Full-Time Equivalent Positions	9.0	10.0	10.0	10.0



ENGINEERING AND CONSTRUCTION

The Engineering and Construction Group coordinates the development and execution of SAWS Capital Improvements Program (CIP). The group performs engineering analysis of existing facilities and plans new infrastructure to meet the increasing water and wastewater demands of the growing community. The group also designs and manages the construction of new and replacement water and wastewater infrastructure. The Engineering and Construction group is comprised of the following departments:

- **Pipelines** – Plans and coordinates design activities and manages construction for new and rehabilitated water distribution and wastewater collection system projects.
- **Construction** – Inspects infrastructure construction projects for water delivery, sewer and water supply projects.
- **Development** – Manages impact fee program, develops water and wastewater master plans, coordinates infrastructure necessary for new development, and provides engineering support to Distribution and Collection and Production and Treatment groups.
- **Plants and Major Projects** – Plans and coordinates design activities for water supply integration projects, new water supply development, potable and recycled water production facilities, and wastewater treatment plants.
- **Project Controls** – Oversees the entire Capital Improvements Program (CIP) and supports Sanitary Sewer Overflow Reduction Program (SSORP) compliance through project execution. Its goal is to attain and sustain a high level of project success by consistently meeting project schedules and budget, while maintaining scope and meeting stakeholder expectations. Project Controls focuses on cost, schedule, document and data management, quality control and compliance audits.
- **Central Water Integration Pipeline** - SAWS staff manage the design and construction of system improvements necessary to effectively integrate the Vista Ridge water into the existing SAWS system during all demand conditions.



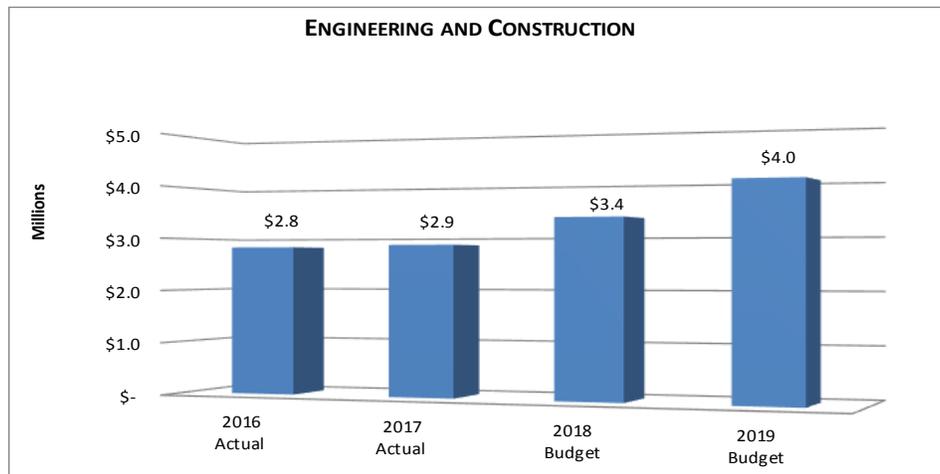
ENGINEERING AND CONSTRUCTION

(\$ in thousands)

Expenditures by Type	2016 Actual	2017 Actual	2018 Budget	2019 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	\$ 14,498	\$ 16,008	\$ 17,267	\$ 17,733
Contractual Services	1,387	1,232	1,245	1,544
Materials and Supplies	83	80	70	69
Other Charges	-	-	-	-
O&M Before Capitalized Cost Total	\$ 15,968	\$ 17,321	\$ 18,581	\$ 19,346
Capitalized Cost	(13,142)	(14,458)	(15,221)	(15,329)
Total O&M	\$ 2,825	\$ 2,863	\$ 3,360	\$ 4,017
Capital Outlay	\$ 19	\$ 9	\$ -	\$ -

Expenditures by Department	2016 Actual	2017 Actual	2018 Budget	2019 Budget
Office of the VP - Engineering and Construction	\$ 553	\$ 935	\$ 831	\$ 1,262
Construction	5,495	6,140	6,504	6,563
Development	3,975	4,365	4,521	4,958
Governmental Engineering	65	-	-	-
Pipelines	3,202	3,802	4,379	4,123
Plants and Major Projects	2,625	1,876	1,907	1,823
Central Water Integration Pipeline	-	203	440	618
Water Supply Implementation	52	-	-	-
O&M Before Capitalized Cost Total	15,968	17,321	18,581	19,346
Capitalized Cost	(13,142)	(14,458)	(15,221)	(15,329)
Grand Total	\$ 2,825	\$ 2,863	\$ 3,360	\$ 4,017

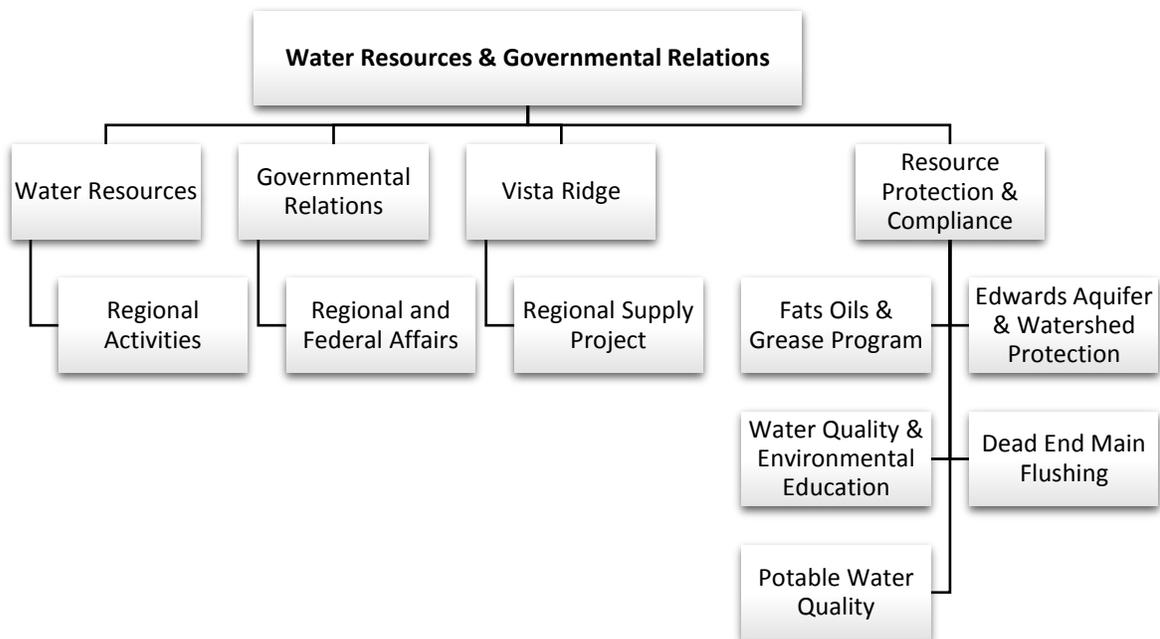
Full-time Equivalent Positions	2016 Budget	2017 Budget	2018 Budget	2019 Proposed Budget
Office of the VP - Engineering and Construction	3.0	3.0	7.0	11.5
Construction	57.0	60.0	75.0	74.0
Development	43.0	54.0	45.0	44.5
Governmental Engineering	19.0	-	-	-
Pipelines	22.0	38.0	48.0	45.0
Plants and Major Projects	34.0	23.5	18.5	17.5
Central Water Integration Pipeline	-	3.0	4.0	5.0
Water Supply Implementation	5.0	-	-	-
Total Full-Time Equivalent Positions	183.0	181.5	197.5	197.5



WATER RESOURCES AND GOVERNMENTAL RELATIONS

The Water Resources and Governmental Relations Group is primarily responsible for development and management of water supplies, drought management and water rights acquisitions, as well as management of the Mitchell Lake Expanded Wetlands. The group consists of the following departments:

- **Water Resources** – Implements the SAWS’ long-range Water Management Plan, through proactively managing existing supplies to ensure customer needs are met and leading efforts in the planning and development of new water supply opportunities to meet the city’s population growth. Water Resources is also responsible for the marketing of the direct recycled water program as well as directing efforts to minimize non-revenue water and ensuring efficient use of water supplies.
- **Governmental Relations** – Identifies and manages critical issues that have public impact and require the attention of Executive Management. Manages key strategic policy issues and relationships with elected officials and agencies at the regional, state and federal levels.
- **Vista Ridge** – Manages SAWS’ obligations and interests in a Public Private Partnership (P3) contract with the Vista Ridge LLC for the annual supply of 50,000 acre-feet of a new, non-Edwards Aquifer source of water for San Antonio. SAWS staff monitors activities during the Construction and Operations phases of the contract.
- **Resource Protection & Compliance** – Ensures water quality of all sources are protected; enforces the regulatory requirements established to protect regional water quality; monitors best management practices at construction sites; utilizes an extensive sampling and monitoring network for compliance purposes and oversees the dead end main flushing and backflow testing activities.



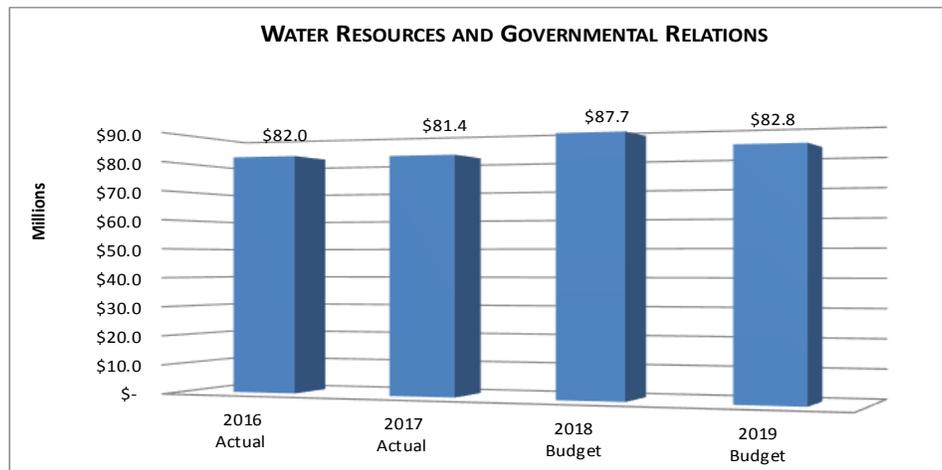
WATER RESOURCES AND GOVERNMENTAL RELATIONS

(\$ in thousands)

Expenditures by Type	2016 Actual	2017 Actual	2018 Budget	2019 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	\$ 7,915	\$ 8,734	\$ 9,214	\$ 9,297
Contractual Services	73,907	72,243	78,253	73,224
Materials and Supplies	213	395	261	261
Other Charges	-	-	-	-
O&M Before Capitalized Cost Total	\$ 82,034	\$ 81,372	\$ 87,728	\$ 82,782
Capitalized Cost	-	(3)	-	-
Total O&M	\$ 82,034	\$ 81,369	\$ 87,728	\$ 82,782
Capital Outlay	\$ 4	\$ 25	\$ 5	\$ -

Expenditures by Department	2016 Actual	2017 Actual	2018 Budget	2019 Budget
Governmental Relations	916	1,011	1,071	1,022
Mitchell Lake Expanded Wetlands	-	-	-	888
Resource Protection & Compliance	7,479	8,303	9,003	8,580
Vista Ridge	402	1,059	6,220	2,299
Water Resources	73,238	71,000	71,435	69,993
O&M Before Capitalized Cost Total	82,034	81,372	87,728	82,782
Capitalized Cost	-	(3)	-	-
Grand Total	\$ 82,034	\$ 81,369	\$ 87,728	\$ 82,782

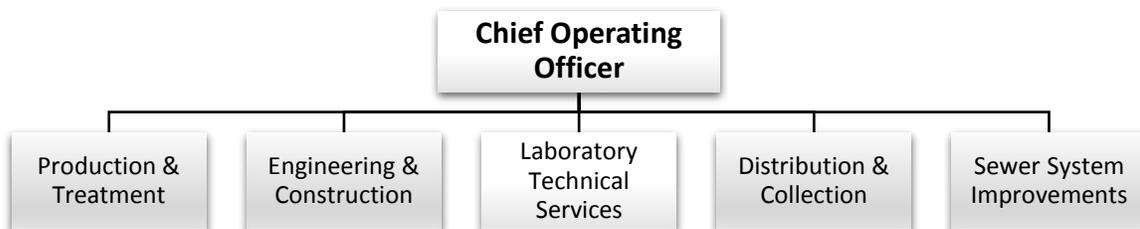
Full-time Equivalent Positions	2016 Budget	2017 Budget	2018 Budget	2019 Proposed Budget
Governmental Relations	9.0	6.0	5.0	5.0
Resource Protection & Compliance	84.0	93.0	91.0	91.0
Vista Ridge	1.0	1.0	5.0	5.0
Water Resources	11.0	9.0	10.0	10.0
Total Full-Time Equivalent Positions	105.0	109.0	111.0	111.0



OPERATIONS

The Operations Group is managed by the Sr. Vice President and Chief Operating Officer (COO). The COO oversees the Engineering & Construction, Distribution & Collection, Production & Treatment, and Sewer System Improvement Groups. The area is responsible for managing the operation and maintenance of the water distribution and wastewater collection systems, and the water and wastewater plants. The following departments also report to the Chief Operating Officer:

- **Laboratory Technical Services** – The Lab is responsible for providing analytical services for all of SAWS water quality needs. The lab maintains a broad scope of analytical expertise covering microbiology, inorganic and organic testing activities. This technical expertise enables the laboratory to perform a wide variety of routine environmental tests to support the SAWS' water and wastewater activities. The Lab is accredited by the Texas Commission on Environmental Quality (TCEQ) under the National Environmental Laboratory Accreditation Program.



OPERATIONS

(\$ in thousands)

Expenditures by Type	2016 Actual	2017 Actual	2018 Budget	2019 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	\$ 2,252	\$ 2,364	\$ 2,263	\$ 2,515
Contractual Services	423	391	775	312
Materials and Supplies	274	295	247	259
Other Charges	-	-	-	-
O&M Before Capitalized Cost Total	\$ 2,949	\$ 3,051	\$ 3,285	\$ 3,086
Capitalized Cost	(196)	(310)	(269)	-
Total O&M	\$ 2,753	\$ 2,740	\$ 3,016	\$ 3,086
Capital Outlay	\$ 92	\$ 174	\$ 200	\$ 200

Expenditures by Department	2016 Actual	2017 Actual	2018 Budget	2019 Budget
Ofc of Chief Operating Officer	\$ 714	\$ 840	\$ 1,104	\$ 881
Laboratory Technical Services	2,235	2,211	2,180	2,206
O&M Before Capitalized Cost Total	2,949	3,051	3,285	3,086
Capitalized Cost	(196)	(310)	(269)	-
Grand Total	\$ 2,753	\$ 2,740	\$ 3,016	\$ 3,086

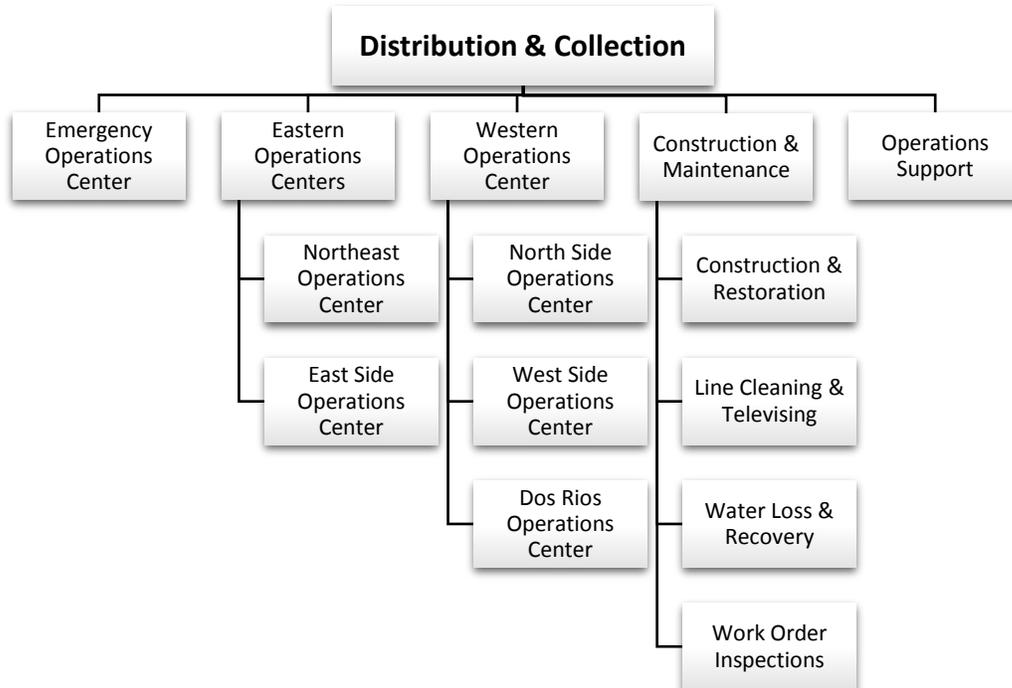
Full-time Equivalent Positions	2016 Budget	2017 Budget	2018 Budget	2019 Proposed Budget
Ofc of Chief Operating Officer	4.0	5.0	4.0	6.0
Laboratory Technical Services	21.0	20.0	20.0	20.0
Total Full-Time Equivalent Positions	25.0	25.0	24.0	26.0



DISTRIBUTION AND COLLECTION

The Distribution and Collection Group operates, maintains and repairs over 12,500 miles of water and sewer mains, approximately 120 miles of recycled water distribution lines, and 9 miles of chilled water lines ensuring our customers receive uninterrupted, quality water and associated services. This is accomplished by the following departments:

- **Emergency Operations Center** – Manages the 24-hour emergency call center and reports/dispatches crews for water leaks, main breaks and overall tactical response to problems with the system.
- **Operations Centers** – SAWS utility crews are mobilized from five strategically located operations centers throughout the city: Northeast, East Side, North Side, West Side, and Dos Rios (South Side). SAWS operations centers are staffed with the necessary resources to properly repair and maintain underground water, wastewater, recycled water, and chilled water infrastructure throughout the SAWS service area.
- **Construction & Maintenance** – Repairs and proactively maintains the wastewater collection system, including line cleaning and televising to verify sewer infrastructure condition and pinpoint defects. Performs flowable fill backfills and concrete / asphalt restoration following pipeline repairs. Water Loss & Recovery oversees all meter repair resources and the proactive leak detection, valve assessment, and fire hydrant maintenance programs.
- **Operations Support** - Provides administrative support to departments within the group, including invoice processing, data management, service contract management, materials acquisition and notification services for maintenance crews. Operations Support also performs emergency and routine field investigations including utility locate services.



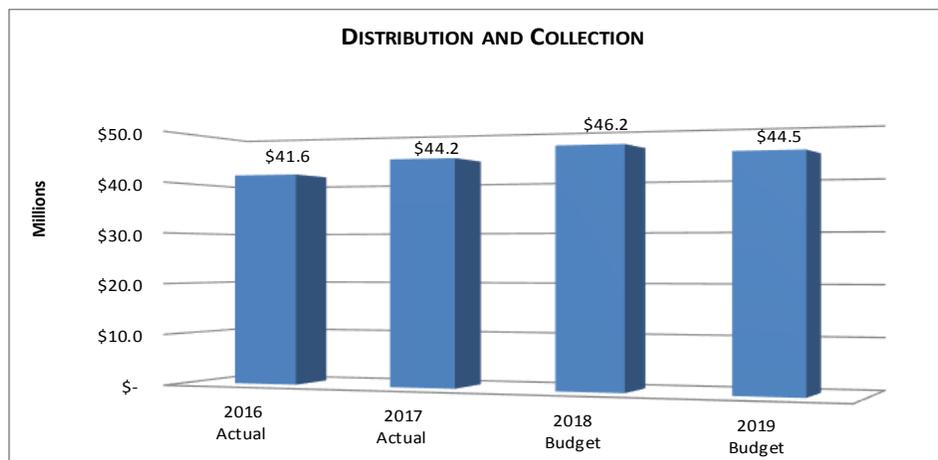
DISTRIBUTION AND COLLECTION

(\$ in thousands)

Expenditures by Type	2016 Actual	2017 Actual	2018 Budget	2019 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	\$ 30,240	\$ 32,451	\$ 33,812	\$ 33,522
Contractual Services	11,119	11,655	11,322	11,856
Materials and Supplies	6,082	5,869	6,345	6,340
Other Charges	(2)	-	-	-
O&M Before Capitalized Cost Total	\$ 47,438	\$ 49,975	\$ 51,479	\$ 51,718
Capitalized Cost	(5,882)	(5,807)	(5,322)	(7,253)
Total O&M	\$ 41,556	\$ 44,168	\$ 46,157	\$ 44,465
Capital Outlay	\$ 53	\$ 66	\$ 275	\$ 125

Expenditures by Department	2016 Actual	2017 Actual	2018 Budget	2019 Budget
Office of the VP - Distribution and Collection	\$ 533	\$ 591	\$ 779	\$ 616
Construction and Maintenance	22,070	26,181	24,682	25,159
Distribution and Collection Support Services	559	1,567	2,244	3,531
Eastern Operations Centers	11,484	10,332	10,951	11,031
Emergency Operations Center	1,126	1,295	2,462	1,449
Western Operations Centers	11,666	10,009	10,363	9,933
O&M Before Capitalized Cost Total	47,438	49,975	51,479	51,718
Capitalized Cost	(5,882)	(5,807)	(5,322)	(7,253)
Grand Total	\$ 41,556	\$ 44,168	\$ 46,157	\$ 44,465

Full-time Equivalent Positions	2016 Budget	2017 Budget	2018 Budget	2019 Proposed Budget
Office of the VP - Distribution and Collection	4.0	5.0	4.0	4.0
Construction and Maintenance	204.0	206.0	217.0	216.0
Distribution and Collection Support Services	12.0	6.0	18.0	34.0
Eastern Operations Centers	154.0	153.0	138.0	133.0
Emergency Operations Center	18.0	18.0	22.0	22.0
Western Operations Centers	141.0	143.0	141.0	132.0
Total Full-Time Equivalent Positions	533.0	531.0	540.0	541.0

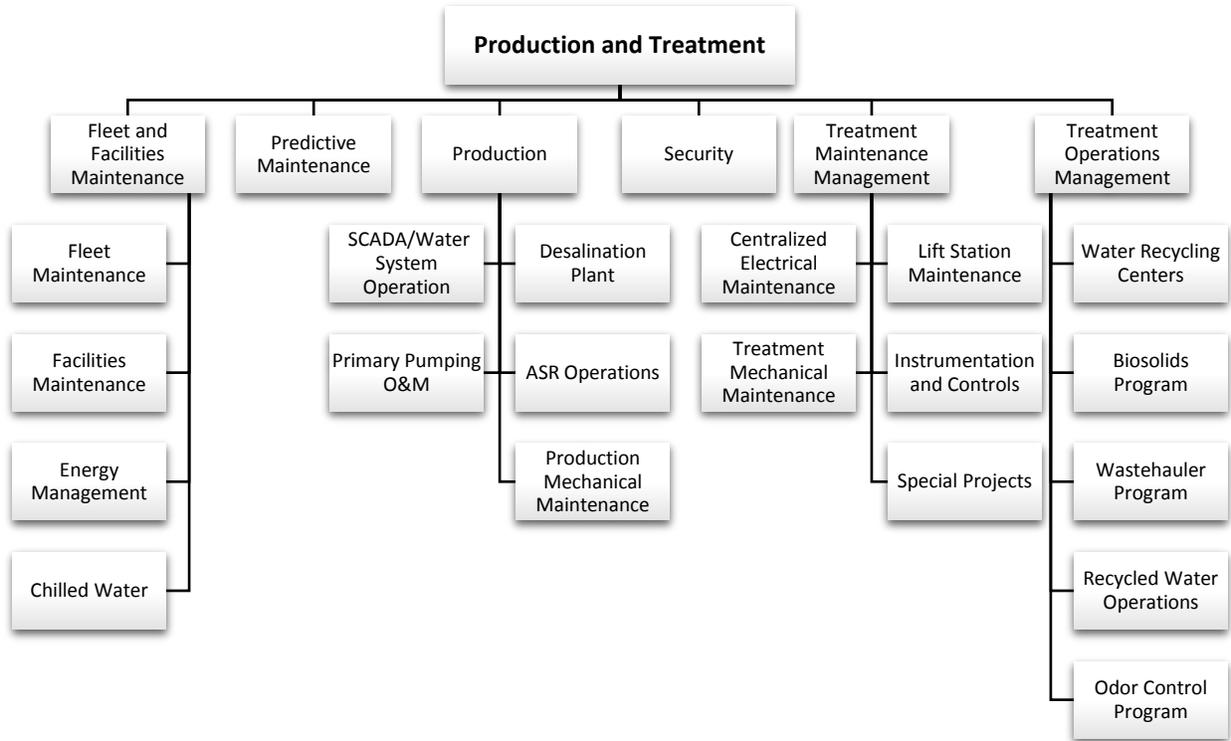


PRODUCTION AND TREATMENT

The Production and Treatment Group provides the essential function of managing the 24-hour-a-day operation of the water and wastewater system. The group is responsible for the production of potable water; the treatment of wastewater for distribution in the recycle system or discharge; the processing of wastewater biosolids for ultimate disposal; the distribution of recycled water for reuse purposes; management of city wide odor control program; maintaining and purchase of fleet assets; maintenance and management of facilities; centralized chilled water operations; and security of facilities and personnel. This group consists of the following departments:

- **Fleet & Facilities Maintenance** – Provides comprehensive maintenance services for all SAWS vehicles and equipment. The Fleet Department also manages vehicle replacement and disposal. Facilities Maintenance provides building maintenance and management services at SAWS facilities. Additionally, Fleet & Facilities manages the Chilled Water plants serving customers downtown and at Port San Antonio. Fleet & Facilities also oversees the Office of Energy Management which manages the process for electric/gas services metering, bill review and payment for all SAWS activities.
- **Predictive Maintenance** - Manages and plans maintenance functions within the Production and Treatment group, as well as performs analysis to reduce critical infrastructure failures and ultimately improve systems.
- **Production** – Manages the production of potable water across SAWS service area. Operates SAWS potable water facilities, recycled water distribution system and lift stations, and the H₂Oaks Facility. Also manages the Production Mechanical Maintenance unit.
- **Security** – Manages a proactive security program and associated support contracts for all SAWS facilities.
- **Treatment Maintenance Management** – Manages centralized maintenance of mechanical systems, electrical systems, and instrumentation and controls across all SAWS production, treatment and lift station facilities, and the H₂Oaks Facility. The department is also responsible for maintenance of the recycled water outfalls, and special construction and repair projects across the system.
- **Treatment Operations Management** – Oversees all operations of the three water recycling centers which includes biosolids processing to ensure proper recycling or disposal in compliance with state and federal regulations. Also manages the Wastehauler program and the odor control program. Additionally, operates recycled water outfalls and environmental flows into rivers.

PRODUCTION AND TREATMENT



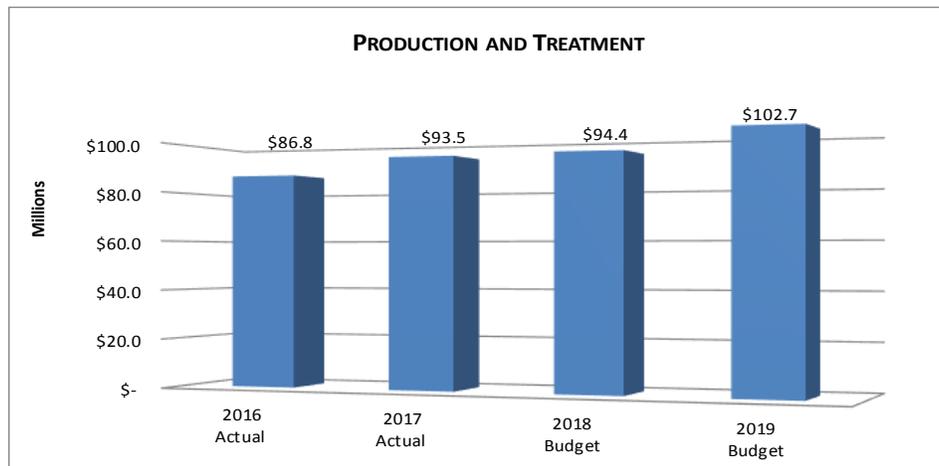
PRODUCTION AND TREATMENT

(\$ in thousands)

Expenditures by Type	2016 Actual	2017 Actual	2018 Budget	2019 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	\$ 27,305	\$ 28,798	\$ 27,946	\$ 29,447
Contractual Services	47,538	50,671	54,023	58,299
Materials and Supplies	14,136	15,668	15,643	15,919
Other Charges	-	-	-	-
O&M Before Capitalized Cost Total	\$ 88,979	\$ 95,136	\$ 97,611	\$ 103,665
Capitalized Cost	(2,198)	(1,620)	(3,239)	(941)
Total O&M	\$ 86,781	\$ 93,516	\$ 94,372	\$ 102,724
Capital Outlay	\$ 6,282	\$ 8,188	\$ 7,196	\$ 6,971

Expenditures by Department	2016 Actual	2017 Actual	2018 Budget	2019 Budget
Office of the VP - Production and Treatment	\$ 425	\$ 347	\$ 422	\$ 486
Ofc of Director - Production and Treatment	349	396	384	262
Fleet and Facilities Maintenance	21,100	22,017	22,041	22,458
Predictive Maintenance	384	407	330	340
Production	27,701	31,813	35,488	38,499
Security	2,858	3,458	3,491	3,486
Treatment Maintenance Management	14,697	15,592	14,216	16,882
Treatment Operations Management	21,464	21,105	21,239	21,253
O&M Before Capitalized Cost Total	88,979	95,136	97,611	103,665
Capitalized Cost	(2,198)	(1,620)	(3,239)	(941)
Grand Total	\$ 86,781	\$ 93,516	\$ 94,372	\$ 102,724

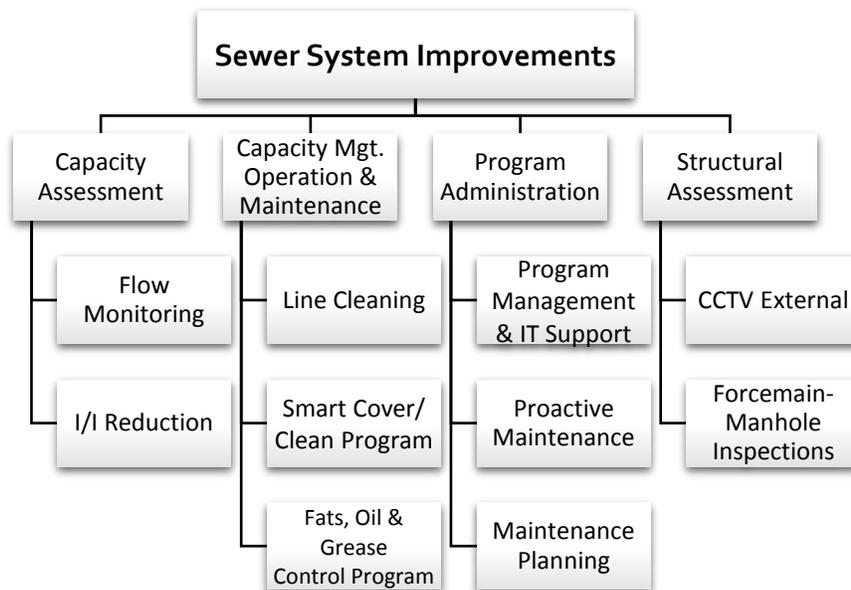
Full-time Equivalent Positions	2016 Budget	2017 Budget	2018 Budget	2019 Proposed Budget
Office of the VP - Production and Treatment	-	2.0	2.0	2.0
Ofc of Director - Production and Treatment	5.0	2.0	3.0	2.0
Fleet and Facilities Maintenance	110.0	97.0	95.0	94.0
Predictive Maintenance	6.0	5.0	4.0	4.0
Production	63.0	75.0	71.0	73.0
Security	10.1	10.5	11.0	11.0
Treatment Maintenance Management	127.0	126.0	126.0	127.0
Treatment Operations Management	77.0	79.0	78.0	75.0
Total Full-Time Equivalent Positions	398.1	396.5	390.0	388.0



SEWER SYSTEM IMPROVEMENTS

The Sewer System Improvements Group is responsible for developing, implementing and administering various programs designed to reduce sanitary sewer overflows (SSO) in the wastewater collection and transmission system (WCTS). This is accomplished through the following functions:

- **Capacity Assessment** – Evaluates the capacity of the WCTS through flow monitoring and hydraulic modeling. Directs the Inflow/Infiltration (I/I) Reduction Program implemented to decrease excess flow from entering the WCTS during significant rain events.
- **Capacity Management Operation & Maintenance (CMOM)** – Executes a comprehensive program encompassing activities to optimize the performance of the WCTS, including a system-wide cleaning program, Smart Cover/Clean Program and Fats, Oils, and Grease Control Program.
- **Program Administration** – Directs the comprehensive Sewer System Improvement program activities related to SSO reduction. Provides overall data management to include reporting requirements pertaining to SSOs as well as the operations and maintenance of the WCTS.
- **Structural Sewer Assessment** – Coordinates and executes activities associated with inspecting, assessing and performing remedial measures associated with condition and capacity constraints in the WCTS



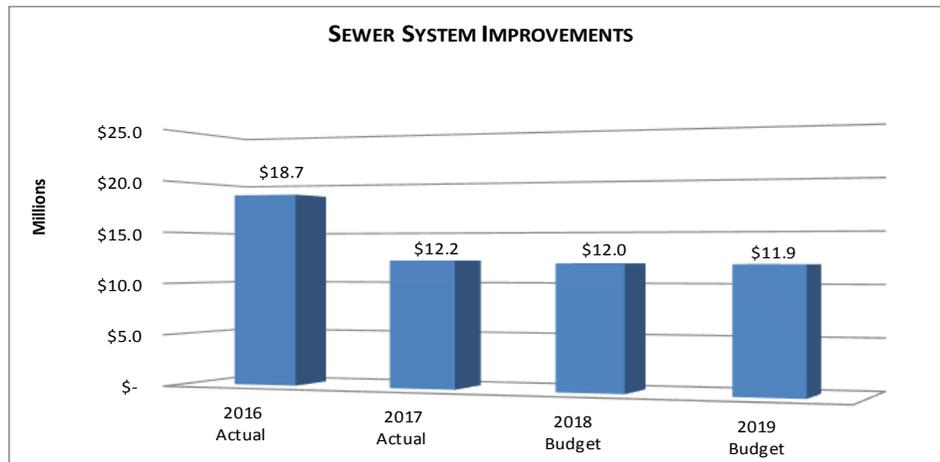
SEWER SYSTEM IMPROVEMENTS

(\$ in thousands)

Expenditures by Type	2016 Actual	2017 Actual	2018 Budget	2019 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	\$ 2,690	\$ 2,782	\$ 3,071	\$ 2,972
Contractual Services	17,693	11,851	9,804	9,778
Materials and Supplies	240	73	45	47
Other Charges	-	-	-	-
O&M Before Capitalized Cost Total	\$ 20,623	\$ 14,705	\$ 12,919	\$ 12,796
Capitalized Cost	(1,951)	(2,477)	(948)	(888)
Total O&M	\$ 18,672	\$ 12,228	\$ 11,971	\$ 11,908
Capital Outlay	\$ 3	\$ 4	\$ 2	\$ -

Expenditures by Department	2016 Actual	2017 Actual	2018 Budget	2019 Budget
Capacity Assessment	\$ 2,242	\$ 1,402	\$ 1,320	\$ 1,010
Capacity Mgt O&M (CMOM)	5,591	4,277	4,289	4,300
Program Administration	8,056	6,737	5,235	3,892
Structural Sewer Assessment	4,733	2,290	2,075	3,594
O&M Before Capitalized Cost Total	20,623	14,705	12,919	12,796
Capitalized Cost	(1,951)	(2,477)	(948)	(888)
Grand Total	\$ 18,672	\$ 12,228	\$ 11,971	\$ 11,908

Full-time Equivalent Positions	2016 Budget	2017 Budget	2018 Budget	2019 Proposed Budget
Program Administration	30.0	40.0	39.0	37.0
Structural Sewer Assessment	4.0	-	-	-
Total Full-Time Equivalent Positions	34.0	40.0	39.0	37.0

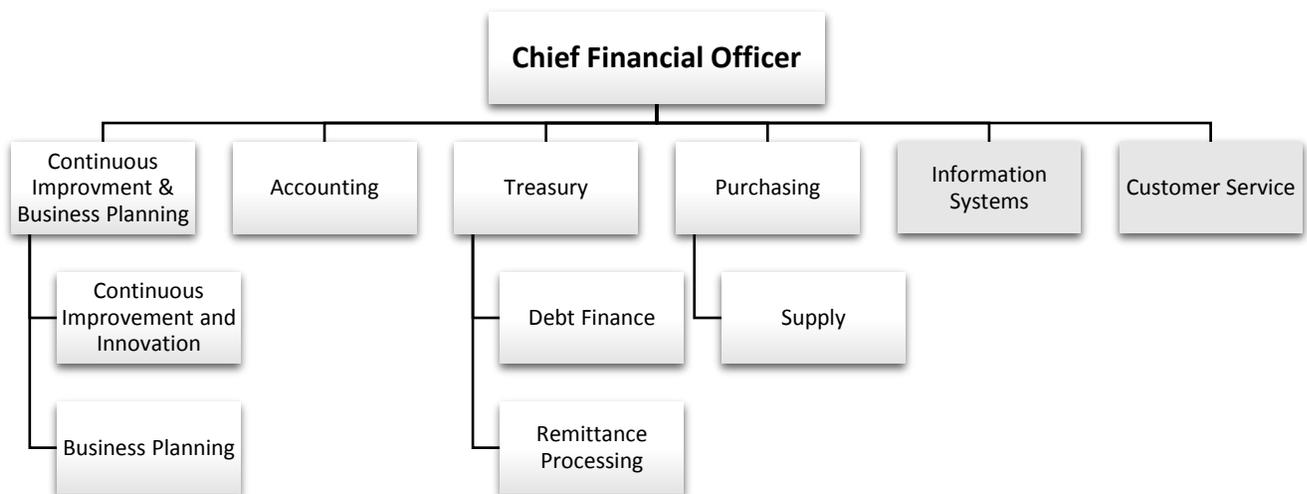


FINANCIAL SERVICES

The Financial Services Group is headed by the Sr. Vice President/Chief Financial Officer (CFO) and ensures the utility's efficient operation by effectively managing and reporting on the corporate financial position, ensuring financial compliance with current legal and regulatory requirements, and providing timely financial support, services and guidance to internal and external stakeholders. This is accomplished through the following functions:

- **Continuous Improvement and Business Planning**
 - Continuous Improvement and Innovation conducts business performance reviews and process analysis across the organization to streamline operations, maximizes budgetary resources, promotes efficiencies, enhances customer service and implements innovative management practices.
 - Business Planning ensures that SAWS' strategic objectives are financially supported through short and long range financial planning; annual budget planning and preparation; and rates analysis and development to provide revenues sufficient to support operating activities and capital improvement project implementation.
- **Accounting** – Responsible for accurate and timely accounting and financial reporting through the General Accounting, Property Accounting, Payroll, and Accounts Payable units.
- **Treasury** – Responsible for banking relationships, investment and debt management, and remittance (customer payment) processing.
- **Purchasing** – Manages the processing and contracting of all procurement requests for materials, supplies and services. Also manages the inventory control function.

The CFO also oversees the Information Systems and Customer Service groups.



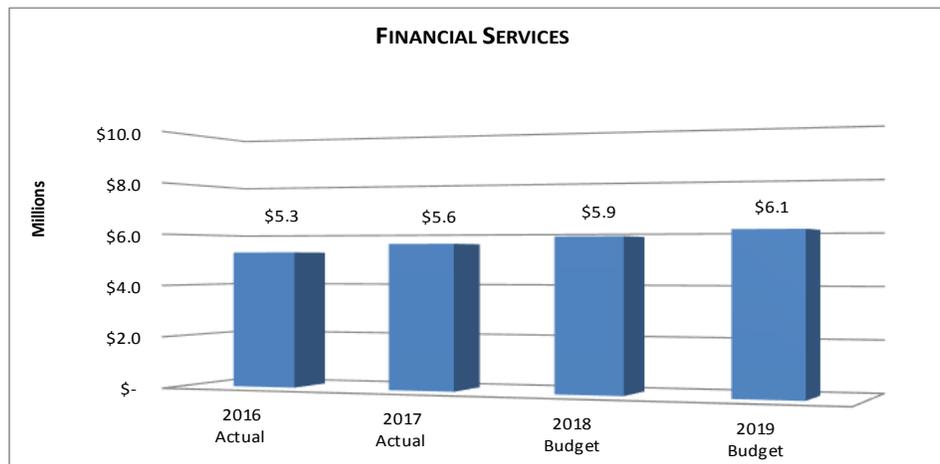
FINANCIAL SERVICES

(\$ in thousands)

Expenditures by Type	2016 Actual	2017 Actual	2018 Budget	2019 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	\$ 5,545	\$ 5,834	\$ 6,008	\$ 6,068
Contractual Services	456	499	578	583
Materials and Supplies	37	18	59	59
Other Charges	2	(1)	-	10
O&M Before Capitalized Cost Total	\$ 6,040	\$ 6,350	\$ 6,645	\$ 6,721
Capitalized Cost	(753)	(744)	(779)	(619)
Total O&M	\$ 5,288	\$ 5,607	\$ 5,866	\$ 6,102
Capital Outlay	\$ 3	\$ 186	\$ -	\$ -

Expenditures by Department	2016 Actual	2017 Actual	2018 Budget	2019 Budget
Office of the CFO	\$ 395	\$ 410	\$ 394	\$ 413
Accounting	1,815	1,985	2,120	2,019
Continuous Improvement and Business Planning	1,093	1,237	1,313	1,340
Purchasing and Supply	1,862	1,766	1,877	1,961
Treasury	875	953	941	988
O&M Before Capitalized Cost Total	6,040	6,350	6,645	6,721
Capitalized Cost	(753)	(744)	(779)	(619)
Grand Total	\$ 5,288	\$ 5,607	\$ 5,866	\$ 6,102

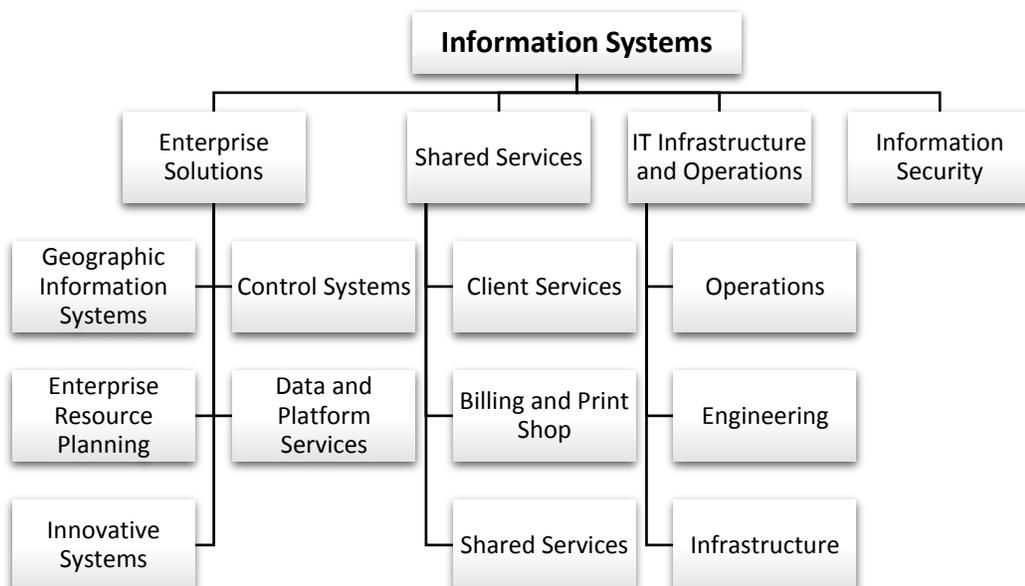
Full-time Equivalent Positions	2016 Budget	2017 Budget	2018 Budget	2019 Proposed Budget
Office of the CFO	2.0	2.0	2.0	2.0
Accounting	21.5	21.5	22.5	22.0
Continuous Improvement and Business Planning	10.0	11.0	11.0	11.5
Purchasing and Supply	24.0	24.0	24.0	24.0
Treasury	13.0	11.0	11.0	11.0
Total Full-Time Equivalent Positions	70.5	69.5	70.5	70.5



INFORMATION SYSTEMS

SAWS Information Systems Group delivers quality, secure, cost-effective applications and information technology services, which promote innovation to sustain growth while enabling SAWS to better serve our valued customers. Information Systems teams include:

- **Enterprise Solutions:**
 - *Geographic Information Systems (GIS)* – Develops, analyzes and delivers geographic data and solutions related to SAWS infrastructure and activities.
 - *Control Systems* – Implements, monitors, and maintains supervisory control and data acquisition (SCADA) systems.
 - *Enterprise Resource Planning* – Responsible for the programming, configuration, implementation, support and sustainability for all major business support applications.
 - *Data and Platform Administration* - Manages the enterprise data warehouse, business intelligence and GIS platforms to provide SAWS timely information for decision making.
 - *Innovative Systems* – Delivers rapid and effective development of innovative solutions for SAWS with a specific focus on improving customer experience through technology.
- **Shared Services** - Supports SAWS’ technology initiatives through project life-cycle management, metrics-based tracking, business process re-engineering, quality control/assurance, and organizational change management.
 - *Client Services* – Supports workstation and related peripheral devices across SAWS, including desktop support services as well as technology, software orders and requisitions.
 - *Billing and Print Shop* – Provides computer operations and bill printing services as well as copy services.
- **IT Infrastructure and Operations:**
 - *Operations* – Manages telecommunication services including internet protocol (IP) telephony, teleconferencing, call center systems, interactive voice response systems, recording systems, digital radio systems and 911 systems.
 - *Engineering* – Provides network and internet services, including all aspects of network architecture and engineering, and wired and wireless network infrastructure for SAWS facilities.
 - *Infrastructure* – Responsible for all aspects of systems administration, database administration, systems software and hardware, the storage area network, backup and disaster recovery.
- **Information Security:** Responsible for developing, monitoring, and maintaining cyber security controls to protect the confidentiality, integrity, and availability of enterprise data and information systems assets.



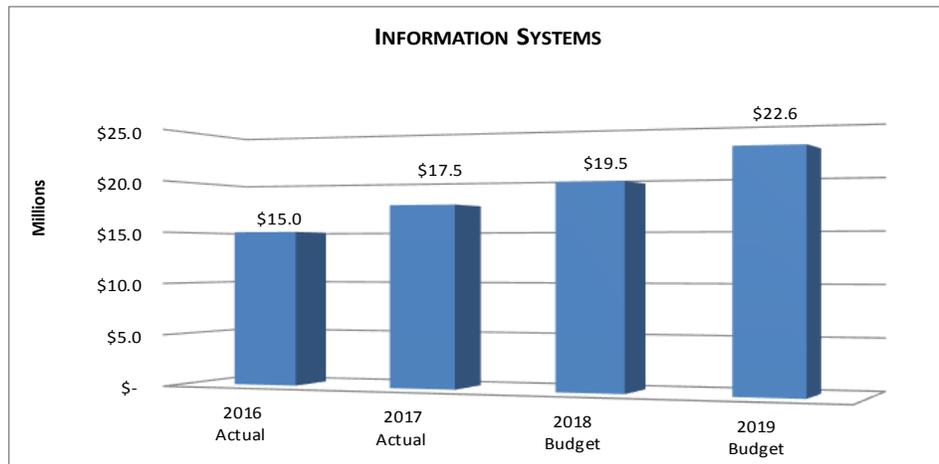
INFORMATION SYSTEMS

(\$ in thousands)

Expenditures by Type	2016 Actual	2017 Actual	2018 Budget	2019 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	\$ 8,940	\$ 9,270	\$ 10,115	\$ 10,476
Contractual Services	9,285	11,067	12,099	12,881
Materials and Supplies	408	460	527	533
Other Charges	-	-	-	-
O&M Before Capitalized Cost Total	\$ 18,633	\$ 20,797	\$ 22,741	\$ 23,889
Capitalized Cost	(3,605)	(3,256)	(3,205)	(1,335)
Total O&M	\$ 15,028	\$ 17,541	\$ 19,536	\$ 22,554
Capital Outlay	\$ 2,386	\$ 1,726	\$ 2,800	\$ 2,385

Expenditures by Department	2016 Actual	2017 Actual	2018 Budget	2019 Budget
Office of the CIO	\$ 634	\$ 698	\$ 862	\$ 1,987
Enterprise Solutions	4,613	5,291	6,104	7,475
IT Infrastructure & Operations	6,284	7,204	7,400	7,558
Program Mgmt - IT Support	1,762	1,607	1,357	-
Shared Services	5,340	5,997	7,018	6,869
O&M Before Capitalized Cost Total	18,633	20,797	22,741	23,889
Capitalized Cost	(3,605)	(3,256)	(3,205)	(1,335)
Grand Total	\$ 15,028	\$ 17,541	\$ 19,536	\$ 22,554

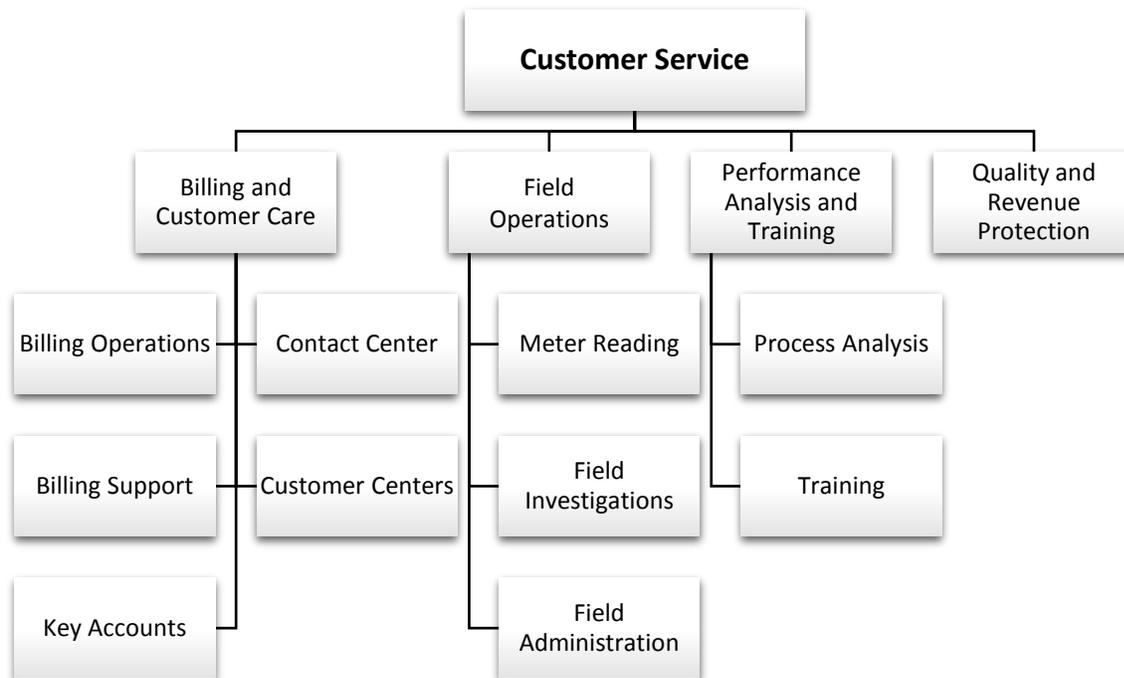
Full-time Equivalent Positions	2016 Budget	2017 Budget	2018 Budget	2019 Proposed Budget
Office of the CIO	8.0	8.0	8.0	12.0
Enterprise Solutions	48.0	48.0	41.0	35.0
IT Infrastructure & Operations	28.5	29.5	29.5	27.5
Shared Services	23.00	23.00	23.00	28.00
Total Full-Time Equivalent Positions	107.5	108.5	101.5	102.5



CUSTOMER SERVICE

The Customer Service Group is responsible for providing the highest level of service to SAWS customers at all times, responding in the most expedient and professional manner possible. This group is also responsible for the accurate and timely billing of SAWS customers and the maintenance of customer accounts.

- **Billing and Customer Care** - Reviews the billing process for accuracy of all SAWS bills printed daily and resolves customer billing issues. Also handles all inbound telephone, electronic and in person customer inquiries regarding billing, account information, service problems and payments.
- **Field Operations** – Responsible for meter reading, service turn-on/turn-off requests, and service investigations.
- **Performance Analysis and Training** – Responsible for data analytics, training, and process improvements throughout Customer Service.
- **Quality & Revenue Protection** – Ensures service excellence through random verification of meter reads and review of customer interactions. Reduces revenue loss through theft detection efforts.



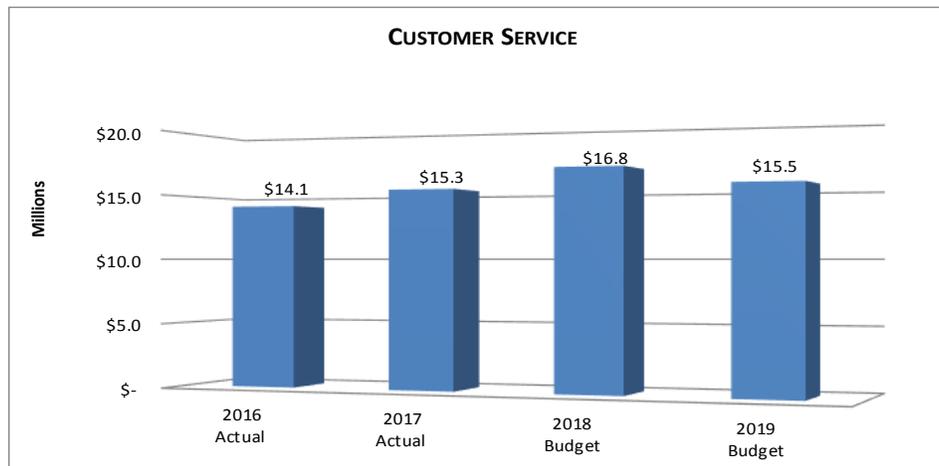
CUSTOMER SERVICE

(\$ in thousands)

Expenditures by Type	2016 Actual	2017 Actual	2018 Budget	2019 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	\$ 12,328	\$ 12,731	\$ 13,336	\$ 13,656
Contractual Services	1,573	2,442	3,445	1,890
Materials and Supplies	233	144	187	136
Other Charges	9	2	9	3
O&M Before Capitalized Cost Total	\$ 14,143	\$ 15,319	\$ 16,976	\$ 15,685
Capitalized Cost	(1)	(3)	(149)	(149)
Total O&M	\$ 14,141	\$ 15,316	\$ 16,827	\$ 15,536
Capital Outlay	\$ 41	\$ 7	\$ -	\$ -

Expenditures by Department	2016 Actual	2017 Actual	2018 Budget	2019 Budget
Customer Service Administration	\$ 959	\$ 562	\$ 515	\$ 485
Automated Metering Infra. (AMI)	-	293	1,642	219
Billing and Customer Care	6,596	7,137	7,493	7,393
Field Operations	5,829	6,217	6,094	6,386
Performance Analysis and Training	-	461	507	560
Quality and Revenue Protection	759	648	726	643
O&M Before Capitalized Cost Total	14,143	15,319	16,976	15,685
Capitalized Cost	(1)	(3)	(149)	(149)
Grand Total	\$ 14,141	\$ 15,316	\$ 16,827	\$ 15,536

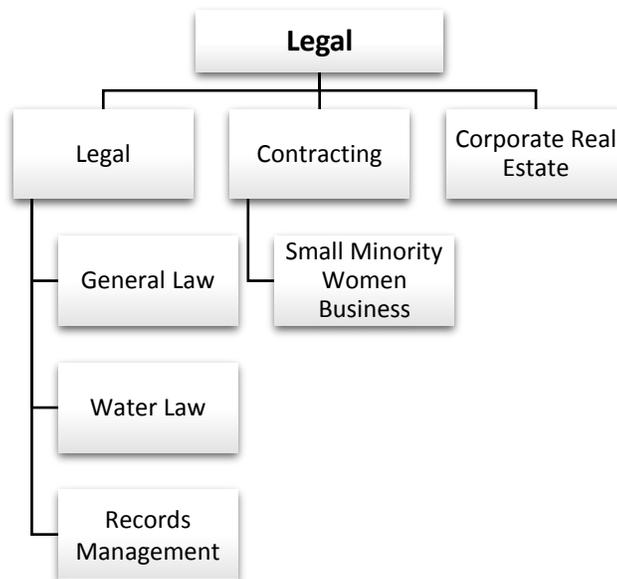
Full-time Equivalent Positions	2016 Budget	2017 Budget	2018 Budget	2019 Proposed Budget
Customer Service Administration	9.0	2.0	3.0	2.0
Automated Metering Infra. (AMI)	-	-	1.0	1.0
Billing and Customer Care	113.0	143.5	141.5	139.5
Field Operations	97.0	102.0	95.0	95.0
Performance Analysis and Training	-	4.0	7.0	7.0
Quality and Revenue Protection	8.0	9.0	11.0	10.0
Total Full-Time Equivalent Positions	227.0	260.5	258.5	254.5



LEGAL

The Legal Group consists of the Legal Services Department, the Contracting Department, the Corporate Real Estate Department, and Records Management Department, whose functions are described below:

- **Legal Services**– Provides full service, in-house legal support to the SAWS’ Board of Trustees, Executive Management and staff. Manages the activities of outside legal counsel. The range of in-house legal expertise includes water resources, labor and employment, litigation management, real estate, general transactional, environmental, and public law.
- **Contracting** – Manages the administration of all construction and professional services contracts and oversees administration of the SAWS Small, Minority and Women Owned Business Program.
- **Corporate Real Estate** – Responsible for property acquisitions, dispositions and lease management activities, and supports all construction and maintenance activities by obtaining all rights of entry and easements.
- **Records Management** – Manages all utility records in compliance with the Texas Local Government Records Act, Texas Public Information Act and best records management practices.



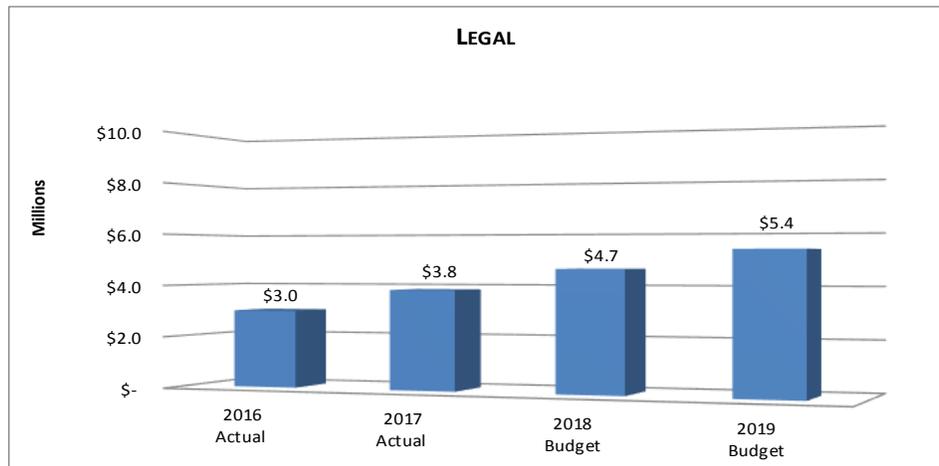
LEGAL

(\$ in thousands)

Expenditures by Type	2016 Actual	2017 Actual	2018 Budget	2019 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	\$ 4,024	\$ 4,107	\$ 4,148	\$ 4,370
Contractual Services	1,146	1,511	2,402	3,617
Materials and Supplies	25	16	25	25
Other Charges	-	-	-	-
O&M Before Capitalized Cost Total	\$ 5,195	\$ 5,633	\$ 6,575	\$ 8,012
Capitalized Cost	(2,194)	(1,793)	(1,918)	(2,617)
Total O&M	\$ 3,001	\$ 3,841	\$ 4,657	\$ 5,395
Capital Outlay	\$ 1	\$ 4	\$ -	\$ 4

Expenditures by Department	2016 Actual	2017 Actual	2018 Budget	2019 Budget
Contracting	\$ 1,393	\$ 1,409	\$ 1,509	\$ 1,536
Corporate Real Estate	698	567	648	587
Legal	3,103	3,657	4,418	5,889
O&M Before Capitalized Cost Total	5,195	5,633	6,575	8,012
Capitalized Cost	(2,194)	(1,793)	(1,918)	(2,617)
Grand Total	\$ 3,001	\$ 3,841	\$ 4,657	\$ 5,395

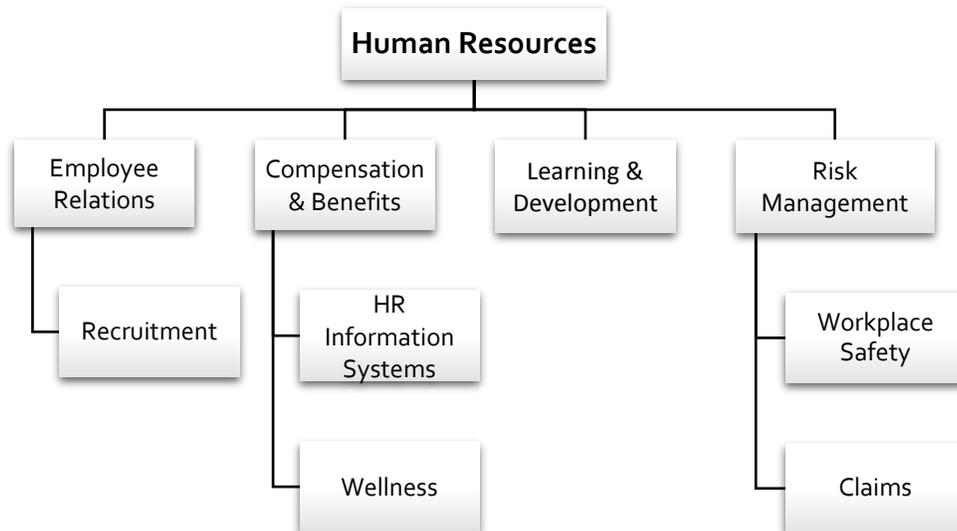
Full-time Equivalent Positions	2016 Budget	2017 Budget	2018 Budget	2019 Proposed Budget
Contracting	19.5	17.0	16.0	16.0
Corporate Real Estate	8.0	8.0	7.0	6.0
Legal	14.5	14.5	15.5	16.5
Total Full-Time Equivalent Positions	42.0	39.5	38.5	38.5



HUMAN RESOURCES

The Human Resources Group is committed to attracting and retaining a workforce of qualified employees to achieve the goals and mission of SAWS. SAWS' core values of Excellence, Integrity, and Respect are supported by developing and implementing comprehensive, innovative and proactive programs in employee relations and development, total compensation, benefits and wellness, and risk management and workplace safety. The group promotes continuous personal and professional growth for employees by focusing on the following areas:

- **Employee Relations** – Provides proactive assistance to employees and supervisors regarding the interpretation and implementation of policies, procedures and directives. Provides direction and oversight for a variety of employment matters, including performance and disciplinary issues, investigations into formal complaints and other workplace concerns. Recruits employee resources required by all administrative and operational areas.
- **Compensation & Benefits** – Develops and manages the employees' compensation, benefit and wellness programs, balancing competitiveness and cost efficiency for these plans and programs. Responsible for the plan development and fiscal accountability of all medical and prescription plans, pension programs, wellness initiatives, and oversees the administration of these plans and programs.
- **Learning & Development** – Develops strategies and designs for organizational development, talent and performance management, employee engagement, and change management functions. Manages learning initiatives around a continuous cycle of needs analysis, design, project management, delivery, and evaluation. Helps lead culture change through processes that support organizational learning, including the continual enhancement of the performance evaluation process.
- **Risk Management** – Manages all facets of the comprehensive commercial insurance program including administration of premises risk assessments. Coordinates all workplace safety activities to ensure a safe environment for employees. Administers all workers compensation, casualty and subrogation claims.



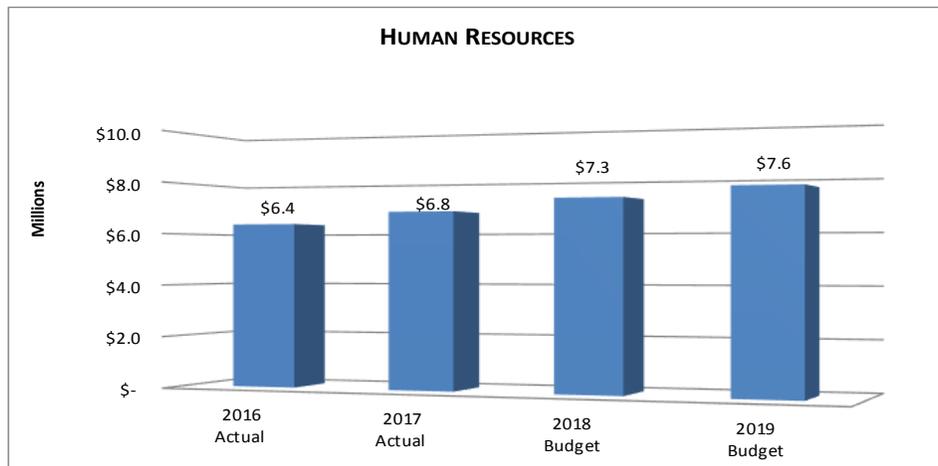
HUMAN RESOURCES

(\$ in thousands)

Expenditures by Type	2016 Actual	2017 Actual	2018 Budget	2019 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	\$ 3,784	\$ 4,038	\$ 4,270	\$ 4,671
Contractual Services	1,416	1,578	1,685	1,669
Materials and Supplies	72	29	52	52
Other Charges	1,167	1,223	1,334	1,319
O&M Before Capitalized Cost Total	\$ 6,439	\$ 6,869	\$ 7,341	\$ 7,711
Capitalized Cost	(68)	(57)	(63)	(65)
Total O&M	\$ 6,372	\$ 6,811	\$ 7,278	\$ 7,646
Capital Outlay	\$ 7	\$ 2	\$ -	\$ -

Expenditures by Department	2016 Actual	2017 Actual	2018 Budget	2019 Budget
Human Resources	\$ 3,602	\$ 4,025	\$ 4,186	\$ 4,755
Risk Management	2,838	2,843	3,155	2,956
O&M Before Capitalized Cost Total	6,439	6,869	7,341	7,711
Capitalized Cost	(68)	(57)	(63)	(65)
Grand Total	\$ 6,372	\$ 6,811	\$ 7,278	\$ 7,646

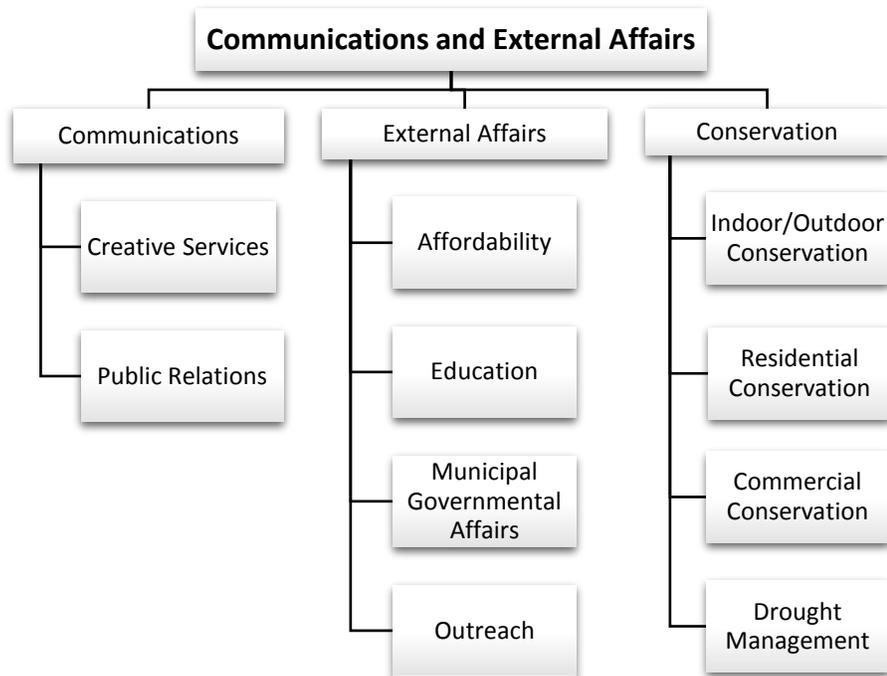
Full-time Equivalent Positions	2016 Budget	2017 Budget	2018 Budget	2019 Proposed Budget
Human Resources	26.0	26.0	28.0	32.0
Risk Management	19.0	18.0	18.0	17.0
Total Full-Time Equivalent Positions	45.0	44.0	46.0	49.0



COMMUNICATIONS AND EXTERNAL AFFAIRS

The Communications and External Affairs Group engages in proactive strategic outreach and partnerships to inform and involve SAWS customers and stakeholders, driving the image and success of the organization. This is accomplished through:

- **Communications** – Manages and directs mass communications efforts through the following departments:
 - *Creative Services* – Develops the creative content for all internal and external communication efforts including newsletters, brochures, website and advertisements.
 - *Public Relations* – Manages news media relations for accuracy and appropriate messaging in news coverage concerning SAWS. Coordinates community events, manages social media content and directs advertising to promote awareness of SAWS programs, projects and image.
- **External Affairs** – Manages outreach efforts with customers, neighborhood and civic leaders, and San Antonio City Council members. Implements the SAWS Affordability Program that aids economically disadvantaged customers so that they have access to water and sewer services. Develops and conducts adult and youth educational programs to inform and promote water awareness in our community.
- **Conservation** – Delivers nationally recognized programs that achieve cost-effective water savings while enhancing quality of life. San Antonio's cheapest source of water is conservation – water not used. To help keep rates affordable, SAWS aggressively promotes efficient commercial and residential water use through education, outreach, incentives and drought ordinance rules.



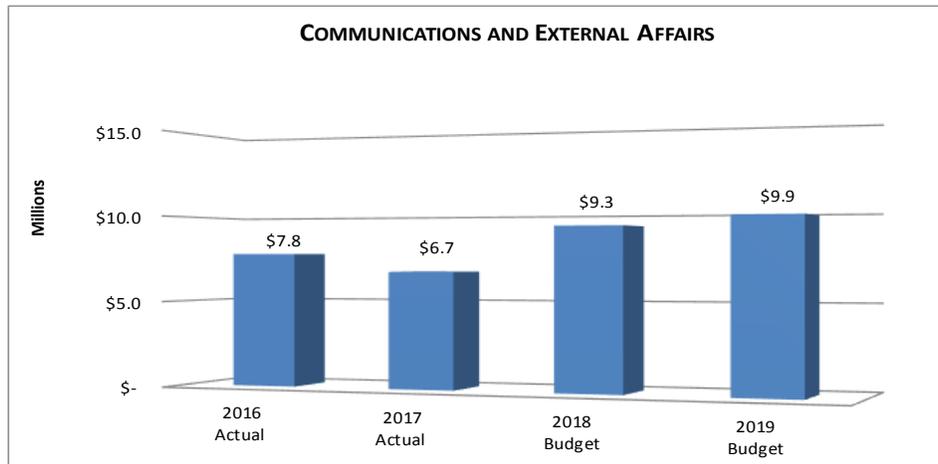
COMMUNICATIONS AND EXTERNAL AFFAIRS

(\$ in thousands)

Expenditures by Type	2016 Actual	2017 Actual	2018 Budget	2019 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	\$ 3,573	\$ 3,738	\$ 3,960	\$ 4,268
Contractual Services	4,056	2,897	5,316	5,544
Materials and Supplies	150	106	66	70
Other Charges	-	-	-	15
O&M Before Capitalized Cost Total	\$ 7,780	\$ 6,741	\$ 9,342	\$ 9,897
Capitalized Cost	-	-	-	-
Total O&M	\$ 7,780	\$ 6,741	\$ 9,342	\$ 9,897
Capital Outlay	\$ 3	\$ 3	\$ -	\$ -

Expenditures by Department	2016 Actual	2017 Actual	2018 Budget	2019 Budget
Communications Administration	\$ 462	\$ 551	\$ 507	\$ 592
Communications	1,448	1,280	1,625	1,566
Conservation	4,453	3,453	5,618	5,700
External Affairs	1,417	1,457	1,592	2,038
O&M Before Capitalized Cost Total	7,780	6,741	9,342	9,897
Capitalized Cost	-	-	-	-
Grand Total	\$ 7,780	\$ 6,741	\$ 9,342	\$ 9,897

Full-time Equivalent Positions	2016 Budget	2017 Budget	2018 Budget	2019 Proposed Budget
Communications Administration	4.0	4.0	4.0	5.0
Communications	12.5	10.0	9.0	8.5
Conservation	24.4	24.4	24.4	24.0
External Affairs	7.0	8.5	9.5	12.0
Total Full-Time Equivalent Positions	47.9	46.9	46.9	49.5



OTHER REQUIREMENTS

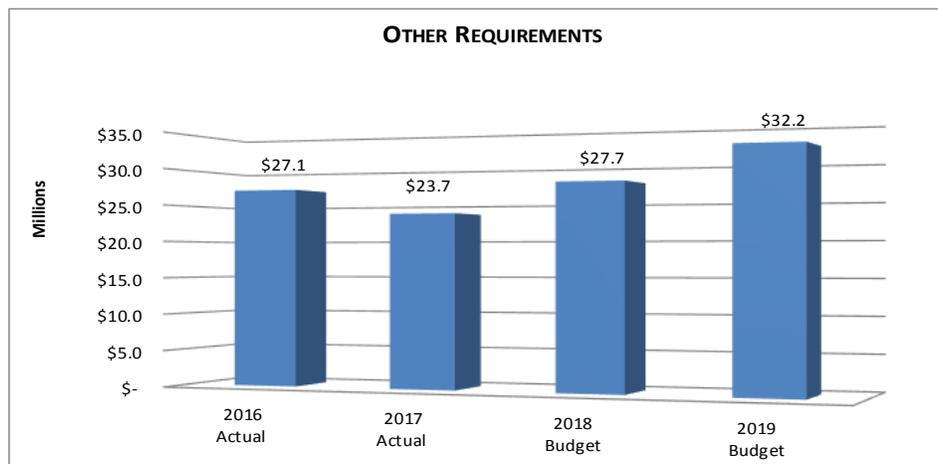
Other Requirements has been established to account for operations and maintenance expenses that relate to the overall organization and are difficult to associate with specific departments. These expenses affect all departments across the organization and are accumulated within this department to facilitate the budgeting and accounting process. Specifically, they include funds for merit pay increases, dependent medical insurance, workers compensation, unemployment compensation, accrued vacation leave, leave buyback, and post-retirement medical benefits.

(\$ in thousands)

Expenditures by Type	2016 Actual	2017 Actual	2018 Budget	2019 Budget
O&M Before Capitalized Cost				
Salaries and Fringe Benefits	\$ 17,986	\$ 17,311	\$ 21,553	\$ 21,818
Contractual Services	652	127	330	330
Materials and Supplies	-	-	-	-
Other Charges	11,094	7,930	8,705	10,276
O&M Before Capitalized Cost Total	\$ 29,732	\$ 25,368	\$ 30,588	\$ 32,424
Capitalized Cost	(2,638)	(1,692)	(2,885)	(207)
Total O&M	\$ 27,094	\$ 23,676	\$ 27,703	\$ 32,217
Capital Outlay	\$ -	\$ -	\$ -	\$ -

Expenditures by Department	2016 Actual	2017 Actual	2018 Budget	2019 Budget
Other Requirements	\$ 29,732	\$ 25,368	\$ 30,588	\$ 32,424
O&M Before Capitalized Cost Total	29,732	25,368	30,588	32,424
Capitalized Cost	(2,638)	(1,692)	(2,885)	(207)
Grand Total	\$ 27,094	\$ 23,676	\$ 27,703	\$ 32,217

Full-time Equivalent Positions	2016 Budget	2017 Budget	2018 Budget	2019 Proposed Budget
Other Requirements	3.0	7.0	5.0	4.0
Total Full-Time Equivalent Positions	3.0	7.0	5.0	4.0



FULL TIME EQUIVALENT POSITIONS

The 2019 Budget includes funding for 1,879.0 full-time equivalent (FTE) positions. This represents an increase of 0.6 authorized FTE positions from the 1,878.4 FTE positions budgeted in 2018.

The following table shows the distribution of funded FTE positions within each SAWS organizational unit authorized in each budget year from 2016 through 2019. Periodically, FTE positions and resources are reallocated among different areas of the organization in order to better meet changing needs. In such instances, where possible, prior year authorized FTE position levels have been restated, as reflected in the table shown below, to be consistent with the current year organizational structure.

	2016 Budget	2017 Budget	2018 Budget	2019 Budget
Board of Trustees and Pres/CEO	9.0	10.0	10.0	10.0
Engineering and Construction	183.0	181.5	197.5	197.5
Water Resources and Governmental Relations	105.0	109.0	111.0	111.0
Operations	25.0	25.0	24.0	26.0
Distribution and Collection	533.0	531.0	540.0	541.0
Production and Treatment	398.1	396.5	390.0	388.0
Sewer System Improvements	34.0	40.0	39.0	37.0
Financial Services	70.5	69.5	70.5	70.5
Information Systems	107.5	108.5	101.5	102.5
Customer Service	227.0	260.5	258.5	254.5
Legal	42.0	39.5	38.5	38.5
Human Resources	45.0	44.0	46.0	49.0
Communications and External Affairs	47.9	46.9	46.9	49.5
Other Requirements	3.0	7.0	5.0	4.0
Grand	1,830.0	1,868.9	1,878.4	1,879.0

CAPITAL IMPROVEMENT PROGRAM

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CAPITAL IMPROVEMENT PROGRAM

The Capital Improvement Program (CIP) is a planning and budgeting tool that provides information about SAWS infrastructure needs. It identifies requirements for sustaining, restoring and modernizing the facilities and infrastructure that support water supply and delivery, wastewater collection and treatment, and chilled water requirements in the SAWS service area. It also prioritizes and schedules projects for funding and execution through a multi-year plan.

The CIP supports four core businesses: Water Supply, Water Delivery, Wastewater and Chilled Water. Water Supply CIP consists of projects to develop long term water supplies from surface and groundwater sources, including any transmission pipelines required to deliver these water supplies to SAWS service area. Water Delivery provides for the expansion, improvement and replacement of infrastructure required to produce and deliver water to the customer while wastewater CIP focuses on infrastructure for the collection and treatment of wastewater. Chilled Water CIP provides for the expansion, improvement and replacement of infrastructure required to generate and deliver chilled water to customers in the downtown and Port San Antonio areas.

The 2019 CIP program totals \$377.3 million and is summarized in the table below.

<i>(\$ in millions)</i>	Water Supply	Water Delivery	Wastewater	Chilled Water	Total
Sources of Funds					
System Revenues	\$ 23.8	\$ 52.8	\$ 44.4	\$ 0.1	\$ 121.1
Capital Recovery Fees	36.2	15.0	20.0	-	71.2
Debt Proceeds	8.8	40.4	135.8	-	185.0
Total Sources of Funds	\$ 68.8	\$ 108.2	\$ 200.2	\$ 0.1	\$ 377.3
Uses of Funds					
Corporate	\$ 7.5	\$ 22.1	\$ 26.9	\$ -	\$ 56.5
Water Resources	61.3				61.3
Collection Facilities			1.8		1.8
Governmental		30.8	17.4		48.2
Mains - New		4.4	1.8		6.2
Main Replacements		21.5	121.2		142.7
Production		29.4			29.4
Treatment			31.1		31.1
Chilled Water				0.1	0.1
Total Uses of Funds	\$ 68.8	\$ 108.2	\$ 200.2	\$ 0.1	\$ 377.3

The 2019 Water Supply program totals \$68.8 million and includes \$52.4 million for the final phase of the Central Water Integration Pipeline (CWIP) project. Once completed, this project will integrate and distribute the Vista Ridge water supply with the SAWS water transmission and distribution system beginning in 2020.

The 2019 Water Delivery program totals \$108.2 million for production facilities upgrades, replacements and expansion as well as water main replacement. The level of investment in Water Delivery infrastructure for 2019 is 20% higher than SAWS average annual investment in Water Delivery infrastructure over the last five years.

The 2019 Wastewater program totals \$200.2 million and represents the largest single year investment in SAWS wastewater infrastructure. The vast majority of the 2019 Wastewater program focuses on the rehabilitation and replacement of wastewater mains identified through the SAWS Sanitary Sewer Overflow Reduction Program (SSORP). These projects have been prioritized and scheduled over the next five years to meet the requirements of SAWS Consent Decree with the federal government.

The 2019 Chilled Water program totals \$0.1 million and represents capitalized support to chilled water projects.

The overall funding split for the 2019 water production and delivery and the wastewater collection and treatment program is 77% repairs and replacements and 23% additional capacity to support new growth and development.

SIGNIFICANT NON-ROUTINE CAPITAL EXPENDITURES

The majority of SAWS' CIP projects provide for routine, ongoing expenditures for major repair or replacement of infrastructure. Projects that are typically "one time" in nature and involve the development of a new water supply, the construction of new water production or wastewater treatment facilities or the acquisition of new technology that enhances service delivery could be considered significant non-routine capital expenditures. The 2019 CIP includes \$52.4 million for the final phase of the Central Water Integration Pipeline (CWIP) project. Once completed, this project will integrate and distribute the Vista Ridge water supply with the SAWS water transmission and distribution system beginning in 2020.

2019 CAPITAL IMPROVEMENT PLAN SUMMARY

<i>Core Business</i>	<i>CIP Category / Project Title</i>	<i>Phase</i>	<i>Programmed Amount (1)</i>
Water Delivery			
Corporate			
	Automated Metering Infrastructure (AMI)	Design	\$ 1,225,345
	General Legal Services	Acquisition	30,840
	Northeast Operations Center Project	Design	771,000
	Service Center Project Phase 2	Construction	3,696,000
	Owner Controlled Construction Changes (OCCC)	Construction	2,492,900
	Overhead	Overhead	10,750,000
	Corporate Total		18,966,085
Mains - New			
	Northeast Service Center 16-inch Water Main along Judson Road	Construction	603,847
	Potranco Road Pressure Zone Interconnection	Construction	185,040
	Water Main Oversizing	Construction	3,598,000
	Mains - New Total		4,386,887
Mains - Replacement			
	Dead End Main Elimination via Looping	Construction	1,028,000
	Governmental Mains	Construction	30,840,000
	Open Cut Water Contract	Construction	1,542,000
	Valves, Services and Meter Replacements	Construction	12,850,000
	Water Main Assessment & Replacement	Construction	8,228,800
	Water Main Replacement Work Order Engineering Contract	Design	976,600
	Mains - Replacement Total		55,465,400
Production			
	Broadband Access Points & Programmable Logic Controllers Replacement – Phase 2	Construction	4,626,000
	Broadband Access Points & Programmable Logic Controllers Replacement – Phase 3	Design	359,800
	Meadow Springs Water Production Facility (90/211 PS)	Construction	11,305,944
	Micron Pump Station and Additional Well	Construction	3,803,600
	Mission Pump Station Electrical Improvements	Construction	2,056,000
	Production Facilities Construction Work Order Contract	Construction	514,000
	Production Facilities Engineering Work Order Contract	Design	514,000
	Water Production Facilities Disinfection System Upgrades Phase 2	Design	1,336,400
	Water Production Facility Upgrades Phase II	Construction	4,831,600
	Production Total		29,347,344
Water Delivery Total			\$ 108,165,716
Wastewater			
Corporate			
	General Legal Services	Acquisition	\$ 113,080
	Northeast Operations Center Project	Design	771,000
	Service Center Project Phase 2	Construction	1,904,000
	Owner Controlled Construction Changes (OCCC)	Construction	7,754,254
	Overhead	Overhead	14,750,000
	Corporate Total		25,292,334
Collection Facilities			
	Install Sewer Mains and Eliminate Lift Stations near Port SA	Design	575,680
	Lift Station Rehabilitation Phase 5	Design	1,182,200
	Collection Facilities Total		1,757,880
Mains - New			
	Install sewer main from Lift Station #224 to Southwest Bexar Sewer Pipeline	Construction	745,300
	Sewer Main Oversizing	Construction	1,028,000
	Mains - New Total		1,773,300

(1) Includes projected inflation

2019 CAPITAL IMPROVEMENT PLAN SUMMARY

CIP Category / Project Title	Phase	Programmed Amount (1)
Wastewater (continued)		
Mains - Replacement		
E-20 Wurzbach Parkway: Jones Maltsberger to Nacogdoches Segment 1	Construction	22,616,000
E-54 Cibolo Vista to Bulverde	Design	968,376
Governmental Mains	Construction	17,373,200
Main Replacements - Sewer - SAWS Crews	Construction	3,598,000
Sewer Laterals	Construction	4,626,000
Small and Large Diameter Condition Remedial Measures	Construction	42,711,200
W-1 Leon Creek: Hwy 151 to Hwy 90	Construction	26,728,000
W-6 Lackland AFB alternative Sewer from Hwy 90 to SW Military Drive Lower Segment	Design	17,476,000
Wastewater Main Replacement Work Order Engineering Contract	Design	4,112,000
Mains - Replacement Total		140,208,776
Treatment		
Dos Rios Headworks Enhancements Phase 2	Construction	1,542,000
Dos Rios WRC Electrical System Improvements - Phase 2	Construction	20,046,000
Dos Rios WRC Sludge Drying Beds Improvement	Construction	1,799,000
Leon Creek Electrical Switchgear	Construction	4,626,000
Leon Creek WRC Improvements and Upgrades Phase 2	Design	1,387,800
Mitchell Lake Pilot Wetlands	Construction	1,233,600
Treatment Facilities Engineering Work Order Contract	Design	514,000
Treatment Total		31,148,400
Wastewater Total		\$ 200,180,690
Water Supply		
Corporate		
Automated Metering Infrastructure (AMI)	Design	\$ 1,225,345
General Legal Services	Acquisition	339,240
Owner Controlled Construction Changes (OCCC)	Construction	2,531,810
Overhead	Overhead	3,000,000
Corporate Total		7,096,395
Water Supply		
Brackish Desal Conversion of Test Well No. 1	Construction	2,588,316
Brackish Desal Wells Addition No. 14	Construction	4,889,709
Central Water Integration Pipeline	Construction	52,428,000
Edwards Aquifer Rights	Acquisition	1,362,100
Water Supply Total		61,268,125
Recycled Water		
Recycled Water Customer Lines	Construction	205,600
Overhead	Overhead	225,000
Recycled Water Total		430,600
Water Supply Total		\$ 68,795,120
Chilled Water		
Chilled Water		
Overhead	Overhead	\$ 125,000
Chilled Water Total		125,000
Chilled Water Total		\$ 125,000
Grand Total		\$ 377,266,526

(1) Includes projected inflation

CIP PROJECT DATA

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WATER DELIVERY

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**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-10811		
Project:	Automated Metering Infrastructure (AMI)		
Programmed Amount:	\$1,225,345		
Core Business:	WD - Water Delivery		
Category:	Corporate WD		
Phase:	Design		
Council District:	System Wide		
Description and Scope:			
<p>First year of AMI implementation represents pilot program to evaluate the benefits of fully implementing AMI in subsequent years. Successful AMI implementation will have a significant impact on the SAWS meter to cash process. It will greatly improve SAWS ability to provide relevant and timely information to SAWS customers about their water usage, likely reducing water usage as a result of leaks on the customer side of the meter and improve conservation efforts. Improved meter registration will have a positive impact on Non-Revenue Water. The projected costs and benefits of this project have been allocated evenly between Water Delivery and Water Supply.</p>			
Justification:			
<p>The Business Case performed by West Monroe in 2017, calculated a net benefit of AMI of \$31M (NPV) over a 20 year term. The biggest impact on the benefits provided during the 20 year period is the assumed improved meter registration that results from replacing 100% of SAWS mechanical meters with static meters. While other operational improvements were assumed in the business case by utilizing the network to provide data, the vast majority of the positive results are from an assumed 2.5% improvement in meter registration.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.	2019	2019	2020 - 2023
	\$0	\$1,225,345	approx. \$85,000,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

<u>PROJECT OVERVIEW</u>			
Project ID:	Pro-00161		
Project:	General Legal Services - WD - 2019		
Programmed Amount:	\$30,840		
Core Business:	WD - Water Delivery		
Category:	Corporate WD		
Phase:	Acquisition		
Council District:	System Wide		
Description and Scope:			
Specialized legal support is required for critical projects.			
Justification:			
External legal support is sought only when there is insufficient internal legal staff to support the effort, or specialized legal expertise is required.			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.	2019	2019	2019
	\$30,000	\$0	\$0

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-10302		
Project:	Northeast Operations Center Project - WD		
Programmed Amount:	\$771,000		
Core Business:	WD - Water Delivery		
Category:	Corporate WD		
Phase:	Design		
Council District:	District 10		
Description and Scope:			
<p>Professional design services to hire the Architect and Engineer (A/E) team required to design the new Northeast Operations Center which is Phase 3 of the Service Center Project. In January 2017, the SAWS Board of Trustees approved the purchase of a new site located near the intersection of 1604 and Judson Rd. The selected A/E firm will design this new facility to include an administration building, fleet facility, supply facility and fueling islands to include associated parking and materials storage areas. The cost of this project has been allocated evenly between Water Delivery and Wastewater.</p>			
Justification:			
<p>Upon completion of this new site, SAWS field crews can vacate the administration building (circa. 1981) at the SAWS Nacogdoches pump station and SAWS will remove the underground fuel tanks at that production site.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.	2017	2019	2021
	\$975,650	\$750,000	\$10,500,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-10384		
Project:	Service Center Upgrades Phase 2		
Programmed Amount:	\$3,696,000		
Core Business:	WD - Water Delivery		
Category:	Corporate WD		
Phase:	Construction		
Council District:	District 02, District 08		
Description and Scope:			
<p>Phase 2 Service Center Project includes the original project scope of new and renovated facilities at the North West Service Center (NWSC) and East Side Service Center (ESSC). The requested funds will be required to cover certain cost escalations associated with this project. The cost of this project has been allocated between Water Delivery (66%) and Wastewater (34%).</p>			
Justification:			
<p>This project addresses code compliance and life safety issues at the facilities; addresses aging infrastructure by removing the underground fuel tanks (UGTs) and replacing them with above ground tanks (AGTs). The existing fuel facility at ESSC will also be relocated away from traffic congestion. The project also replaces outdated fire alarm systems, security systems and information systems. The existing Service Centers are at full capacity and do not have adequate space to accommodate new growth to the system or additional staff. This project also would include demolition and replacement of the vacated 1973 administration building on the Wurzbach Production Tank site which has exceeded its life expectancy. The Phase 2 Service Center Project will continue the Service Center Master Plan which was implemented to address growth to SAWS service area and improve Distribution & Collection (D&C) response time. The completion of the Service Center Phase 2 Project will increase efficiencies for D&C operations at the ESSC, allow for SAWS to declare as surplus and sell the Mission Road Service Center, and avoid escalating operating costs at Mission Road and at ESSC. This Project will also relocate customer service field crews and Resource Protection & Compliance (RPC) staff from Mission Road increasing efficiency in fleet maintenance, and reducing drive time.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2015	2019
	\$0	\$0	\$3,593,311

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

<u>PROJECT OVERVIEW</u>			
Project ID:	Pro-10799		
Project:	Water Delivery Owner Controlled Construction Changes (OCCC) 2019		
Programmed Amount:	\$2,492,900		
Core Business:	WD - Water Delivery		
Category:	Corporate WD		
Phase:	Construction		
Council District:	System Wide		
Description and Scope:			
Funds earmarked to support change orders for approved CIP projects that would exceed original project appropriations.			
Justification:			
The availability of OCCC funds recognizes that unforeseen cost changes can occur in the execution of CIP projects. Change orders valued above \$100,000 must be approved by the SAWS Board of Trustees.			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2017	2019
	\$0	\$0	\$2,425,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-11092		
Project:	Water Delivery Overhead 2019		
Programmed Amount:	\$10,750,000		
Core Business:	WD - Water Delivery Corporate WD		
Category:	Corporate WD		
Phase:	Construction		
Council District:	System Wide		
Description and Scope:			
<p>Overhead costs cover the direct costs associated with SAWS personnel who manage CIP projects, in addition to the indirect costs associated with SAWS personnel who support the CIP program during the capitalizable phases of the projects. Overhead costs were in part estimated based on time entered by SAWS CIP project management and support personnel during 2018 into the SAWS CIP Time Tracker system. Other factors included in the estimate of overhead costs are support to prior year CIP programs and estimated support to future CIP implementation.</p>			
Justification:			
<p>Overhead costs are applied to SAWS personnel costs in order to capture direct incremental costs associated with SAWS personnel that support the development and construction of CIP projects.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2018	2019
	\$0	\$0	\$10,750,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

<u>PROJECT OVERVIEW</u>			
Project ID:	Pro-10739		
Project:	Northeast Service Center 16-inch Water Main along Judson Road		
Programmed Amount:	\$603,847		
Core Business:	WD - Water Delivery		
Category:	Mains New - Water		
Phase:	Construction		
Council District:	District 10		
Description and Scope:			
Construction of a new 16-inch water line along Judson Road to provide water service to the new SAWS Northeast Service Center, and provide water for projected growth in the area.			
Justification:			
This project will serve projected growth in Pressure Zone 1125, as well as supply water to SAWS new Northeast Service Center.			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2019	2019
	\$0	\$76,700	\$510,700

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-10297		
Project:	Potranco Road Pressure Zone Interconnection		
Programmed Amount:	\$185,040		
Core Business:	WD - Water Delivery		
Category:	Mains New - Water		
Phase:	Construction		
Council District:	District 04		
Description and Scope:			
SAWS recommends that Pressure Zone 1082 be interconnected with Pressure Zone 7, due to the constant running of the booster pumps at the PZ 1082, Tippecanoe facility. This project will install 120 ft. of 12-inch main from the existing 12-inch Pressure Zone 7 main traversing Potranco Rd. connecting to the existing 12-inch main along Fillmore Dr. An 8-inch master pressure reducing valve and main must be constructed in order to retire the facility.			
Justification:			
The constant running of the Tippecanoe facility booster pumps is inefficient and increases maintenance and operating costs. Retiring the facility will save maintenance and operating costs.			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2017	2019
	\$0	\$0	\$180,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-00104		
Project:	Water Main Oversizing 2019 - SAWS		
Programmed Amount:	\$3,598,000		
Core Business:	WD - Water Delivery		
Category:	Mains New - Water		
Phase:	Construction		
Council District:	System Wide		
Description and Scope:			
<p>Funds are required for SAWS proportionate share of the cost of mains which are necessary to serve anticipated growth but are larger than the size main required by a developer customer or single customer. Developers are required to build necessary offsite infrastructure to meet the needs of their development. When growth is projected in adjacent tracts, SAWS contributes money to increase the size of the mains to serve the additional growth. Sharing in the cost is beneficial to both SAWS and the developer and prevents the construction of parallel smaller sized mains.</p>			
Justification:			
Participating in oversizing is a cost effective way to meet the needs of growth. It is funded by impact fees collected from new development.			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2019	2019
	\$0	\$0	\$3,500,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-11124		
Project:	Dead End Main (DEM) Elimination via Looping		
Programmed Amount:	\$1,028,000		
Core Business:	WD - Water Delivery		
Category:	Main Replacement - Water		
Phase:	Construction		
Council District:	System Wide		
Description and Scope:			
<p>The Dead End Main (DEM) Flushing Program is a required program to meet Texas Commission on Environmental Quality (TCEQ) regulations, 30 TAC Chapter 290.46. There are more than 9,000 dead end mains in the SAWS distribution system. Approximately 195 of these dead end mains were requested to be reviewed for abandonment or elimination. Of the 195 DEMs identified, 24 require flushing. Addressing these DEMs via looping will eliminate the need for future flushing. Design Consultant KCI is preparing design plans to eliminate these projects. This funding will be to continue the construction work of eliminating these DEMs. This is year 2 of at least a 5 year effort.</p>			
Justification:			
<p>TCEQ highly encourages DEM's to be eliminated where practical. Implementation of the DEM Looping Project will reduce the overall number of DEM's required to be flushed. Eliminating the DEM's where practical will reduce staff time in flushing these sites. Some of the sites identified for looping have a higher frequency flushing requirement.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2018	2019
	\$0	\$0	\$1,000,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-00130		
Project:	Governmental Water -SAWS - 2019		
Programmed Amount:	\$30,840,000		
Core Business:	WD - Water Delivery Governmental		
Category:	Water		
Phase:	Construction		
Council District:	System Wide		
Description and Scope:			
<p>The governmental program consists of projects implemented in conjunction with other government agencies infrastructure work. The program includes replacement of water mains in poor condition, adjustment of water mains whose existing alignment conflicts with proposed new street alignment, and installation of new water mains needed to provide additional capacity.</p> <p>SAWS participates in the Utility Coordination Council, and jointly plans and reviews infrastructure improvements with City of San Antonio (COSA), Bexar County, Texas Department of Transportation (TXDOT), City Public Service (CPS) Energy, AT&T, and other agencies, to maximize effectiveness of public infrastructure.</p>			
Justification:			
Replacing and/or adjusting aging infrastructure in conjunction with other agencies planned street work is the most cost effective approach to infrastructure management.			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2019	2019
	\$0	\$0	\$30,000,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

<u>PROJECT OVERVIEW</u>			
Project ID:	Pro-00214		
Project:	Open Cut Water Contract - SAWS - 2019		
Programmed Amount:	\$1,542,000		
Core Business:	WD - Water Delivery		
Category:	Main Replacement - Water		
Phase:	Construction		
Council District:	System Wide		
Description and Scope:			
This annual contract provides increased replacement capacity in order to ensure reliable water service is maintained.			
Justification:			
Timely replacement of mains is necessary to restore and maintain water service.			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2019	2019
	\$0	\$0	\$1,500,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-00204		
Project:	Valves Services and Meter Replacements - SAWS - 2019		
Programmed Amount:	\$12,850,000		
Core Business:	WD - Water Delivery		
Category:	Main Replacement - Water		
Phase:	Construction		
Council District:	System Wide		
Description and Scope:			
<p>This project funds the replacement of water mains, valves, hydrants, and meters within the SAWS distribution system. When replacement is necessary, it is evaluated to determine whether replacement by SAWS crews or a contractor would be more effective and efficient.</p>			
Justification:			
Replacement work is necessary to restore service and can be more cost effective than repair.			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2019	2019
	\$0	\$0	\$12,500,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

<u>PROJECT OVERVIEW</u>			
Project ID:	Pro-10694		
Project:	Water Main Condition Inspection & Replacement		
Programmed Amount:	\$8,228,800		
Core Business:	WD - Water Delivery		
Category:	Main Replacement - Water		
Phase:	Construction		
Council District:	System Wide		
Description and Scope:			
This project provides funds for the rehabilitation or replacement of water mains identified through the use of assessment technology. The water mains included in this project will vary in size and location.			
Justification:			
Mains found to require repair, rehabilitation, or replacement are necessary to provide and maintain water service.			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2019	2019
	\$0	\$4,002,335	\$4,002,335

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-00194		
Project:	Water Main Replacement Work Order Engineering Contract - SAWS - 2019		
Programmed Amount:	\$976,600		
Core Business:	WD - Water Delivery		
Category:	Main Replacement - Water		
Phase:	Design		
Council District:	System Wide		
Description and Scope:			
<p>This annual project will fund design services to repair/replace water mains. These projects vary in size and location, and may require the solicitation of contractor construction services. The projects will replace sub-standard or deteriorated water mains. This project includes \$100,000 for a cost estimating contract for water delivery construction projects.</p>			
Justification:			
Design of mains to be replaced or repaired is necessary to restore and maintain water service.			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2019	2019
	\$0	\$950,000	\$0

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW															
Project ID:	Pro-10292														
Project:	Broadband Access Points and Programmable Logic Controllers Replacement - Phase 2														
Programmed Amount:	\$4,626,000														
Core Business:	WD - Water Delivery														
Category:	Production														
Phase:	Construction														
Council District:	System Wide														
Description and Scope:															
<p>This project replaces the aging radio communication system used to receive data from the water production and pumping stations with new wireless communication infrastructure to upgrade communication capability. It also replaces obsolete control equipment at the water production and pumping stations. The existing equipment is old and some components are no longer supported by the manufacturer. The radio systems have an expected lifespan of 7 years. The existing controllers have an expected lifespan of 10 years.</p> <p>Approximately 26,000 data points at the water production facilities across Bexar County are actively monitored and/or controlled from a central control point. The upgrades will increase efficiency by allowing development of standardized, automated control strategies for stopping and starting pumping equipment based on equipment efficiency, customer demand patterns and energy costs. Additionally, control and monitoring equipment can be programmed from the control center through the broadband system, reducing the labor time involved in driving to the pump station, and the time for a signal to be sent to the pump station will be greatly reduced.</p> <p>The master plan for upgrade of the Supervisory Control and Data Acquisition (SCADA) system recommends these upgrades. Phase 2 will address the facilities that were deemed medium criticality. Phase 1 construction began mid-2017 and will address the high criticality facilities. Phase 3 design is currently planned for 2019.</p>															
Justification:															
<p>Replacing and upgrading the control and communication systems for the pump stations is necessary for uninterrupted service, strengthening of cyber security, migration to one common SCADA control system, and for increased efficiency. Improving technology is needed to reinforce site cyber security and to manage the expanding system without adding additional staff.</p>															
<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 35%; text-align: left; padding: 5px;">Funding Information:</th> <th style="width: 15%; text-align: left; padding: 5px;">Acquisition Year:</th> <th style="width: 15%; text-align: left; padding: 5px;">Design Year:</th> <th style="width: 35%; text-align: left; padding: 5px;">Construction Year:</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Amounts shown are estimated costs without projected inflation.</td> <td></td> <td style="text-align: center; padding: 5px;">2018</td> <td style="text-align: center; padding: 5px;">2019</td> </tr> <tr> <td style="padding: 5px;"></td> <td style="text-align: center; padding: 5px;">\$0</td> <td style="text-align: center; padding: 5px;">\$825,000</td> <td style="text-align: center; padding: 5px;">\$4,500,000</td> </tr> </tbody> </table>				Funding Information:	Acquisition Year:	Design Year:	Construction Year:	Amounts shown are estimated costs without projected inflation.		2018	2019		\$0	\$825,000	\$4,500,000
Funding Information:	Acquisition Year:	Design Year:	Construction Year:												
Amounts shown are estimated costs without projected inflation.		2018	2019												
	\$0	\$825,000	\$4,500,000												

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-10803		
Project:	Broadband Access Points and Programmable Logic Controllers Replacement - Phase 3		
Programmed Amount:	\$359,800		
Core Business:	WD - Water Delivery		
Category:	Production		
Phase:	Design		
Council District:	System Wide		
Description and Scope:			
<p>This project (Phase 3) will provide the design to replace the aging radio communication system used to receive data from the lift stations with new wireless communication infrastructure to upgrade communication capability and replace obsolete control equipment, to include those at former BexarMet facilities, and to add camera monitoring equipment. More than 170 lift station facilities are monitored from a central control point. Phase 3 will consist of more than 130 facilities. The existing equipment is old and some components are no longer supported by the manufacturer. The radio systems have an expected lifespan of 7 years. The existing controllers have an expected lifespan of 10 years.</p> <p>The upgrades will increase efficiency by allowing development of standardized, automated control strategies for monitoring equipment. Additionally, the monitoring equipment can be programmed from the control center through the broadband system, reducing the labor time involved in driving to the lift station, and the time for a signal to be sent to the lift station will be greatly reduced.</p>			
Justification:			
<p>The master plan for upgrade of the Supervisory Control and Data Acquisition (SCADA) system recommends this upgrade. Phase 3 will address the lift stations that were deemed low criticality, as well as those at former BexarMet facilities. to add camera monitoring equipment. Phase 1 construction began in 2017 at a current cost of \$5.0 million, and will address the high criticality facilities. Phase 2 is currently in design at a cost of \$825,000 and is scheduled for construction in 2019 at a budgeted cost of \$4.6m.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2019	2020
	\$0	\$350,000	\$3,000,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-10114		
Project:	Meadow Springs Water Production Facility		
Programmed Amount:	\$11,305,944		
Core Business:	WD - Water Delivery		
Category:	Production		
Phase:	Construction		
Council District:	OCL		
Description and Scope:			
<p>This project will construct a new primary pump station with 4.5 million gallons per day (MGD) firm distribution pumping capacity to what is currently Pressure Zone (PZ) 950-West, west of Loop 1604 and north and south of Hwy 90. The primary pump station is planned to be built southwest of the intersection of Hwy 90 and Whisper Way. A new 0.75 MG ground storage tank is also planned for the Meadow Springs facility, along with three 1.5-MGD well pumps to supply the station.</p>			
Justification:			
<p>This project will provide additional supply capacity for projected growth in what is currently PZ 950-West. The service area is projected to grow by over 16,000 customers in the next several years.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2019	2019
	\$0	\$0	\$10,998,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-10284		
Project:	Micron Pump Station and Additional Well		
Programmed Amount:	\$3,803,600		
Core Business:	WD - Water Delivery		
Category:	Production		
Phase:	Construction		
Council District:	District 06		
Description and Scope:			
<p>SAWS has been working to address operational challenges at the Anderson Pump Station located at State Highway 151 and Loop 1604 in the rapidly growing far west area of the city. During the peak summer demand period, it was determined that additional supplies from Micron Pump Station will be needed to back up the Anderson Pump Station and meet customer demands. This project will consist of designing and installing one groundwater well, well pump, well head structures, electrical service, road/access structures, and connect piping to the existing system.</p>			
Justification:			
<p>The Micron Pump Station currently has three wells. SAWS will install an additional well to supplement peak water demands.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2016	2019
	\$0	\$300,000	\$3,700,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

<u>PROJECT OVERVIEW</u>			
Project ID:	Pro-11037		
Project:	Mission Pump Station Electrical Improvements		
Programmed Amount:	\$2,056,000		
Core Business:	WD - Water Delivery		
Category:	Production		
Phase:	Construction		
Council District:	District 03		
Description and Scope:			
The scope of this project is the installation of the new electrical, SCADA, controls and yard piping for tying in a new well that was drilled to the existing pump station.			
Justification:			
Since the new well was drilled, the cost to do the electrical work has increased and additional funding is required to complete the project.			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2018	2019
	\$0	\$0	\$2,000,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-10804		
Project:	Production Facilities Construction Work Order Contract 2019		
Programmed Amount:	\$514,000		
Core Business:	WD - Water Delivery		
Category:	Production		
Phase:	Construction		
Council District:	System Wide		
Description and Scope:			
<p>This contract will allow work order contracts for construction of small projects not executable by SAWS engineering and operations staff and with a value of \$150,000 or less. SAWS periodically has need for general types of projects that entail rehabilitation, improvement upgrades, addition/demolition, replacement/expansion of equipment and facilities. These include:</p> <ul style="list-style-type: none"> -water production primary and secondary pump station facilities -elevated storage tank and ground storage tank sites -transmission mains (20-inch diameter and larger) -valve & control valve replacement, yard piping, electrical upgrades, SCADA, programming -other related projects of similar nature as above <p>The scope of work may include, but is not limited to potholing and subsurface utility investigation; preparation of the right of way; permit application; coordination with other utilities, agencies and consultants; civil, structural, mechanical, electrical and environmental services related to potable water facilities; preparation of material submittals and shop drawings; preparation of pay estimates; participation in equipment performance testing; final inspection and project completion; and other construction phase services.</p>			
Justification:			
<p>This Work Order Contract will be on an "as-needed" basis, and the scope of the work will depend on the nature of each individual project. A work order will be issued upon identification of a need for a construction activity and determination of its scope and schedule.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2018	2019
	\$0	\$0	\$500,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-10805		
Project:	Production Facilities Engineering, Geotechnical, and Surveying Work Order Contract 2019		
Programmed Amount:	\$514,000		
Core Business:	WD - Water Delivery		
Category:	Production		
Phase:	Design		
Council District:	System Wide		
Description and Scope:			
SAWS periodically has a need for general types of projects that entail evaluation, rehabilitation, improvement upgrades, addition/demolition, replacement/expansion of equipment and facilities. These include:			
<ul style="list-style-type: none"> -water production primary and secondary pump station facilities -elevated storage tank and ground storage tank sites -transmission mains (20-inch diameter and larger) -valve & control valve replacement, yard piping, electrical upgrades, SCADA, programming -other related projects of similar nature as above 			
The scope of work may include, but is not limited to potholing and subsurface utility investigation; preparation of the right of way; permit application; coordination with other utilities, agencies and consultants; civil, structural, mechanical, electrical and environmental services related to potable water facilities; preparation of material submittals and shop drawings; preparation of pay estimates; participation in equipment performance testing; final inspection and project completion; attendance at public meetings/hearings, and other construction phase services.			
Justification:			
This Work Order Contract will be on an "as-needed" basis, and the scope of the services will depend on the nature of each individual project. A work order will be issued upon identification of a project and determination of its scope and schedule.			
Funding Information:			
Acquisition Year:	Design Year:	Construction Year:	
Amounts shown are estimated costs without projected inflation.	2019	2020	
\$0	\$500,000	\$0	

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-00229		
Project:	Water Production Facilities Disinfection System Upgrades		
Programmed Amount:	\$1,336,400		
Core Business:	WD - Water Delivery		
Category:	Production		
Phase:	Design		
Council District:	System Wide		
Description and Scope:			
<p>This is an ongoing project to replace chlorine gas containers with on-site sodium hypochlorite generation as a disinfectant for potable water. Sodium hypochlorite is a non-hazardous chemical. The three pump stations in this phase are the Artesia, Randolph, and Seale pump stations. The Artesia construction began in 2018, with additional funding in 2019 to design the Randolph and Seale pump stations for construction in 2020 and 2021.</p> <p>This is Phase 2 of a two phase project. Phase 1 construction was in 2014. The total cost for all phases of the project is \$14.6 million.</p>			
Justification:			
<p>This project creates a safer work environment for SAWS employees while increasing protection for the public in the area of each of the pump stations.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2019	2020
	\$0	\$1,300,000	\$4,800,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

<u>PROJECT OVERVIEW</u>			
Project ID:	Pro-00412		
Project:	Water Production Facility Upgrades Phase II		
Programmed Amount:	\$4,831,600		
Core Business:	WD - Water Delivery		
Category:	Production		
Phase:	Construction		
Council District:	System Wide		
Description and Scope:			
<p>The Water Production Facility Upgrades Phase 2 is the continuation of the rehabilitation of former BexarMet secondary pump stations. This phase includes West Avenue Pump Station (in Castle Hills), Gibbs-Sprawl Pump Station, and Montgomery Pump Station.</p>			
Justification:			
<p>Current infrastructure is beyond its useful life, and replacement parts are difficult to secure. Upgrading these facilities will help ensure reliable water delivery services.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2017	2019
	\$0	\$558,653	\$4,700,000

WASTEWATER

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**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

<u>PROJECT OVERVIEW</u>			
Project ID:	Pro-00163		
Project:	General Legal Services - WW - 2019		
Programmed Amount:	\$113,080		
Core Business:	WW - Wastewater		
Category:	Corporate WW		
Phase:	Acquisition		
Council District:	System Wide		
Description and Scope:			
Specialized legal support is required for critical projects.			
Justification:			
External legal support is sought only when there is insufficient internal legal staff to support the effort, or specialized legal expertise is required.			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.	2019	2019	2019
	\$110,000	\$0	\$0

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-10303		
Project:	Northeast Operations Center Project - WW		
Programmed Amount:	\$771,000		
Core Business:	WW - Wastewater		
Category:	Corporate WW		
Phase:	Design		
Council District:	District 10		
Description and Scope:			
<p>Professional design services to hire the Architect and Engineer (A/E) team required to design the new Northeast Operations Center which is Phase 3 of the Service Center Project. In January 2017, the SAWS Board of Trustees approved the purchase of a new site located near the intersection of 1604 and Judson Rd. The selected A/E firm will design this new facility to include an administration building, fleet facility, supply facility and fueling islands to include associated parking and materials storage areas. The cost of this project has been allocated evenly between Water Delivery and Wastewater.</p>			
Justification:			
<p>Upon completion of this new site, SAWS field crews can vacate the administration building (circa. 1981) at the SAWS Nacogdoches pump station and SAWS will remove the underground fuel tanks at that production site.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.	2017	2019	2021
	\$700,000	\$750,000	\$10,500,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-10384		
Project:	Service Center Upgrades Phase 2		
Programmed Amount:	\$1,904,000		
Core Business:	WW - Wastewater		
Category:	Corporate WW		
Phase:	Construction		
Council District:	District 02, District 08		
Description and Scope:			
<p>Phase 2 Service Center Project includes the original project scope of new and renovated facilities at the North West Service Center (NWSC) and East Side Service Center (ESSC). The requested funds will be required to cover certain cost escalations associated with this project. The cost of this project has been allocated between Water Delivery (66%) and Wastewater (34%).</p>			
Justification:			
<p>This project addresses code compliance and life safety issues at the facilities; addresses aging infrastructure by removing the underground fuel tanks (UGTs) and replacing them with above ground tanks (AGTs). The existing fuel facility at ESSC will also be relocated away from traffic congestion. The project also replaces outdated fire alarm systems, security systems and information systems. The existing Service Centers are at full capacity and do not have adequate space to accommodate new growth to the system or additional staff. This project also would include demolition and replacement of the vacated 1973 administration building on the Wurzbach Production Tank site which has exceeded its life expectancy. The Phase 2 Service Center Project will continue the Service Center Master Plan which was implemented to address growth to SAWS service area and improve Distribution & Collection (D&C) response time. The completion of the Service Center Phase 2 Project will increase efficiencies for D&C operations at the ESSC, allow for SAWS to declare as surplus and sell the Mission Road Service Center, and avoid escalating operating costs at Mission Road and at ESSC. This Project will also relocate customer service field crews and Resource Protection & Compliance (RPC) staff from Mission Road increasing efficiency in fleet maintenance, and reducing drive time.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2015	2019
	\$0	\$0	\$1,852,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

<u>PROJECT OVERVIEW</u>			
Project ID:	Pro-10800		
Project:	Wastewater Owner Controlled Construction Changes (OCCC) 2019		
Programmed Amount:	\$7,754,254		
Core Business:	WW - Wastewater		
Category:	Corporate WW		
Phase:	Construction		
Council District:	System Wide		
Description and Scope:			
Funds earmarked to support change orders for approved CIP projects that would exceed original project appropriations.			
Justification:			
The availability of OCCC funds recognizes that unforeseen cost changes can occur in the execution of CIP projects. Change orders valued above \$100,000 must be approved by the SAWS Board of Trustees.			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2017	2019
	\$0	\$0	\$7,543,049

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-11093		
Project:	Wastewater Overhead 2019		
Programmed Amount:	\$14,750,000		
Core Business:	WW - Wastewater		
Category:	Corporate WW		
Phase:	Construction		
Council District:	System Wide		
Description and Scope:			
<p>Overhead costs cover the direct costs associated with SAWS personnel who manage CIP projects, in addition to the indirect costs associated with SAWS personnel who support the CIP program during the capitalizable phases of the projects. Overhead costs were in part estimated based on time entered by SAWS CIP project management and support personnel during 2018 into the SAWS CIP Time Tracker system. Other factors included in the estimate of overhead costs are support to prior year CIP programs and estimated support to future CIP implementation.</p>			
Justification:			
<p>Overhead costs are applied to SAWS personnel costs in order to capture direct incremental costs associated with SAWS personnel that support the development and construction of CIP projects.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2018	2019
	\$0	\$0	\$14,750,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

<u>PROJECT OVERVIEW</u>			
Project ID:	Pro-00042		
Project:	Install Sewer Mains and Eliminate Lift Stations Near Port SA		
Programmed Amount:	\$575,680		
Core Business:	WW - Wastewater		
Category:	Collection Facilities		
Phase:	Design		
Council District:	District 04		
Description and Scope:			
<p>This project will design the elimination of five lift stations at Port San Antonio due to operational challenges and increased maintenance costs. This project will install sanitary sewer laterals and mains that will allow for gravity flow of the wastewater, eliminating the need for the lift stations. The five lift stations are numbers 309, 310, 320, 326, and 329 at Port SA. Construction is scheduled for 2021.</p>			
Justification:			
<p>This project will eliminate lift stations and construct gravity sewer mains to replace them. This project is important because it will eliminate the potential for sanitary sewer overflows due to lift station issues. It will also eliminate O&M costs associated with upkeep of the facilities. Deferring this project will require continued operation and maintenance costs at each lift station. Elimination or rehabilitation is required by the EPA Consent Decree.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2019	2021
	\$0	\$560,000	\$5,000,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-10105		
Project:	Lift Stations Rehabilitation - Phase 5		
Programmed Amount:	\$1,182,200		
Core Business:	WW - Wastewater		
Category:	Collection Facilities		
Phase:	Design		
Council District:	District 04, District 05		
Description and Scope:			
<p>Rehabilitate eighteen existing lift stations that are located in the Central and West sewersheds at Port San Antonio and Lackland Air Force Base. The project will include safety and security upgrades, and evaluation and rehabilitation of wet wells, pump replacement, and electrical panel upgrades. All of the lift stations will be connected to the remote Supervisory Control and Data Acquisition System (SCADA) monitoring system. Wet well storage capacity will be verified for state regulatory compliance as well as adequate response time in the event of an emergency. The pumping, wet well, and force main capacity will be increased if it is found that the current capacities are inadequate. The EPA Consent Decree requires that these lift stations be rehabilitated by 2023. Construction will start in 2021. The current list of Lift Stations to be rehabilitated are numbers 300, 303, 304, 311, 312, 317, 319, 321, 322, 323, 324, 325, 328, 330, 331, 305, 307, and 333.</p>			
Justification:			
<p>These lift stations were installed between 20 and 50 years ago, and the typical life expectancy is 20 years. Rehabilitating the lift stations will reduce the probability of sanitary sewer overflows and is required under the EPA Consent Decree.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2019	2021
	\$0	\$1,150,000	\$11,500,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

<u>PROJECT OVERVIEW</u>			
Project ID:	Pro-10100		
Project:	Install sewer main from LS 224 to SBSP		
Programmed Amount:	\$745,300		
Core Business:	WW - Wastewater		
Category:	Mains New - Sewer		
Phase:	Construction		
Council District:	District 04		
Description and Scope:			
<p>The Lift Station #224 Elimination project consists of the elimination of Lift Station 224, located near the Love's Travel Stop and Country Store northwest of the intersection of Fischer Road and IH 35 S. This project also consists of constructing approximately 4,500 feet of 12-in gravity sewer main that will connect to the Southwest Bexar Sewer Pipeline (SBSP).</p>			
Justification:			
<p>Lift Station 224 must be eliminated under the EPA Consent Decree by December 31, 2021. Additionally, the elimination of this lift station will capitalize on the Southwest Bexar Sewer Pipeline and reduce operating and maintenance costs.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2016	2019
	\$0	\$202,670	\$725,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-00109		
Project:	Sewer Main Oversizing 2019 - SAWS		
Programmed Amount:	\$1,028,000		
Core Business:	WW - Wastewater		
Category:	Mains New - Sewer		
Phase:	Construction		
Council District:	System Wide		
Description and Scope:			
<p>Pay for SAWS proportionate share of the cost of mains which are necessary to serve anticipated growth but are larger than the size main required by a developer customer or single customer. Developers are required to build necessary offsite infrastructure to meet the needs of their development. When growth is projected in adjacent tracts, SAWS contributes money to increase the size of the mains to serve the additional growth. Sharing in the cost is beneficial to both SAWS and the developer and prevents the construction of parallel smaller sized mains.</p>			
Justification:			
Participating in oversizing is a cost effective way to meet the needs of growth. It is funded by impact fees collected from new development.			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2019	2019
	\$0	\$0	\$1,000,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-00233		
Project:	Governmental Sewer - 2019		
Programmed Amount:	\$17,373,200		
Core Business:	WW - Wastewater		
Category:	Governmental Sewer		
Phase:	Construction		
Council District:	System Wide		
			
Description and Scope:			
<p>The governmental program consists of projects implemented in conjunction with other government agencies infrastructure work. The program includes replacement of sewer mains in poor condition, adjustment of sewer mains whose existing alignment conflicts with proposed new street alignment, and installation of new sewer mains needed to provide additional capacity.</p> <p>SAWS participates in the Utility Coordination Council, and jointly plans and reviews infrastructure improvements with City of San Antonio (COSA), Bexar County, Texas Department of Transportation (TXDOT), City Public Service (CPS) Energy, AT&T, and other agencies, to maximize effectiveness of public infrastructure.</p> <p>Justification:</p> <p>Replacing and/or adjusting aging infrastructure in conjunction with other agencies planned street work is the most cost effective approach to infrastructure management.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2019	2019
	\$0	\$0	\$16,900,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

<u>PROJECT OVERVIEW</u>			
Project ID:	Pro-00277		
Project:	E-20 Wurzbach: Jones Maltsberger to Nacogdoches		
Programmed Amount:	\$22,616,000		
Core Business:	WW - Wastewater		
Category:	Main Replacement - Sewer		
Phase:	Construction		
Council District:	District 09, District 10		
Description and Scope:			
<p>The E-20 Wurzbach: Jones Maltsberger to Nacogdoches project consists of constructing approximately five miles of 15-inch to 60-inch wastewater mains that carry up to 65 MGD of wastewater. The mains are located in the Eastern Basin along Salado Creek between Nacogdoches Road and Jones Maltsberger Road and collect wastewater from Stone Oak and the northeastern service area around Redland and Bulverde Roads. Lift stations 11 and 111 that flow into this main will be eliminated via a separate project.</p>			
Justification:			
<p>The E-20 Wurzbach: Jones Maltsberger to Nacogdoches project is needed to correct capacity deficiencies in the existing sanitary sewer infrastructure.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.	2017	2017	2019
	\$267,511	\$0	\$22,000,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

<u>PROJECT OVERVIEW</u>			
Project ID:	Pro-00397		
Project:	E-54: Cibolo Vista to Bulverde		
Programmed Amount:	\$968,376		
Core Business:	WW - Wastewater		
Category:	Main Replacement - Sewer		
Phase:	Design		
Council District:	District 10, OCL		
Description and Scope:			
Extend 28,000 feet of 21 and 30-inch main from the upstream end of planned project E-4 located 1,500 feet east of Bulverde Road and immediately north of 1604 to Fossil Ridge LS located 1,000 feet east of TPC Parkway.			
Justification:			
Alleviate capacity constraints due to upstream growth. Phases 2, 3 and 4 are planned for construction in 2021, 2022 and 2024.			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2019	2021
	\$0	\$942,000	\$9,700,500

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

<u>PROJECT OVERVIEW</u>			
Project ID:	Pro-00240		
Project:	Main Replacements - Sewer - SAWS Crews - 2019		
Programmed Amount:	\$3,598,000		
Core Business:	WW - Wastewater		
Category:	Main Replacement - Sewer		
Phase:	Construction		
Council District:	System Wide		
Description and Scope:			
Replacement of sewer mains by SAWS crews. When portions of the system must be replaced, the project is evaluated to determine if SAWS crews or contractors will be the most effective or efficient means to complete the replacement.			
Justification:			
The replacement work is necessary to restore service and is required to comply with the EPA Consent Decree.			
Funding Information:			
	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2019	2019
	\$0	\$0	\$3,500,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

<u>PROJECT OVERVIEW</u>			
Project ID:	Pro-00248		
Project:	Sewer Laterals - 2019		
Programmed Amount:	\$4,626,000		
Core Business:	WW - Wastewater		
Category:	Main Replacement - Sewer		
Phase:	Construction		
Council District:	System Wide		
Description and Scope:			
<p>Replace deteriorated customer sewer upper laterals from the sewer main to the customer's property line. Each year SAWS crews replace customer sewer upper laterals when televising or reported problems indicate the lateral has become unserviceable.</p>			
Justification:			
<p>Replacement of sewer upper laterals is necessary to restore service and reduces inflow and infiltration, which reduces sewer overflows, and is required by the EPA Consent Decree.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2019	2019
	\$0	\$0	\$4,500,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-00258		
Project:	Small and Large Diameter Condition Remedial Measures 2019		
Programmed Amount:	\$42,711,200		
Core Business:	WW - Wastewater		
Category:	Main Replacement - Sewer		
Phase:	Construction		
Council District:	System Wide		
Description and Scope:			
<p>Rehabilitate sewer mains that have been identified by televised inspection to be in poor condition. This project will fund the rehabilitation of approximately 40 miles of small and 5 miles of large diameter sewer mains. Areas identified for rehabilitation are evaluated to determine the most cost effective method (conventional open trench replacement, cured in place pipe, or pipe bursting) of rehabilitation. This project is part of the EPA Consent Decree.</p> <p>Each year, SAWS is required to inspect pipes to evaluate condition and to take necessary action to prevent sewer overflows.</p>			
Justification:			
Rehabilitation of the sewer system is required by the EPA Consent Decree. All condition work must be complete by July 23, 2023.			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2019	2019
	\$0	\$0	\$41,120,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-00086		
Project:	W-1 Leon Creek: Hwy 151 to Hwy 90		
Programmed Amount:	\$26,728,000		
Core Business:	WW - Wastewater		
Category:	Main Replacement - Sewer		
Phase:	Construction		
Council District:	District 06		
Description and Scope:			
<p>This project will construct about four miles of 78-inch and 84-inch gravity main in the Western Sewershed along Leon Creek from Highway 90 to an existing upsized line approximately one-half mile north of State Highway 151. This project will replace an aging and undersized sewer main which conveys more than 70% of the Western Sewershed's total flow to the treatment plant. The W-1 segment completes the undersized gap between a previously upsized section to the north and the existing W-6 project to the south which is currently under design.</p> <p>Construction is planned in two phases in 2019 at a total cost of \$26.0 million.</p>			
Justification:			
<p>This project is being upsized to handle peak wet weather sewer flows which are increasing as a result of an expanding upstream catchment area due to growth. The increase in sewer capacity will decrease the likelihood of Sanitary Sewer Overflows as required by the EPA.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2015	2019
	\$0	\$3,232,385	\$26,000,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-01150		
Project:	W-6: Hwy 90 to SW Military Drive Sewer Main		
Programmed Amount:	\$17,476,000		
Core Business:	WW - Wastewater		
Category:	Main Replacement - Sewer		
Phase:	Design		
Council District:	District 04, District 06		
Description and Scope:			
<p>The W-6 Upper Segment involves replacing aging and under-capacity sewer infrastructure that currently runs through Lackland Air Force Base. Environmental and jurisdictional challenges associated with the Air Force base have forced SAWS to evaluate numerous different alignments. Ultimately, the planned final alignment involves deep tunneling from a point near the intersection of Southwest (SW) Military Drive and Old Pearsall Road extending northwest along SW Military Drive to the intersection of SW Military Drive and U.S. Highway 90 where it turns east and proceeds east along U.S. Highway 90 to a point near the intersection of U.S. Highway 90 and South Callaghan Road.</p>			
Justification:			
<p>The W-6 is a major sewer pipeline carrying flows from the western sewershed. Sewer line challenges and sanitary sewer overflows (SSOs) in this area and upstream require remedial action in order to comply with the federal government's SSO Consent Decree.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2019	2020
	\$0	\$17,000,000	\$190,000,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-00253		
Project:	Wastewater Main Replacement Work Order Engineering Contract - 2019		
Programmed Amount:	\$4,112,000		
Core Business:	WW - Wastewater		
Category:	Main Replacement - Sewer		
Phase:	Design		
Council District:	System Wide		
Description and Scope:			
<p>This annual project will fund design services to repair/replace sewer mains based on internal prioritization. These projects vary in size and location and may require the solicitation of contractor construction services. These projects will be constructed to correct unsanitary conditions in order to ensure public health and safety. This project includes \$200,000 for a cost estimating contract for wastewater construction projects.</p>			
Justification:			
Design of replacement/repair mains is necessary to restore and maintain wastewater service.			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2019	2019
	\$0	\$4,000,000	\$0

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

<u>PROJECT OVERVIEW</u>			
Project ID:	Pro-11049		
Project:	Dos Rios WRC Headworks Enhancements Phase 2		
Programmed Amount:	\$1,542,000		
Core Business:	WW - Wastewater		
Category:	Treatment		
Phase:	Construction		
Council District:	District 03		
Description and Scope:			
<p>The existing grit removal system is ineffective in removing grit from the raw wastewater. An in-depth assessment of the grit chambers, grit pumps and grit washer/classifier units will be performed to determine the cause and, depending on the outcome of this investigation, a remedial design will be implemented.</p>			
Justification:			
<p>Proper operation of the grit removal system is vital in order to prevent premature wear and tear in the downstream equipment and grit deposition in the digesters. Grit deposition in digesters reduces digestion capacity and requires frequent digester cleaning, which in turn results in increases in annual maintenance cost.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.	2017	2017	2019
	\$0	\$0	\$1,500,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-00120		
Project:	Dos Rios WRC Electrical System Improvements – Phase 2		
Programmed Amount:	\$20,046,000		
Core Business:	WW - Wastewater		
Category:	Treatment		
Phase:	Construction		
Council District:	District 03		
Description and Scope:			
<p>Replace various plant electrical switchgear, motor control centers, transformers and generators that are aging, and in poor condition. All plant electrical equipment was assessed, evaluated and assigned a rating of 1 to 6, with 1 being in the poorest condition and 6 being in the best condition. The electrical equipment to be replaced in Phase 2 was deemed in poor condition by the Dos Rios WRC Electrical System Assessment project. Phase 2 will be constructed in 2019 at an estimated cost of \$19.5 million, and Phase 3 will be constructed in 2022 at an estimated cost of \$15 million. Phase 4 is planned for 2025 at \$10.5 million. The total cost of all four phases of the project is approximately \$60 million. This project will be constructed in tandem with the Leon Creek Electrical Switchgear project.</p>			
Justification:			
<p>The Dos Rios WRC has been in operation since 1987, and portions of the plant electrical equipment are beyond their useful life and need to be replaced to maintain system reliability.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2017	2019
	\$0	\$1,900,057	\$19,500,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-10647		
Project:	Dos Rios WRC Sludge Drying Bed Improvements		
Programmed Amount:	\$1,799,000		
Core Business:	WW - Wastewater		
Category:	Treatment		
Phase:	Construction		
Council District:	District 03		
Description and Scope:			
<p>The sludge drying beds are used to dewater the sludge after the digestion process in conjunction with the belt filter presses. The 132 sludge drying beds at the Dos Rios WRC are more than 30 years old and in need of replacement. The project scope is to replace 10 to 15 beds per year over 2019-2021, with a similar but an up-to-date technology.</p>			
Justification:			
<p>The beds are more than 30 years old and in need of replacement due to loss of sand and severe deterioration of the underdrain systems. The treatment of solids is necessary to meet permit requirements. The drying beds provide an additional option for treatment.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.	2017	2019	2019
	\$0	\$0	\$1,750,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-11072		
Project:	Leon Creek Electrical Switchgear		
Programmed Amount:	\$4,626,000		
Core Business:	WW - Wastewater		
Category:	Treatment		
Phase:	Construction		
Council District:	District 03		
Description and Scope:			
<p>This project will replace the outdoor main incoming electrical switchgear, which is over 30 years old, at the Leon Creek Water Recycling Center (WRC). The main electrical switchgear supplies high voltage (4,160 volts) electrical power to the electrical distribution system and equipment for operation of the various wastewater treatment process areas of the plant. The new main electrical switchgear will be located in a new climate controlled electrical building. Both the new electrical switchgear and electrical building will be installed as part of this project. The new electrical building will be sized and constructed to set the foundation for future electrical switchgear replacements and upgrades to the aging electrical system. All work will comply with Federal, State and Local electrical codes.</p> <p>This project will be constructed in tandem with the Dos Rios Electrical Upgrades Phase 2 project. The future electrical switchgear replacements will be included on the Leon Creek WRC Improvements and Upgrades Phase 2 and Leon Creek WRC Electrical System Improvements projects.</p>			
Justification:			
The Leon Creek WRC has been in operation since 1965, and portions of the plant electrical equipment are beyond their useful life and need to be replaced to maintain system reliability.			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2018	2019
	\$0	\$0	\$4,500,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-00045		
Project:	Leon Creek WRC Improvements and Upgrades Phase 2		
Programmed Amount:	\$1,387,800		
Core Business:	WW - Wastewater		
Category:	Treatment		
Phase:	Design		
Council District:	District 03		
Description and Scope:			
<p>For the Leon Creek Water Recycling Center (WRC), this project provides for the design of:</p> <ul style="list-style-type: none"> -Upgrade/replacement of the existing preliminary treatment facilities (headworks) that are ineffective and corroded, and installation of new and up-to-date electrical, instrumentation and control systems. -Replacement of the existing non-potable water system (NPW) including the existing NPW pumps and the NPW piping throughout the plant, provide for the high pressures required for the existing equipment to work properly, and connect the pumps to the plant's backup power system. -Evaluation and restoration/replacement of the site paving that is in poor condition due to age and wear and tear. -Demolition of all structures and equipment that are old, corroded, and no longer needed. -Removal of the bottleneck in the junction box downstream of the final clarifiers so that the plant can treat its full peak flow capacity. -Correction of the hydraulic flow in Final Clarifier No. 5. 			
Justification:			
<p>Once fully implemented, this project will be the last project of a series of projects at Leon Creek WRC over the last few years. The plant's full capacity will be able to be used and the plant will be significantly upgraded after this project, requiring no future large-scale project for the next 10 years or so. This is necessary to respond to the increase in flow as a result of the cleaning and upgrades from the SSO program.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2019	2020
	\$0	\$1,350,000	\$17,500,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-10115		
Project:	Mitchell Lake Pilot Wetlands		
Programmed Amount:	\$1,233,600		
Core Business:	WW - Wastewater		
Category:	Treatment		
Phase:	Construction		
Council District:	District 03		
Description and Scope:			
<p>Construct a pilot project to test wetlands concept for improving the quality of Mitchell Lake discharged water. This project will bid the wetland pilot construction during the fall of 2018 for award in January 2019. The consultant will prepare the final recommendation report on the pilot results and dam improvements.</p>			
Justification:			
<p>The existing Dam was built in 1901 using soil, concrete & rebar from unknown sources, possibly from debris from floods in the area. SAWS plans to lower the normal operating level of the lake and to modify the dam and spillway so that the lake can store the extra volume of water from major stormwater events upstream, and we can slowly release the water to the proposed downstream wetlands. If we raise the level of the lake to store major stormwater events, we want to ensure that the dam has the structural integrity to handle the increased water pressure.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2018	2019
	\$0	\$0	\$1,200,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-10807		
Project:	Treatment Facilities Engineering Work Order Contract 2019		
Programmed Amount:	\$514,000		
Core Business:	WW - Wastewater		
Category:	Treatment		
Phase:	Design		
Council District:	System Wide		
Description and Scope:			
<p>This annual contract will fund design services to evaluate, design and bid processes and associated equipment at SAWS treatment and recycle facilities that require rehabilitation, improvement, addition, demolition, replacement and expansion. These facilities include:</p> <ul style="list-style-type: none"> - wastewater treatment (water recycling centers) - recycle water pump stations (water recycling centers) - recycle water system (service area) - cooling (chilled water system downtown) - lift stations (SAWS service area) - odor control stations <p>The scope of design work will include, but is not limited to, geotechnical, potholing and subsurface utility investigations, surveying, permitting, public meetings/hearings attendance, environmental studies, preliminary engineering work for site/civil, structural, mechanical, electrical, instrumentation and control systems evaluation, recommendations and design, preparation of construction plans, specifications, cost estimates, construction schedules, assistance in bidding, construction phase services including review of contractor submittals, responding to requests for information, preparation of requests for proposals/change orders, contractor pay estimate reviews, attending construction progress meetings and walkthroughs, substantial and final completion inspections, and other related services as needed.</p>			
Justification:			
<p>The engineering design services contract is necessary to provide timely response to the process/equipment evaluation and design needs in the above facilities. A design work order will be issued upon identification of the projects that require rapid response. Services will be on an "as-needed" basis, and vary in size and location.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.	2016	2019	2020
	\$0	\$500,000	\$0

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WATER RESOURCES

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**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-10811		
Project:	Automated Metering Infrastructure (AMI)		
Programmed Amount:	\$1,225,345		
Core Business:	WR - Water Resources		
Category:	Corporate WR		
Phase:	Design		
Council District:	System Wide		
Description and Scope:			
<p>First year of AMI implementation represents pilot program to evaluate the benefits of fully implementing AMI in subsequent years. Successful AMI implementation will have a significant impact on the SAWS meter to cash process. It will greatly improve SAWS ability to provide relevant and timely information to SAWS customers about their water usage, likely reducing water usage as a result of leaks on the customer side of the meter and improve conservation efforts. Improved meter registration will have a positive impact on Non-Revenue Water. The projected costs and benefits of this project have been allocated evenly between Water Delivery and Water Supply.</p>			
Justification:			
<p>The Business Case performed by West Monroe in 2017, calculated a net benefit of AMI of \$31M (NPV) over a 20 year term. The biggest impact on the benefits provided during the 20 year period is the assumed improved meter registration that results from replacing 100% of SAWS mechanical meters with static meters. While other operational improvements were assumed in the business case by utilizing the network to provide data, the vast majority of the positive results are from an assumed 2.5% improvement in meter registration.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.	2019	2019	2020 - 2023
	\$0	\$1,225,345	approx. \$85,000,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

<u>PROJECT OVERVIEW</u>			
Project ID:	Pro-00162		
Project:	General Legal Services - WR - 2019		
Programmed Amount:	\$339,240		
Core Business:	WR - Water Resources		
Category:	Corporate WR		
Phase:	Acquisition		
Council District:	System Wide		
Description and Scope:			
Specialized legal support is required for critical projects.			
Justification:			
External legal support is sought only when there is insufficient internal legal staff to support the effort, or specialized legal expertise is required.			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.	2019	2019	2019
	\$330,000	\$0	\$0

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

<u>PROJECT OVERVIEW</u>			
Project ID:	Pro-10808		
Project:	Water Supply Owner Controlled Construction Changes (OCCC) 2019		
Programmed Amount:	\$2,531,810		
Core Business:	WR - Water Resources		
Category:	Corporate WR		
Phase:	Construction		
Council District:	System Wide		
Description and Scope:			
Funds earmarked to support change orders for approved CIP projects that would exceed original project appropriations.			
Justification:			
The availability of OCCC funds recognizes that unforeseen cost changes can occur in the execution of CIP projects. Change orders valued above \$100,000 must be approved by the SAWS Board of Trustees.			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2016	2019
	\$0	\$0	\$2,462,850

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-11094		
Project:	Water Resources Overhead 2019		
Programmed Amount:	\$3,000,000		
Core Business:	WR - Water Resources		
Category:	Corporate WR		
Phase:	Construction		
Council District:	System Wide		
Description and Scope:			
<p>Overhead costs cover the direct costs associated with SAWS personnel who manage CIP projects, in addition to the indirect costs associated with SAWS personnel who support the CIP program during the capitalizable phases of the projects. Overhead costs were in part estimated based on time entered by SAWS CIP project management and support personnel during 2018 into the SAWS CIP Time Tracker system. Other factors included in the estimate of overhead costs are support to prior year CIP programs and estimated support to future CIP implementation.</p>			
Justification:			
<p>Overhead costs are applied to SAWS personnel costs in order to capture direct incremental costs associated with SAWS personnel that support the development and construction of CIP projects.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2018	2019
	\$0	\$0	\$3,000,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

<u>PROJECT OVERVIEW</u>			
Project ID:	Pro-11122		
Project:	Brackish Desalination Conversion of Test Well No.1		
Programmed Amount:	\$2,588,316		
Core Business:	WR - Water Resources		
Category:	Desalination		
Phase:	Construction		
Council District:	OCL		
Description and Scope:			
<p>This project includes converting the desalination plant's Test Well No. 1 with all mechanical, electrical, instrumentation and controls, Supervisory Control and Data Acquisition (SCADA) Control and well head improvements from Well No. 10. This project will also provide for the construction of approximately 12,000 feet of interconnect pipeline between the converted brackish groundwater Test Well No. 1 and the brackish wells collector line to boost the capacity of source water to the desalination plant.</p>			
Justification:			
<p>The new well will help to offset the capacity lost due to decline in brackish aquifer surface elevation in the past two years and the impact of well drawdown caused by low transmissivity of the aquifer formation.</p> <p>The desalination plant is designed to operate at the peak treatment capacity of 12 million gallons per day (MGD). Currently, due to lowering of the brackish aquifer surface water elevation, the yield has declined and must be offset by additional sources. This project, in conjunction with the Brackish Desalination Well Addition No. 14 project, will provide for an additional 2,000 AF of brackish ground water to be treated at desalination plant.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.	2019	2018	2019
	\$0	\$0	\$2,517,817

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

<u>PROJECT OVERVIEW</u>			
Project ID:	Pro-11121		
Project:	Brackish Desalination Well Addition No.14		
Programmed Amount:	\$4,889,709		
Core Business:	WR - Water Resources		
Category:	Desalination		
Phase:	Construction		
Council District:	OCL		
Description and Scope:			
<p>This project includes drilling a new well at the desalination plant with all mechanical, electrical, instrumentation and controls, Supervisory Control and Data Acquisition (SCADA) Control and well head improvements. This project will also provide for the construction of approximately 5,500 feet of interconnect pipeline between the new brackish groundwater Well No. 14 and the brackish wells collector line to boost the capacity of source water to the desalination plant.</p>			
Justification:			
<p>The new well will help to offset the capacity lost due to decline in brackish aquifer surface elevation in the past 2 years and the impact of well drawdown caused by low transmissivity of the aquifer formation.</p> <p>The desalination plant is designed to operate at the peak treatment capacity of 12 million gallons per day (MGD). Currently, due to lowering of the brackish aquifer surface water elevation, the yield has declined and must be offset by additional sources. This project, in conjunction with the Brackish Desalination Conversion of Test Well No. 1 project, will provide for an additional 2,000 AF of brackish ground water to be treated at the desalination plant.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2019	2019
	\$0	\$0	\$4,756,526

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-10728		
Project:	Central Water Integration Pipeline – Agua Vista Station		
Programmed Amount:	\$52,428,000		
Core Business:	WR - Water Resources		
Category:	Vista Ridge Integration		
Phase:	Construction		
Council District:	System Wide		
Description and Scope:			
<p>The Central Water Integration Pipeline – Agua Vista Station includes a new water treatment plant with a capacity of 45 million gallons per day and a new pump station with a capacity of 20 million gallons per day that will serve Stone Oak. At this facility, potable water received through the Vista Ridge Regional Supply Project will be polished to match the water quality of the Edwards Aquifer and to ensure compatibility with the existing SAWS water distribution system in the central corridor from Stone Oak all the way to the Olmos Basin area. The treatment facility will include chemical dosing systems to increase levels of calcium and alkalinity, pressure filters to reduce turbidity and associated backwash recovery, on-site sodium hypochlorite generation for disinfection, and a fluoride feed system to meet City of San Antonio requirements. Residuals from pressure filter backwash will be thickened and disposed of through a solids handling process train.</p>			
Justification:			
<p>The Central Water Integration Pipeline project will help meet the expected growth of 20,000 new people every year in San Antonio and will be the largest non-Edwards Aquifer water supply in San Antonio's history. This project will increase our water supply portfolio by 20% of current demand. SAWS began the construction phase of the eight projects under the Central Water Integration Pipeline umbrella in 2018 with completion planned for early 2020 when the Vista Ridge water supply comes online. This amount is needed to fully fund construction.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2017	2019
	\$0	\$0	\$51,000,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

<u>PROJECT OVERVIEW</u>			
Project ID:	Pro-11123		
Project:	Purchase of Edwards Aquifer Rights		
Programmed Amount:	\$1,362,100		
Core Business:	WR - Water Resources		
Category:	Edwards		
Phase:	Acquisition		
Council District:	System Wide		
Description and Scope:			
<p>This project involves the permanent acquisition of Edwards Aquifer water rights as well as the legal services needed to complete the purchase. The 2017 Water Management Plan (WMP) identifies purchasing water rights as an option for the maintenance of Edwards supply long term. SAWS purchased 40 acre-feet of Edwards water rights in 2018 for a total of \$200,000.</p>			
Justification:			
<p>Although the 2017 WMP identifies a reduced total Edwards inventory, a large volume of water rights lease maintenance activity is still required. Purchasing Edwards water rights will help offset any uncertainties in the leasing market.</p> <p>Assuming purchases of \$5,000/AF, this amount of money will acquire 260 AF. Going out with a bid process could drive the price per acre foot down bringing in greater quantities of water.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.	2019		
	\$1,325,000	\$0	\$0

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

<u>PROJECT OVERVIEW</u>			
Project ID:	Pro-00144		
Project:	Recycled Water Customer Lines - 2019		
Programmed Amount:	\$205,600		
Core Business:	RW - Recycled Water		
Category:	Recycled Water		
Phase:	Construction		
Council District:	System Wide		
Description and Scope:			
Provide recycled water to customers for irrigation, cooling towers, and industrial uses.			
Justification:			
Providing recycled water avoids the use of potable water sources.			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2019	2019
	\$0	\$0	\$200,000

**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-11095		
Project:	Recycled Water Overhead 2019		
Programmed Amount:	\$225,000		
Core Business:	RW - Recycled Water Recycled		
Category:	Recycled Water		
Phase:	Construction		
Council District:	System Wide		
Description and Scope:			
<p>Overhead costs cover the direct costs associated with SAWS personnel who manage CIP projects, in addition to the indirect costs associated with SAWS personnel who support the CIP program during the capitalizable phases of the projects. Overhead costs were in part estimated based on time entered by SAWS CIP project management and support personnel during 2018 into the SAWS CIP Time Tracker system. Other factors included in the estimate of overhead costs are support to prior year CIP programs and estimated support to future CIP implementation.</p>			
Justification:			
<p>Overhead costs are applied to SAWS personnel costs in order to capture direct incremental costs associated with SAWS personnel that support the development and construction of CIP projects.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2018	2019
	\$0	\$0	\$225,000

CHILLED WATER

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**SAN ANTONIO WATER SYSTEM
2019 CAPITAL IMPROVEMENT PROGRAM
PROJECT DATA SHEET**

PROJECT OVERVIEW			
Project ID:	Pro-11096		
Project:	Chilled Water Overhead 2019		
Programmed Amount:	\$125,000		
Core Business:	CW - Chilled Water		
Category:	Chilled Water		
Phase:	Construction		
Council District:	System Wide		
Description and Scope:			
<p>Overhead costs cover the direct costs associated with SAWS personnel who manage CIP projects, in addition to the indirect costs associated with SAWS personnel who support the CIP program during the capitalizable phases of the projects. Overhead costs were in part estimated based on time entered by SAWS CIP project management and support personnel during 2018 into the SAWS CIP Time Tracker system. Other factors included in the estimate of overhead costs are support to prior year CIP programs and estimated support to future CIP implementation.</p>			
Justification:			
<p>Overhead costs are applied to SAWS personnel costs in order to capture direct incremental costs associated with SAWS personnel that support the development and construction of CIP projects.</p>			
Funding Information:	Acquisition Year:	Design Year:	Construction Year:
Amounts shown are estimated costs without projected inflation.		2018	2019
	\$0	\$0	\$125,000

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SUPPLEMENTAL INFORMATION

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WATER SUPPLY FEE

Effective for all potable water consumption on or about January 1, 2018 and January 1, 2019, respectively.

This fee directly funds the acquisition of new water supplies to reduce San Antonio's dependence on the Edwards Aquifer.

The Water Supply Fee shall be assessed on all potable water service for water usage in every instance of service for each month or fraction thereof according to the schedule below:

WATER SUPPLY FEE

RATE CLASS	USAGE GALLON - BLOCK THRESHOLD	ASSESSED FEE	
		RATE PER 100 GALLONS	
		Current 2018	Approved 2019
Residential	2,992	\$0.0997	\$0.1040
	4,489	0.1744	0.1819
	5,985	0.2242	0.2338
	7,481	0.2741	0.2859
	10,473	0.3240	0.3379
	14,962	0.3738	0.3899
	20,199	0.4485	0.4678
	Over 20,199	0.6477	0.6756
General	Base*	\$0.1880	\$0.1961
	125% of Base	0.2163	0.2256
	175% of Base	0.2820	0.2941
	Over 175% of Base	0.3291	0.3433
Wholesale	Base**	\$0.2449	\$0.2554
	Over Base	0.7349	0.7665
Irrigation	8,229	\$0.2460	\$0.2566
	17,954	0.3444	0.3592
	162,316	0.4429	0.4619
	Over 162,316	0.5660	0.5903

* The Base Use for General Class is defined as 100% of the prior year's average monthly consumption.

**The Base Use for the Wholesale Class is defined as 100% of the prior year's average monthly consumption or as agreed to by the wholesale customer and approved by the SAWS Board of Trustees.

RESIDENTIAL WATER AND SEWER RATES

RESIDENTIAL WATER RATES

Effective for consumption on or about January 1, 2018 and January 1, 2019, respectively.

The Service Availability Charge (minimum bill) assessed for all residential water service furnished through meters of the following sizes together with the Monthly Volume Charge measured per 100 gallons of water usage in every instance of service for each month or fraction thereof shall be as follows:

MONTHLY SERVICE AVAILABILITY CHARGE

METER SIZE	INSIDE CITY LIMITS		OUTSIDE CITY LIMITS	
	Current	Approved	Current	Approved
	2018	2019	2018	2019
5/8"	\$12.77	\$12.82	\$16.60	\$16.67
3/4"	16.90	16.97	21.97	22.06
1"	25.12	25.22	32.66	32.79
1 1/2"	45.67	45.85	59.37	59.61
2"	70.30	70.58	91.38	91.75
3"	127.83	128.34	166.18	166.84
4"	209.99	210.83	272.97	274.06
6"	415.41	417.07	540.02	542.18
8"	661.90	664.55	860.45	863.89
10"	949.47	953.27	1,234.30	1,239.24
12"	1,771.12	1,778.20	2,302.46	2,311.67

Lifeline Discount

	INSIDE CITY LIMITS		OUTSIDE CITY LIMITS	
	Current	Approved	Current	Approved
	2018	2019	2018	2019
Discount *	\$2.55	\$2.57	\$3.32	\$3.34

MONTHLY VOLUME CHARGE

Usage Gallon Block Threshold	INSIDE CITY LIMITS		OUTSIDE CITY LIMITS	
	RATE PER 100 GALLONS		RATE PER 100 GALLONS	
	Current	Approved	Current	Approved
	2018	2019	2018	2019
2,992	\$0.0737	\$0.0740	\$0.0958	\$0.0962
4,489	0.1290	0.1295	0.1676	0.1683
5,985	0.1658	0.1665	0.2156	0.2165
7,481	0.2026	0.2034	0.2634	0.2645
10,473	0.2395	0.2405	0.3113	0.3125
14,962	0.2764	0.2775	0.3593	0.3607
20,199	0.3316	0.3329	0.4311	0.4328
Over 20,199	0.4790	0.4809	0.6228	0.6253

*Water Service Availability Charge is reduced by the discount if monthly usage does not exceed 2,992 gallons.

RESIDENTIAL SEWER RATES

Sewer service charges for all metered residential connections are computed on the basis of average water usage for 90 days during three consecutive billing periods beginning after November 15 and ending on or about March 15 of each year and are billed according to the rate schedules below.

MONTHLY SEWER SERVICE AVAILABILITY CHARGE

METER SIZE	INSIDE CITY LIMITS		OUTSIDE CITY LIMITS	
	Current	Approved	Current	Approved
	2018	2019	2018	2019
5/8"	\$13.45	\$14.53	\$16.14	\$17.43
3/4"	14.79	15.97	17.76	19.18
1"	16.80	18.14	20.17	21.78
1 1/2"	23.53	25.41	28.24	30.50
2"	33.62	36.31	40.35	43.58
3"	67.23	72.61	80.67	87.12
4"	100.84	108.91	121.02	130.70
6"	168.07	181.52	201.69	217.83
8"	268.90	290.41	322.70	348.52
10"	403.38	435.65	484.05	522.77
12"	537.83	580.86	645.40	697.03

MONTHLY SEWER VOLUME CHARGE

Usage Gallon Block Threshold	INSIDE CITY LIMITS		OUTSIDE CITY LIMITS	
	RATE PER 100 GALLONS		RATE PER 100 GALLONS	
	Current	Approved	Current	Approved
	2018	2019	2018	2019
1,496	\$0.0000	\$0.0000	\$0.0000	\$0.0000
2,992	0.2874	0.3104	0.3450	0.3726
Over 2,992	0.4312	0.4657	0.5174	0.5588

Customers who do not have a winter record of water usage or an interim average will be billed for sewer service assuming 5,895 gallons monthly sewer usage. Customers with no San Antonio Water System water meter will be charged the Sewer Service Availability Charge based on a 5/8" meter size.

AFFORDABILITY DISCOUNT

Effective for consumption on or about January 1, 2018 and January 1, 2019, respectively.

SAWS offers four levels of affordability discounts for residential customers who meet the income eligibility requirements.

To receive the discount, a customer must apply with the city of San Antonio Department of Human Services, Family Assistance Division. Program qualifications include being a SAWS customer, qualifying with DHS and meeting the federal income assistance guidelines. Eligibility is based on Household Family Size and Income at or below 125% Federal Assistance Guidelines

Affordability Program Discounts

Family Size	Annual income at or below
1	\$15,175
2	20,575
3	25,975
4	31,375
5	36,775
6	42,175
7	47,575
8	52,975
Families with more than 8 persons	Add \$5,200 for each additional person

2018 DISCOUNT BASED ON TYPE OF SERVICE PROVIDED

	Annual income at or below 50% Poverty	Annual income at or below 75% Poverty	Annual income at or below 100% Poverty	Annual income at or below 125% Poverty
Water and Sewer	\$24.50	\$17.00	\$11.00	\$8.72
Water only	11.25	8.00	5.20	4.10
Sewer only	13.25	9.00	5.80	4.62

2019 DISCOUNT BASED ON TYPE OF SERVICE PROVIDED

	Annual income at or below 50% Poverty	Annual income at or below 75% Poverty	Annual income at or below 100% Poverty	Annual income at or below 125% Poverty
Water and Sewer	\$25.75	\$17.95	\$11.55	\$9.05
Water only	11.25	8.15	5.30	4.15
Sewer only	14.50	9.80	6.25	4.90

GENERAL CLASS WATER SERVICE AND SEWER RATES

Including Apartment, Commercial, Industrial and Municipal

Effective for consumption on or about January 1, 2018 and January 1, 2019, respectively.

For business customers, a multi-step, base-excess use structure has been developed called the General Class. The base amount for General Class customers is 100% of customer's prior year's average monthly usage. Increased unit rates apply as usage exceeds each customer's base amount.

GENERAL CLASS WATER RATES

Monthly Service Availability and Volume Charge

The Monthly Service Availability Charge (minimum bill) for all general water service furnished through meters of the following sizes together with the Monthly Volume Charge measured per 100 gallons for water usage in every instance of service for each month or fraction thereof shall be as follows:

MONTHLY SERVICE AVAILABILITY FEE

METER SIZE	INSIDE CITY LIMITS		OUTSIDE CITY LIMITS	
	Current	Approved	Current	Approved
	2018	2019	2018	2019
5/8"	\$13.80	\$13.86	\$16.87	\$16.94
3/4"	19.71	19.79	24.02	24.12
1"	31.53	31.66	38.30	38.45
1 1/2"	61.05	61.29	73.97	74.27
2"	96.40	96.79	116.73	117.20
3"	179.02	179.74	216.60	217.47
4"	297.00	298.19	359.21	360.65
6"	591.95	594.32	715.81	718.67
8"	945.95	949.73	1,143.74	1,148.31
10"	1,358.90	1,364.34	1,642.97	1,649.54
12"	2,538.80	2,548.96	3,069.37	3,081.65

MONTHLY VOLUME CHARGE

USAGE BLOCKS	INSIDE CITY LIMITS		OUTSIDE CITY LIMITS	
	RATE PER 100 GALLONS		RATE PER 100 GALLONS	
	Current	Approved	Current	Approved
	2018	2019	2018	2019
Base	\$0.1803	\$0.1810	\$0.2345	\$0.2354
>100-125% of Base	0.2076	0.2084	0.2699	0.2710
>125-175% of Base	0.2706	0.2717	0.3519	0.3533
>175% of Base	0.3158	0.3171	0.4105	0.4121

The Base Use is defined as 100% of the prior year's average monthly consumption.

GENERAL CLASS SEWER RATES

MONTHLY SERVICE AVAILABILITY FEE

METER SIZE	INSIDE CITY LIMITS		OUTSIDE CITY LIMITS	
	Current	Approved	Current	Approved
	2018	2019	2018	2019
5/8"	\$13.45	\$14.53	\$16.14	\$17.43
3/4"	14.79	15.97	17.76	19.18
1"	16.80	18.14	20.17	21.78
1 1/2"	23.53	25.41	28.24	30.50
2"	33.62	36.31	40.35	43.58
3"	67.23	72.61	80.67	87.12
4"	100.84	108.91	121.02	130.70
6"	168.07	181.52	201.69	217.83
8"	268.90	290.41	322.70	348.52
10"	403.38	435.65	484.05	522.77
12"	537.83	580.86	645.40	697.03

Customers who do not have a San Antonio Water System water meter will be charged the Sewer Service Availability Charge based on a 2" meter size.

MONTHLY SEWER VOLUME CHARGE

Usage Blocks Base*	INSIDE CITY LIMITS		OUTSIDE CITY LIMITS	
	RATE PER 100 GALLONS		RATE PER 100 GALLONS	
	Current	Approved	Current	Approved
	2018	2019	2018	2019
1,496	\$0.0000	\$0.0000	\$0.0000	\$0.0000
Over 1,496	0.3851	0.4159	0.4622	0.4992

The Base Use is defined as 100% of the prior year's average monthly consumption.

LANDSCAPE IRRIGATION SERVICE RATES

Effective for consumption on or about January 1, 2018 and January 1, 2019, respectively.

The landscape irrigation rate applies to all "landscape irrigation" accounts. These exclude irrigation meters using water as part of their business function (e.g. process water and nurseries) as well as when used for health and safety purposes (e.g. school athletic fields). New commercial businesses are required to install separate landscape irrigation meters. Existing accounts will be retrofitted where possible. Accounts not retrofitted will be prorated based on estimated irrigation water use.

Monthly Service Availability and Volume Charge

The Monthly Service Availability Charge (minimum bill) for all irrigation water service furnished through meters of the following sizes together with the Monthly Volume Charge measured per 100 gallons for water usage in every instance of service for each month or fraction thereof shall be as follows:

MONTHLY SERVICE AVAILABILITY FEE

METER SIZE	INSIDE CITY LIMITS		OUTSIDE CITY LIMITS	
	Current	Approved	Current	Approved
	2018	2019	2018	2019
5/8"	\$13.80	\$13.86	\$16.87	\$16.94
3/4"	19.71	19.79	24.02	24.12
1"	31.53	31.66	38.30	38.45
1 1/2"	61.05	61.29	73.97	74.27
2"	96.40	96.79	116.73	117.20
3"	179.02	179.74	216.60	217.47
4"	297.00	298.19	359.21	360.65
6"	591.95	594.32	715.81	718.67
8"	945.95	949.73	1,143.74	1,148.31
10"	1,358.90	1,364.34	1,642.97	1,649.54
12"	2,538.80	2,548.96	3,069.37	3,081.65

MONTHLY VOLUME CHARGE

Usage Gallon Block Threshold	INSIDE CITY LIMITS		OUTSIDE CITY LIMITS	
	RATE PER 100 GALLONS		RATE PER 100 GALLONS	
	Current	Approved	Current	Approved
	2018	2019	2018	2019
8,229	\$0.3279	\$0.3292	\$0.4262	\$0.4279
17,954	0.4589	0.4607	0.5967	0.5991
162,316	0.5901	0.5925	0.7671	0.7702
Over 162,316	0.7540	0.7570	0.9802	0.9841

WHOLESALE WATER SERVICE AND SEWER RATES

Effective for consumption on or about January 1, 2018 and January 1, 2019, respectively.

WHOLESALE WATER RATES

Water service charges for all metered wholesale water connections shall be the sum of the appropriate Water Service Availability Charge and the application of the Water Monthly Volume Charges to metered water usage in every instance of service for each month or fraction thereof and are billed according to the schedule below.

MONTHLY SERVICE AVAILABILITY FEE

METER SIZE	Current	Approved
	2018	2019
6"	\$536.70	\$538.85
8"	857.15	860.58
10"	1,230.99	1,235.91
12"	2,299.15	2,308.35

Wholesale water service will not be provided through a meter smaller than 6" in order to comply with fire-flow requirements and the "Criteria for Water Supply and Distribution in the City of San Antonio and its Extraterritorial Jurisdiction."

MONTHLY VOLUME CHARGE

USAGE BLOCKS	RATE PER 100 GALLONS	
	Current	Approved
	2018	2019
Base*	\$0.2091	\$0.2099
Over Base	0.6274	0.6299

WHOLESALE SEWER RATES

Sewer service charges for all metered wholesale water connections shall be the sum of the appropriate Sewer Service Availability Charge and the application of the Sewer Monthly Volume Charges to metered water usage and are billed according to the schedule below.

MONTHLY SEWER RATE

	Current	Approved
	2018	2019
Sewer Service Availability Charge	\$314.88	\$340.07
Monthly Volume All Usage / per 100 gallons	\$0.4109	\$0.4438

EDWARDS AQUIFER AUTHORITY PERMIT FEE

Ordinance No. 87042 provides for the establishment and assessment of a pass-through charge of the Edwards Aquifer Authority Permit Fee to all San Antonio Water System water customers. Fee is assessed on all potable water usage. Any changes to the pass-through fee for 2019 will be evaluated at the end of 2018.

Year	EAA Fee (per 100 gallons)
2005	0.01549
2006	0.01482
2007	0.01352
2008	0.01769
2009	0.01222
2010	0.01841
2011	0.01407
2012	0.01719
2012*	0.03901
2013	0.03425
2014	0.03295
2015	0.03311
2016	0.04259
2017	0.03612
2018	0.03533

* Increased April 1, 2012 to include funding for EAA Habitat Conservation Plan Program.

TCEQ FEE

San Antonio Water System works cooperatively with government agencies to comply with local, state and federal regulations. As the state-level environmental agency, the Texas Commission on Environmental Quality (TCEQ) generates part of its operating revenue from fees charged to utilities like SAWS.

To help recover the fees assessed by TCEQ, SAWS charges every customer a TCEQ pass-through fee.

The pass-through fee applies to all residential, commercial and wholesale accounts. Any changes to the pass-through fees for 2019 will be evaluated at the end of 2018.

2017 TCEQ PASS-THROUGH FEE	
Service Type	Monthly Rate
Water Fee	\$0.18
Wastewater Fee	\$0.06

2018 TCEQ PASS-THROUGH FEE	
Service Type	Monthly Rate
Water Fee	\$0.20
Wastewater Fee	\$0.06

RECYCLED WATER SERVICE

Effective for consumption on or about January 1, 2018 and January 1, 2019, respectively.

Monthly Service Availability and Volume Charge

The Monthly Service Availability Charge (minimum bill) for all recycled water service furnished through meters of the following sizes together with the Monthly Volume Charge measured per 100 gallons for water usage in every instance of service for each month of fraction thereof shall be as follows:

EDWARDS EXCHANGE CUSTOMERS

MONTHLY SERVICE AVAILABILITY FEE

METER SIZE	Current 2018	Approved 2019
5/8"	\$12.12	\$12.34
3/4"	15.77	16.05
1"	20.55	20.92
1 1/2"	32.65	33.24
2"	47.74	48.60
3"	126.98	129.27
4"	188.75	192.15
6"	360.05	366.53
8"	542.73	552.50
10"	744.20	757.60
12"	918.22	934.75

MONTHLY VOLUME CHARGE

Usage in Gallons	RATE PER 100 GALLONS		Seasonal RATE PER 100 GALLONS	
	Current 2018	Approved 2019	Current 2018	Approved 2019
Transferred Amount	\$0.0319	\$0.0325	\$0.0319	\$0.0325
All in excess of transferred amount	0.1196	0.1218	0.1271	0.1294

The Volume Charge "Seasonal" Rate Per 100 Gallons shall be applied to all billings beginning on or about May 1 and ending after five complete billing months on or about September 30 of each year. At all other times the Volume Charge "Standard" Rate Per 100 Gallons shall be utilized.

NON EDWARDS EXCHANGE CUSTOMERS

MONTHLY SERVICE AVAILABILITY FEE

METER SIZE	Current	Approved
	2018	2019
5/8"	\$12.12	\$12.34
3/4"	15.77	16.05
1"	20.55	20.92
1 1/2"	32.65	33.24
2"	47.74	48.60
3"	126.98	129.27
4"	188.75	192.15
6"	360.05	366.53
8"	542.73	552.50
10"	744.20	757.60
12"	918.22	934.75

MONTHLY VOLUME CHARGE

Usage in Gallons	Standard		Seasonal	
	RATE PER 100 GALLONS		RATE PER 100 GALLONS	
	Current	Approved	Current	Approved
	2018	2019	2018	2019
First 748,000	\$0.1280	\$0.1303	\$0.1376	\$0.1401
Over 748,000	0.1308	0.1332	0.1388	0.1413

The Volume Charge "Seasonal" Rate Per 100 Gallons shall be applied to all billings beginning on or about May 1 and ending after five complete billing months on or about September 30 of each year. At all other times the Volume Charge "Standard" Rate Per 100 Gallons shall be utilized.

GLOSSARY

Acre-Foot	The volume of water that would cover one acre to a depth of one foot. It is equal to 325,851 gallons
Affordability Discount	Customer assistance program designed to provide a discount to customers who meet income eligibility requirements.
Annual Budget	A financial plan for a specified period of time (fiscal year) that assigns resources to each activity in sufficient amounts so as to reasonably expect accomplishment of the objectives in the most cost effective manner.
Aquifer	A wet underground layer of water-bearing permeable rock or unconsolidated materials (gravel, sand, or silt) from which groundwater can be usefully extracted using a water well.
Balanced Budget	A budget in which planned revenues generated from various user fees and receipts are sufficient to fund planned expenditures.
Board	Board of Trustees of the San Antonio Water System
Bonds	City of San Antonio, Texas Water System Revenue and Refunding Bonds
Brackish Groundwater	Either slightly or moderately saline water containing between 1,000 and 10,000 milligrams per liter (mg/L) of total dissolved solids (TDS).
Build America Bonds	Taxable municipal bonds that carry special tax credits and federal subsidies for either the bond issuer or the bondholder. Build America Bonds were created under the American Recovery and Reinvestment Act on February 17, 2009.
Capital Improvement Program	The Capital Improvement Program (CIP) is a planning and budgeting tool that provides information about SAWS' infrastructure needs. It identifies facility and equipment requirements for sustaining, restoring and modernizing the facilities and infrastructure that support water supply and delivery, wastewater collection and treatment, and heating and cooling requirements in the SAWS service area. It also prioritizes and schedules them for funding and implementation through a multi-year plan.
Capital Expenditure	An expenditure that: <ul style="list-style-type: none"> • results in additions or improvements of a permanent nature • is in an amount exceeding \$5,000 • adds value and has a useful life of more than one year • prolongs the life of the improved or enhanced property • is necessary to establish or implement the use of a capital asset such that the modification of other existing assets makes the new asset operational.
City	The City of San Antonio (COSA), located in the State of Texas.

City Council	The current elected officials of the City of San Antonio, as set forth in the City's Charter. Unless otherwise stated, the Mayor is considered part of the City Council.
Commercial Paper	An unsecured, short-term debt instrument maturing between 1 and 270 days, that provides the debt holders (bondholders) exemption from at least some taxes on the earnings at a local, state or federal level, or a combination thereof. The debt is usually issued at a discount, reflecting prevailing market interest rates. Tax-Exempt commercial paper is typically backed only by the issuer's promise to pay the face amount on the maturity date specified on the note.
CPS Energy	Municipally owned utility providing electric and gas to the San Antonio and Bexar County area - formerly City Public Service (CPS).
CPS Contract Or CPS Energy Contract	The Wastewater Contract executed on September 15, 1990 between the Alamo Conservation and Reuse District and the City Public Service Board of San Antonio.
Desalination	Brackish groundwater desalination
Debt	All indebtedness payable from Pledged Revenues and/or Net Revenues incurred or assumed by the City for borrowed money and all other SAWS financing obligations payable from Pledged Revenues and/or net Revenues that, in accordance with generally accepted accounting principles, are shown on the liability side of a balance sheet.
Debt Service Requirements	As of any particular date of computation, with respect to any obligation and with respect to any obligations and with respect to any period, the aggregate of the amounts to be paid or set aside by the City as of such date or in such period for the payment of the principal of, premium, if any, and interest (to the extent not capitalized) on such obligations.
District Special Project (DSP)	Former Bexar Metropolitan Water District
Encumbrance	Amount for which there is a legal obligation to spend in the future. A purchase order is a typical encumbrance transaction
Edwards Aquifer HCP	Edwards Aquifer Habitat Conservation Program
Fiscal Year	The twelve month accounting period used by SAWS in connection with the operation of the System, currently ending on December 31 of each year, which may be any twelve consecutive month period established by the Board, but in no event may the Fiscal Year be changed more than one time in any three calendar year period.

Gross Revenues	All revenue during such period in respect or on account of the operation or ownership of the System, excluding refundable meter deposits, restricted gifts, grants in aid of construction, any amounts payable to the United States as rebate, any impact fees charged by the System, payments received pursuant to the CPS Contract together with earnings and interest thereon, and earnings and income derived from the investment or deposit of money in the Construction Fund.
Junior Lien Obligations	Bonds, Previously Issued Junior Lien Obligations, and any Additional Junior Lien Obligations hereafter issued by the City, or bonds issued to refund any of the foregoing (as determined within the sole discretion of the City Council in accordance with applicable law) if issued in a manner so as to be payable from and equally and ratably secured by a junior lien on and pledge of SAWS' Net Revenues
La Niña	Weather periods of below-average sea surface temperatures across the east-central Equatorial Pacific. During a La Niña year, winter temperatures are warmer than normal in the Southeast and cooler than normal in the Northwest.
Lift Station	Lift stations are facilities designed to move wastewater from lower to higher elevation, particularly where the elevation of the source is not sufficient for gravity flow and/or when the use of gravity conveyance will result in excessive excavation depths and high sewer construction costs.
Net Revenues	Gross Revenues of the System, with respect to any period, after deducting the System's Operating and Maintenance Expenses during such period.
Operations and Maintenance Expense	<p>All current expenses of operating and maintaining the System not paid from the proceeds of any Debt, including:</p> <ul style="list-style-type: none"> (1) The cost of all salaries, labor, materials, repairs, and extensions necessary to render efficient service, but only if, in the case of repairs and extensions, that are, in the judgment of the Board, necessary to maintain operation of the System and render adequate service to the City and the inhabitants thereof and other customers of the System, or are necessary to meet some physical accident or condition which would otherwise impair the payment of Debt, 2) Payments to pension, retirement, health hospitalization, and other employee benefit funds for employees of the Board engaged in the operation or maintenance of the System, (3) Payments under contracts for the purchase of water supply, treatment of sewage, or other materials, goods or services for the System to the extent authorized by law and the provisions of such contract, (4) Payments to auditors, attorneys, and other consultants incurred in complying with the obligations of the City or the Board, (5) The payments made on or in respect of obtaining and maintaining any Credit Facility, and

(6) Any legal liability of the City or the Board arising out of the operation, maintenance, or condition of the System, but excluding any allowance for depreciation, property retirement, depletion, obsolescence, and other items not requiring an outlay of cash and any interest on the Bonds or any Debt

Ordinance	Ordinance No. 75686 adopted by the City Council on April 30, 1992.
Pledged Revenues	The Net Revenues, plus any additional revenues, income, receipts, or other resources, including, without limitation any grants, donations, or income received or to be received or to be received from the United States Government, or any other public or private source, whether pursuant to an agreement or otherwise, which hereafter are pledged by the City to the payment of the Senior Lien Obligations, and excluding those revenues excluded from Gross Revenues.
Potable Water	Water fit to drink.
Senior Lien Obligations	The outstanding and unpaid obligations of the City that are payable solely from and equally and ratably secured by a prior and first lien on and pledge of the Pledged Revenues of the System.
Sewershed	An area where the rain runoff flows are determined by curbs, storm drains, settling basins, pipes and outfalls to streams.
Sanitary Sewer Overflow (SSO)	A condition whereby untreated sewage discharged into the environment prior to reaching sewage treatment facilities
Strategic Plan	Strategic plan is a process of identifying corporate goals and priorities. The Strategic Plan becomes a management tool used to help an organization ensure that members of the organization are working toward the same goals, and to assess and adjust the organization's direction in response to a changing environment. Strategic planning is a disciplined effort to produce fundamental decisions and actions that shape and guide what an organization is, what it does, and why it does it, with a focus on the future.
Subordinate Lien Obligations	The currently outstanding and unpaid obligations of the City that are payable wholly or in part from a lien on and pledge of the Net Revenues that is subordinate and inferior to the pledge thereof securing payment of the currently outstanding Senior Lien Obligations and the Junior Lien Obligations.
Swap	An exchange of streams of payments over time according to specified terms. The most common type is an interest rate swap, in which one party agrees to pay a fixed interest rate in return for receiving an adjustable rate from another party.
Tax Exempt Commercial Paper	An unsecured, short-term debt instrument maturing between 1 and 270 days, that provides the debt holders (bondholders) exemption from at least some taxes on the earnings at a local, state or federal level, or a combination thereof. The debt is usually issued at a discount, reflecting prevailing market interest rates. Tax-Exempt commercial paper is typically backed only by the

issuer's promise to pay the face amount on the maturity date specified on the note.

Watershed	An area or ridge of land that separates waters flowing to different rivers and basins.
Water Resources Integration Program	Approximately 45 miles of water transmission pipeline and a pump station that will convey water from SAWS' Twin Oaks Aquifer Storage and Recovery (ASR), Carrizo and Brackish Groundwater Desalination programs located at the SAWS Twin Oaks Facility property in south Bexar County to new and existing facilities in western and northwestern Bexar County.
Water Supply Fee	A consumption based fee that funds the acquisition of new water sources to reduce San Antonio's dependence on the Edwards Aquifer.

GLOSSARY OF ABBREVIATIONS

AMI	Automated Metering Infrastructure
ASR	Aquifer Storage and Recovery
AWC	Average Winter Consumption
BGD	Brackish Groundwater Desalination
CCN	Certificates of Convenience and Necessity
CIP	Capital Improvement Program
COSA (CoSA)	City of San Antonio
CCTV	Closed circuit television
CFO	Chief Financial Officer
CIO	Chief Information Officer
CMOM	Capacity Management Operation and Maintenance
COO	Chief Operating Officer
CP	Commercial Paper Program
CPMS	Capital Project Management System
CPS	City Public Service Energy
CWIP	Central Water Integration Pipeline
D&C	Distribution and Collection Group
DEM	Dead end main
DSP	District Special Project (Formerly Bexar Metropolitan Water District)
EAA	Edwards Aquifer Authority
EAHCP	Edwards Aquifer Habitat Conservation Program
EARIP	Edwards Aquifer Recovery Implementation Program
EMT	SAWS Executive Management Team
EPA	U.S. Environmental Protection Agency
ESSC	East Side Service Center

FTE	Full-time equivalent
GASB	Government Accounting Standards Board
GDP	Gross Domestic Product
GFOA	Government Finance Officers Association
GIS	Geographic Information System
GPCD	Gallons per capita per day
HCP (EAHCP)	Edwards Aquifer Habitat Conservation Program
I/I	Inflow and infiltration
IP	Internet Protocol
JBSA	Joint Base San Antonio
LCRA	Lower Colorado River Authority
ITP	Incidental Take Permit
MGD	Million gallons per day
MSA	Metropolitan Statistical Area
MYFP	Multi-year Financial Plan
O&M	Operations and Maintenance
OCCC	Owner Controlled Construction Changes
OPEB	Other Post-Employment Benefits
PV	Present value
PZ	Pressure Zone
R&R	Renewal and Replacement
SAEDF	San Antonio Economic Development Foundation
SAWS	San Antonio Water System
SBSP	Southwest Bexar Sewer Pipeline
SCADA	Supervisory Control and Data Acquisition system
SIFMA	Securities Industry and Financial Markets Association
SSLGC	Schertz-Seguin Local Governmental Corporation

SSO	Sanitary sewer overflow
SSORP	Sanitary sewer overflow reduction program
TCEQ	Texas Commission on Environmental Quality
TECP	Tax exempt commercial paper
TXDOT	Texas Department of Transportation
USFWS	U.S. Fish and Wildlife Service
WCTS	Wastewater collection and transmission system
WD	Water Delivery
WMP	Water Management Plan
WRC	Water Recycling Center
WRIP	Water Resources Integration Pipeline
WTPA	Water Transmission and Purchase Agreement
WW	Wastewater
WWTP	Wastewater treatment plant

