FORT WORTH®
WATER

Recommendations of the 2016 Informal Water & Wastewater Retail Rate Structure Stakeholder Group

A second 5-million-gallon Caylor Tank in north Fort Worth was built to accommodate growth.

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Report on 2016 Water & Sewer Retail Rate Structure Stakeholder Group Meetings and 2017 Rate Recommendations

Since 1993, the City of Fort Worth Water Department annually has assembled a customer stakeholder group to explore any changes that may be needed in the Water Department's water and sewer rate structure. The stakeholder group reviews the department's revenue requirement and proposed rate structure changes to ensure proposed changes are fair and equitable for all customer classes.

This report includes the Retail Rate Structure Stakeholder Group's input to the Water Director regarding rate structure and the Water Director's rate recommendations to the City Council. Final rate-setting authority lies with the City Council. The Water Department is funded solely by its rates and fees – no tax revenue is received. The rate and fee revenue must be sufficient to meet operations and maintenance, debt service and capital requirements, established cash reserve or fund balance targets, and legal debt service coverage requirements.

The Water Department's balanced FY2017 proposed budget is $8,991,580 or 2.11 percent more than the FY2016 budget. Many factors are contributing to the increases and these are detailed later in the report.

The group's evaluations were based on system-wide revenue requirement increases of about $2.4 million for water and about $1.5 million for sewer. For FY2017, actual rate changes will vary by customer class. For residential customers, monthly water use will impact the amount of the increase experienced. These increases result in a 2.08 percent increase, or $1.20, in the average residential monthly bill for water and sewer service combined.

A copy of this report has been placed in each community library and is posted on the Water Department website at www.fortworthtexas.gov/water. All citizens and water customers are invited to provide written comments.

Please send written comments to:

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Fort Worth Water Department
1000 Throckmorton
Fort Worth, Texas 76102
Fax: 817-392-8195; E-mail: WPE@fortworthtexas.gov

Comments must be received on or before noon on August 26, 2016. The City Council may act on the recommendations as early as Tuesday, Aug. 30, 2016.

Questions may be directed to Mary Gugliuzza, media relations and communications coordinator with the Fort Worth Water Department, at 817-392-8253 or WPE@fortworthtexas.gov.

Stakeholder group process and members

The Water Department wants to ensure that the interests of all customers are represented during the rate structuring process. Each year the department conducts a "cost-of-service" study to determine how much it costs to serve each customer class. Cost of service may change from year to year because the characteristics of each class can change as new customers come into the system and others leave the system. The study can show some customer classes pay more than it actually costs to provide service to them, while others do not cover the cost of providing service to them. Customer input is sought to ensure equity in any restructuring that is done.

The stakeholder group reviews the Water Department's cost studies, portions of its budget and projections for the future before forming its recommendations.

The Retail Rate Structure Stakeholder Group met four times – June 6, 13, 20 and 27. The group is comprised of representatives from the various retail customer classes. Members are recommended to the Water Department Director to be a representative cross-section of the Department's customers and volunteer their time to serve.

Name	Customer Class Water	Customer Class Sewer	Company
Lairy Johnson	Super User	Monitored	MillerCoors LLC
Ryan Mackey	Super User	Monitored	Lockheed Martin
Mike Cook	Irrigation	None	Mike's Garden Centers
Jesse Roberts	Industrial	Monitored	Alcon
Daniel Haase	Commercial	Non-monitored	Southwestern Baptist Theological Seminary
Craig Schkade	Commercial	Non-monitored	Hillwood Properties
Sally Burt	Residential	Residential	
Russell Fuller	Residential	Residential	
George Johnson	Residential	Residential	
LaGina Kissentaner - Thomas	Residential	Residential	

Overall principles

- The rates for each customer class (Residential, Commercial, Industrial, Super User and Irrigation) should be based on the actual cost of providing service to that class. This is to ensure that each customer class pays its fair share of the cost of providing water and sewer service. (The exception to this is the rate for gas well drilling which is a market rate, benchmarked with the rates charged by other water providers for this use.)
- Bringing all customer classes to cost of service is the stated goal of the stakeholder group. Any increase should be achieved by avoiding excessive rate increases for any particular class of customers. Past stakeholder groups have decided no class increase should exceed twice the system increase.
- To maintain stable rates, when an increase is required, no class should see a rate decrease.

Goals for water and sewer rate structures

Equity — The rates must be fair for all customer classes.

Financial integrity — The rates must ensure the water and wastewater utility is in a sound financial position.

Legal/conservation — The rates must meet all legal requirements, including requirements that the utility meet conservation guidelines established by the Texas Water Development Board.

Realism — The rates must be practical to implement.

Revenue stability — As much as possible, the rates must provide stable revenue from year to year.

Responsible to society — The rates should take into account any societal needs unique to Fort Worth.

Understandable — The rates shouldn't be so complex that they are difficult to explain to customers and don't provide the desired pricing signals.

Water terminology/Glossary

The following definitions will help in understanding terms used in this report.

Administrative Services Fee – Fee paid by non-General Fund departments to the General Fund for administrative and other indirect services provided, such as legal, financial and human resources.

BOD (Biochemical Oxygen Demand) – A characteristic of wastewater that can make it more expensive to process at the water reclamation facility. Industries that have wastewater with a high BOD level are classified as having "high-strength" wastewater.

Cubic Feet (cf) – The unit of measure the Fort Worth Water Department uses to measure water use. CCF =100 cubic feet; 1 CCF = 748.1 gallons

Fiscal Year (FY) – The annual budget period. For the City of Fort Worth, the fiscal year starts Oct. 1 and ends the following Sept. 30.

MGD – million gallons per day

Payment in Lieu of Taxes (PILOT) – The PILOT is paid to the General Fund to offset the ad valorem taxes lost because of the non-profit status of the Water and Sewer system. PILOT is calculated by applying the effective property tax rate to the net book value of plant and property allocated to the retail portion of the Water and Sewer system: (Plant assets - Accumulated Depreciation + Work in Progress) x Current Tax Rate

Rate Classes – Customers place different demands on water and sewer systems, and these demands have long-term effects on the system. Customers are grouped together into "classes" based on similar usage characteristics. Costs are then allocated to each class based on its impact on the system. Fort Worth has six retail water customer classes and three retail sewer customer classes.

- **Retail Customer –** Customers served directly by the utility to meet their own use requirements.

- **Residential Class –** Individual customers who buy water for their homes. (Water and Sewer)

- **Commercial Class –** Customers who buy water for their business; water is generally not used in the manufacturing process. (Water)

- **Industrial Class –** Customers who use water in the manufacturing process. (Water)

- **Super User Class –** Customers using more than 30 million cubic feet a year through a single meter and whose usage in any month does not vary from the average monthly use by more than 50 percent. (Water)

- **Irrigation Class –** Customers who buy water for use on landscape; served by a dedicated water meter. (Water)

- **Gas Well Drillers** – Customers who purchase water for use in hydraulic fracturing. (Water)

- **Commercial and Industrial Non-Monitored Customers –** Customers whose use of wastewater services generally does not have an abnormal impact on the solids content of the wastewater system, such as office buildings and schools. (Sewer)

- **Commercial and Industrial Monitored Customers –** Wastewater customers in the nonresidential customer classes (i.e., restaurants and industrial plants), whose wastewater is monitored for BOD and TSS strength. These businesses pay a wastewater surcharge based on their wastewater "strength" (the amount of BOD or TSS in the sewer).

- **Wholesale Customer –** Customers who purchase water to resell within their own municipality or service area.

Street Rental – Street Rental fees are paid on revenue derived from pipelines in the public rights-of-way, similar to franchise fees paid by outside/for-profit utilities. Street Rental fees are calculated using 5 percent of all gross service revenues for water and sewer except for gross service revenues from wholesale wastewater contracts, which are calculated using 4 percent.

TSS (Total Suspended Solids) – A characteristic of wastewater that can make it more expensive to process at the water reclamation facility. Industries that have wastewater with a high TSS level are classified as having "high-strength" wastewater.

Volume – Three-dimensional measurement of a liquid/water

Wastewater – Sewage before it is treated

Water – Treated or potable water that is fit for human consumption

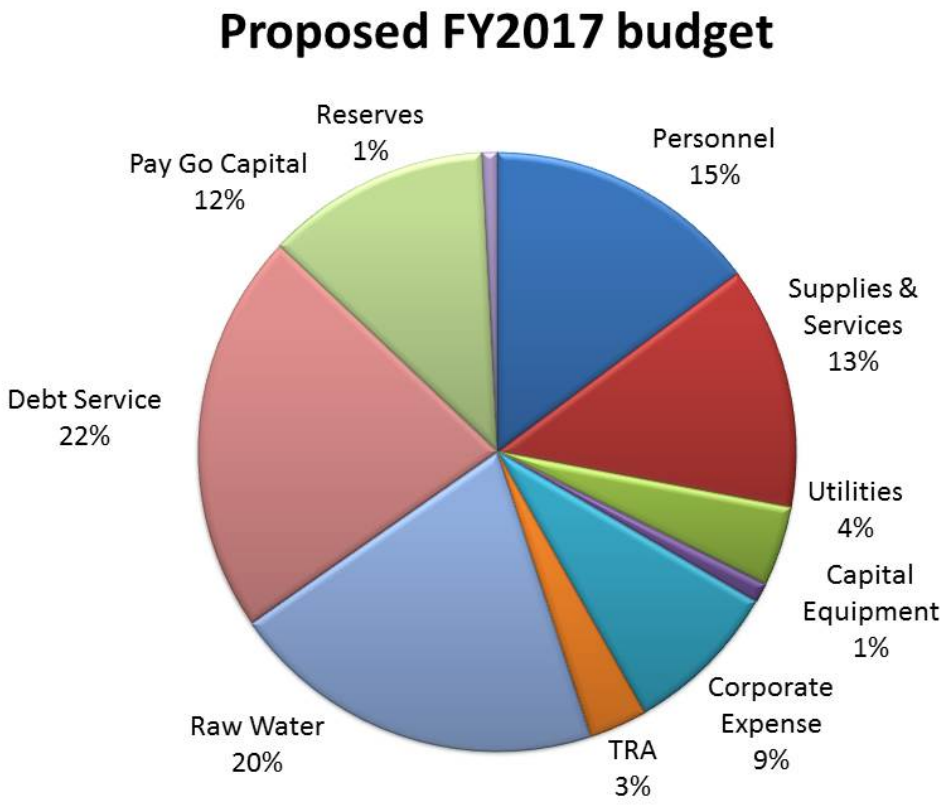
Winter Quarter Average (WQA) – The method for calculating wastewater volumes for residential accounts. Because residences are not metered for wastewater service, three months of winter water usage (December, January and February) are averaged to set a baseline volume for domestic service. That calculated volume is used for billing purposes for the remainder of the year.

Proposed Water & Sewer Fund Budget

The Water Department's balanced FY2017 proposed budget totals $434,575,335. It is $8,991,580 or 2.1 percent more than the FY2016 budget. The chart below illustrates how the expenses are allocated.

The department has more than $11 million in major cost increases but was able to offset some of this with almost $3 million in reductions.

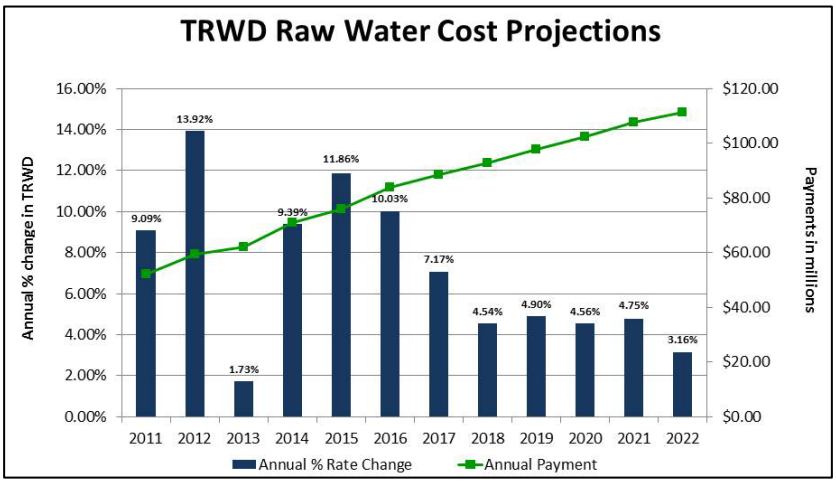
Higher contractual costs with Tarrant Regional Water District and the Trinity River Authority, higher transfers to the General Fund and increases in debt service payments and cash financing of capital projects are some of the factors driving the budget increase. Other factors include staffing enhancements, the city manager's compensation plan and higher costs for electricity and methane gas at the treatment plants. These increases are offset by a reduction in the planned contribution to reserves.



Cost drivers affecting the Fiscal Year 2017 budget

Raw water costs

The cost of raw water purchased from the Tarrant Regional Water District continues to be the major cost driver in the water budget. The raw water rate for Fiscal Year 2017 is projected to increase by 7.17 percent, resulting in a cost increase of $4,654,975 over FY2016.



At a total cost of $88,508,355, the raw water purchase represents 34 percent of the FY2017 water budget and 20 percent of the total FY2017 Water and Sewer Fund budget.

The primary driver of the rate increase from TRWD is the cost of the 150-mile Integrated Pipeline Project, which will transport additional water from Cedar Creek and Richland Chambers reservoirs to Tarrant County by 2020. This project will improve system reliability and support growth. Increases in raw water costs are expected to lessen over for the next several years as this project moves toward completion.

Capital Project Financing

The FY2017 proposed budget includes an increase of $1.5 million in debt service and $1.4 million in pay-go cash financing. These increases support the City Council-adopted Capital Improvement Plan, and the long-term plan to improve the utility's liquidity and debt service ratios.

These increases are partially offset by a $2.5 million reduction in the budgeted contribution to reserves. The reductions are made possible by strong financial performance and an anticipated additional contribution to reserves in the current fiscal year.

Transfers to the city's General Fund

Transfers to the General Fund are up $1.1 million for Street Rental and administrative services received from General Fund departments. Because street rental is a calculation of gross service revenues, the transfer increases as the revenues increase. The administrative services fee is provided to the department by the city's Budget Office.

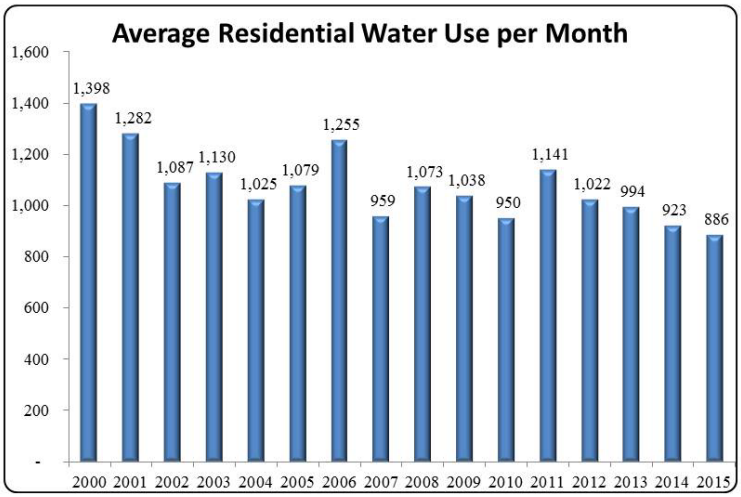
Staff Enhancements

The FY2017 budget includes funding for 13 new positions at a cost of $1,074,315. These positions are required to:

- meet new regulatory requirements and the demands of an expanding service area for sampling and monitoring of the system;
- perform water quality investigations and line locates in the growing system;
- manage capital facility needs based on criticality and reliability and provide additional maintenance of new and expanded electrical systems at the water reclamation facility; and
- improve customer service levels for engineering planning and modeling activities because of an increase in the number of development and operational requests.

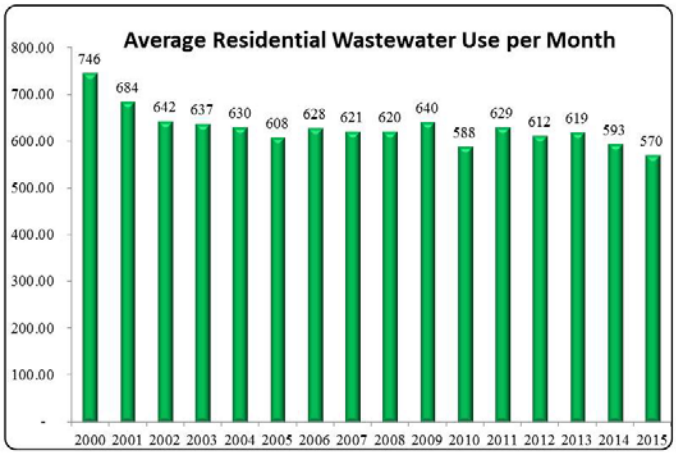
This additional staffing is offset by the transfer of one position to the General Fund, for a net increase of 12 authorized positions.

Revenue Stability



Moving to a higher percentage of fixed revenue collection is a utility industry trend that lessens dependence on weather conditions and improves stability in revenue collection and cash flow. Like most water utilities across the country, the Water Department recovers the majority of its revenue from the variable user volumetric charges, yet the majority of costs are fixed.

As the above chart shows, average monthly water use has declined by 36.6 percent from 2000 to 2015.



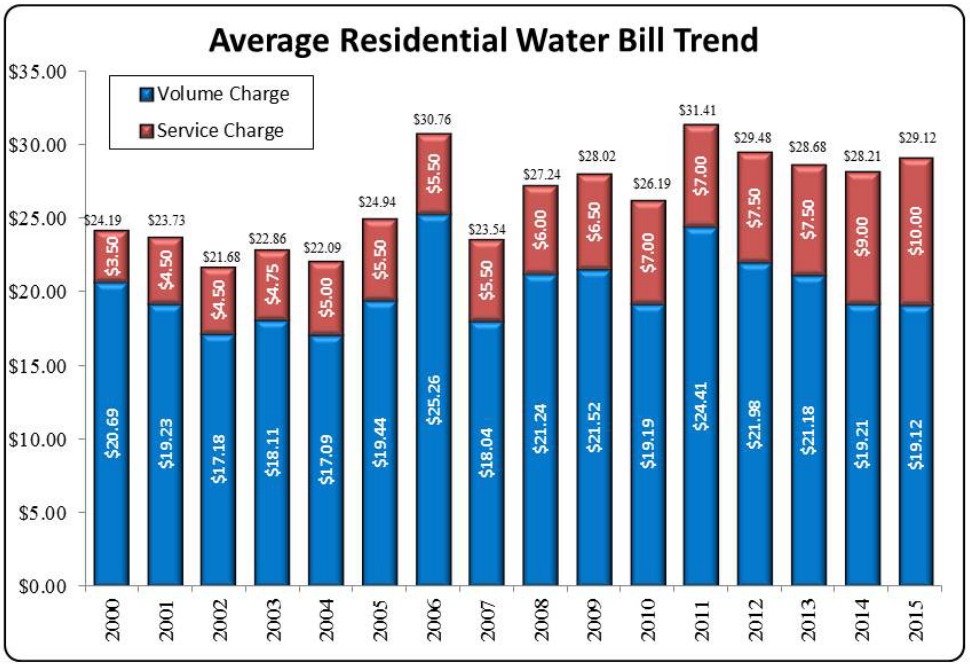
The Water Department continues to phase in a multi-year plan to get to a revenue ratio of about 30 percent from fixed income sources and about 70 percent from variable income sources. This plan resulted from a study performed by an outside consultant engaged by the Water Department.

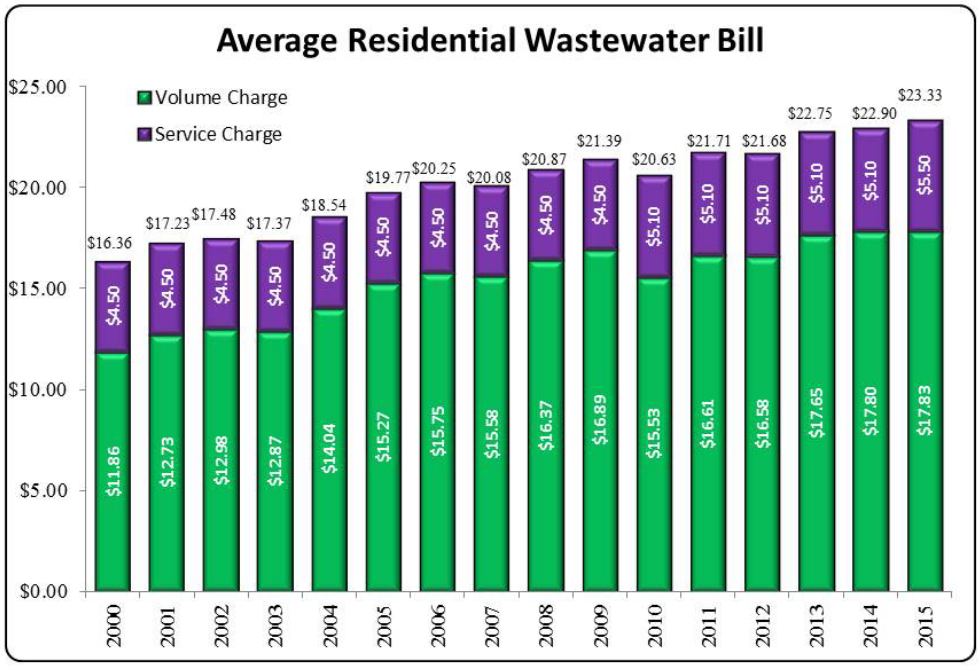
The same is true for wastewater revenues, which have continued to

experience a decline in billed volumes because of more efficient water-using appliances. Average monthly residential wastewater volumes have declined by 23.5 percent since 2000.

This shift to more revenue coming from fixed rather than variable income sources results in the service charge becoming a greater portion of the monthly bill. The charts below reflect this shift.

The charts below illustrate that over the past 15 years, the average monthly water bill has increased by just under $5 and the average monthly wastewater bill has increased by just under $7.





Cost-of-service study results

A cost-of-service study determines how much it costs a utility to serve a particular group of customers. Rates for each customer class should recover the amount of money it takes to serve those customers. The exception is the gas well drilling rate which is based on rates for this market. The Fort Worth Water Department staff completed the cost-of-service studies for both retail water and wastewater.

Water cost of service

Customer Class	Revenue At Current Rates	Cost Responsibility	Revenue Requirement Change	Indicated % Change
Residential	$96,012,376	$102,992,889	$6,980,514	7.27%
Commercial	$48,468,043	$45,755,554	($2,712,489)	-5.60%
Industrial	$8,156,507	$7,625,820	($530,686)	-6.51%
Super User	$2,839,789	$2,869,186	$29,397	1.04%
Irrigation	$20,394,587	$19,325,948	($1,068,639)	-5.24%
Gas Well Drilling	$647,445	$382,374	($265,071)	-40.94%
System	**$176,518,746**	**$178,951,771**	**$2,433,025**	**1.38%**

Wastewater cost of service

Customer Class	Revenue at Current Rates	Cost Responsibility	Change in Dollars	Indicated % Change
Residential	$69,868,870	$72,346,291	$2,477,421	3.55%
Non-Monitored Commercial & Industrial	$55,130,107	$54,891,487	($238,620)	-0.43%
Monitored Commercial & Industrial - volume	$10,000,108	$9,154,235	($845,872)	-8.46%
Monitored Commercial & Industrial - BOD	$4,892,518	$4,897,046	$4,528	0.09%
Monitored Commercial & Industrial - TSS	$939,438	$1,084,273	$144,834	15.42%
System	**$140,831,041**	**$142,373,331**	**$1,542,291**	**1.10%**

Recommendations - Water Rates

- Leave the residential tier 1 below the cost of service, and set tier 2 rates at the cost of service. Setting tier 1 below cost of service maintains a "lifeline" rate for domestic uses such as bathing and cooking. Setting tier 2 at the cost of service lessens reliance upon tier 3 and 4 revenues. The Stakeholder Group discussed this issue at length. In previous years, the volume water rates for residential tiers 1 and 2 have been set below the cost of service, while the rates for tiers 3 and 4 have been set above the cost of service to meet revenue requirements for residential users. Because residential tiers 1 and 2 account for 85 percent of all residential water use, this rate structure relies heavily upon revenues received from the two upper tiers to recover costs. Because of an anticipated increase in volumes, setting tier 2 at the cost of service results in a small decrease in the tier 2 rate from the current rate.
- No longer tie the irrigation class volume rates to residential rates, enabling each class to stand alone relative to its cost of service. Since the inception of a tiered rate structure for the irrigation customer class in 2008, its volume rates have been tied to the rates of the upper tiers of the residential customer class. However, different water usage patterns of the two classes create difficulty in maintaining each class at its cost of service.
- Set the second tier of the irrigation class rate at the cost of service, like the residential class. This action results in a small decrease in the tier 2 rate from the current rate and maintains the other irrigation tier rates unchanged from the current rates.
- Continue the multi-year plan to adjust the fixed/variable revenue to improve revenue stability for FY2017. This results in an increase in the monthly service charge across all customer classes.
- Change volume rates for commercial, industrial and super user classes to recoup the cost-of-service revenue requirement for these classes. Increases in volumes for commercial and industrial customers enable a small decrease from current volume rates for these customer classes.
- Change the Gas Well Drilling class rate to reflect the system revenue requirement increase. The rates for this class are based on a market rate and not cost of service.

Recommendations – Wastewater Rates

- Continue the multi-year plan to adjust the fixed/variable revenue to improve revenue stability for FY2017. This results in an increase in the monthly service charge for all customer classes, except the smallest two meter sizes. These meters primarily serve residential customers.

- Adjust volume rates for all classes to recoup the revenue requirement for each class. This actually results in a small decrease in the volume rates for both the monitored and non-monitored classes.

- Increase BOD and TSS rates to cost of cost service for monitored commercial and industrial customers.

Impact of Recommendations on Water Rates

Based on the recommendations, the average residential water bill would increase by 46 cents per month under the proposed rates. *(See Exhibit A for more information on the impacts to average, efficient and large users.)*

Water Volume Rates			
Customer Class	**Monthly Volume**	**Current Rate**	**Proposed Rate**
Residential	first 6 CCF	$2.07 / CCF	$2.12/CCF
	>6 to 18 CCF	$2.96 / CCF	$2.93/CCF
	>18 to 30 CCF	$3.69 / CCF	$3.69/CCF
	> 30 CCF	$4.44 / CCF	$4.44/CCF
Irrigation	First 50 CCF	$2.96 / CCF	$2.96/CCF
	>50 to 100 CCF	$3.69 / CCF	$3.56/CCF
	> 100 CCF	$4.44 / CCF	$4.44/CCF
Commercial	All Volumes	$2.71/CCF	$2.67/CCF
Industrial	All Volumes	$2.59/CCF	$2.55/CCF
Super User	All Volumes	$2.36/CCF	$2.38/CCF
Gas Well Drilling	All Volumes	$5.77/CCF	$5.85/CCF

Rates are per 100 cubic feet. CCF = one hundred cubic feet = 748.1 gallons

Monthly Water Service Charge		
Water Meter Size	**Current Rate**	**Proposed Rate**
5/8" x 3/4"	$10.50	$10.75
3/4" x 3/4"	$10.25	$11.00
1"	$19.25	$21.10
1 1/2"	$35.00	$39.15
2"	$53.50	$60.80
3"	$139.00	$160.10
4"	$237.00	$273.85
6"	$502.00	$580.80
8"	$875.00	$1,014.15
10"	$1,312.00	$1,519.75

Impact of Recommendations on Wastewater Rates

Based on the recommendations, the average residential sewer bill would increase by 74 cents per month under the proposed rates. *(See Exhibit A for more information on the impacts to average, efficient and large users.)*

Customer Class	Current Rate	Proposed Rate
Residential	$3.49/CCF	$3.62/CCF
Non-monitored Commercial and Industrial	$4.32/CCF	$4.23/CCF
Monitored Commercial and Industrial	$3.00/CCF	$2.71/CCF
BOD	$0.2926/lb.	$0.2929/lb.
TSS	$0.1350/lb.	$0.1558/lb.

Volume rates are per 100 cubic feet. CCF = one hundred cubic feet = 748.1 gallons

Monthly Sewer Service Charge		
Water Meter Size	**Current Rate**	**Proposed Rate**
5/8" x 3/4"	$6.50	$6.50
3/4" x 3/4"	$6.80	$6.80
1"	$7.70	$9.40
1 1/2"	$12.75	$16.20
2"	$18.80	$24.30
3"	$46.50	$61.50
4"	$78.30	$104.10
6"	$164.00	$219.05
8"	$285.00	$381.35
10"	$426.25	$570.70
12”	$534.10	$715.10

Rate Comparison

The following chart compares cost of water and sewer for an average customer in Fort Worth to what that cost would be in other communities. Only existing 2016 rates are available for other communities, while both the actual 2016 and proposed 2017 rates are shown for Fort Worth.

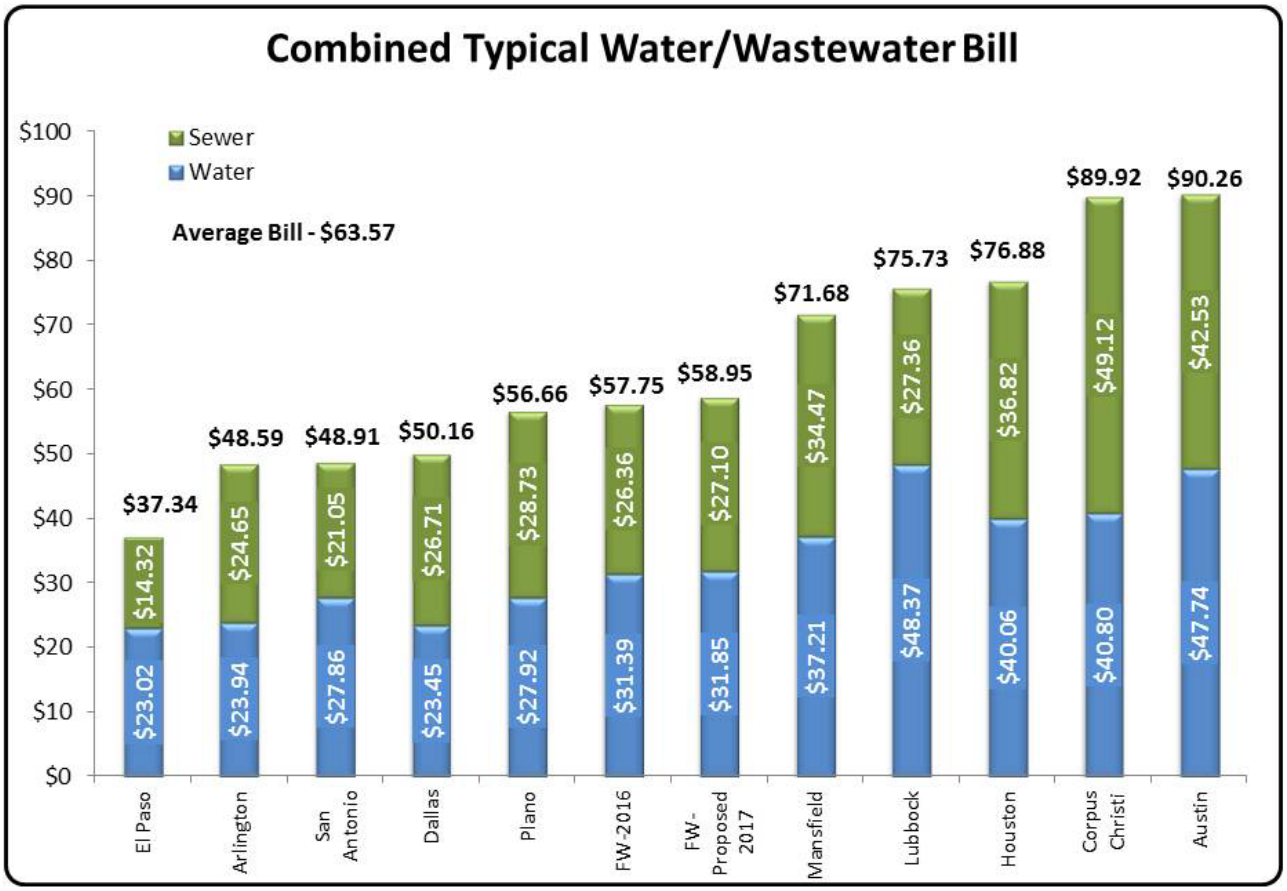


Exhibit A

The following shows the projected bill changes for customers using various volumes of water.

Sample Monthly Residential Bill Comparison

WATER	Average User		Efficient User		Large User	
CCF per Month	8.86 CCF		4.0 CCF		40.0 CCF	
Meter Size	5/8" x 3/4"		5/8" x 3/4"		1"	
	2016	2017	2016	2017	2016	2017
Service Fee	$10.50	$10.75	$10.50	$10.75	$19.25	$21.10
Volume Fee	$20.89	$21.10	$8.28	$8.48	$136.62	$136.56
Subtotal	$31.39	$31.85	$18.78	$19.23	$155.87	$157.66
Monthly Change	$0.46		$0.45		$1.79	
Annual Change	$5.52		$5.40		$21.48	
Annual percentage change	1.47%		2.40%		1.15%	

SEWER	Average User		Efficient User		Large User	
CCF per Month	5.69 CCF		3.00 CCF		30.00 CCF	
Meter Size	5/8" x 3/4"		5/8" x 3/4"		1"	
	2016	2017	2016	2017	2016	2017
Service Fee	$6.50	$6.50	$6.50	$6.50	$7.70	$9.40
Volume Fee	$19.86	$20.60	$10.47	$10.86	$104.70	$108.60
Subtotal	**$26.36**	**$27.10**	**$16.97**	**$17.36**	**$112.40**	**$118.00**
Monthly Change	$0.74		$0.39		$5.60	
Annual Change	$8.88		$4.68		$67.20	
Annual percentage change	2.81%		2.30%		4.98%	

	2016	2017	2016	2017	2016	2017
Combined Monthly Bill	**$57.75**	**$58.95**	**$35.75**	**$36.59**	**$268.27**	**$275.66**
Combined Monthly Increase	$1.20		$0.84		$7.39	
Annual Increase	$14.40		$10.08		$88.68	
Annual percentage change	**2.08%**		**2.35%**		**2.75%**	