Water and Wastewater Rate Study

CITY OF DOUGLAS, AZ

May 2, 2021

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INTRODUCTION, BACKGROUND, AND OBJECTIVES

Introduction and Background:

This study is designed to update existing City of Douglas water and wastewater rates as to necessary to ensure rates can cover minimum revenue requirements for each utility over the rate period (FY22 – FY26).

The City of Douglas last updated its water rate ordinance on February 15, 2007 and its general wastewater rate ordinance on November 12, 2009. While the City recently approved a wastewater rate ordinance for users of the USDA Bay Acres sewer project, that ordinance was crafted to provide for specific rates for those users of the system. The City's last water and wastewater impact fee study was January 9, 2008; however, this study is not designed to determine appropriate impact fees (charges to new customers to cover costs for infrastructure related to new development). The purpose of this study is to update the City's water and wastewater rates so that revenues can meet expenditures throughout the rate period (FY22 through FY26).

Objectives:

Common objectives for rate setting include the following:

- Effectiveness in yielding full cost recovery.
- Revenue stability and predictability.
- Promotion of efficient resource use (conservation).
- Simple and easy to understand.
- Simple to administer.
- Legal and defendable.

Water and wastewater rates for the City of Douglas were last set approximately 10 years ago. As such, it is possible that rates are no longer adequate to cover needed costs to provide safe and efficient services to utility customers. Similarly, as rates have not increased for many years, the specific rate structure recommended should balance the need for adequate rates with that of not creating "rate-shock" for utility customers. Essentially, if rates are inadequate to provide for the minimum revenue requirement needs of the utilities, any increase should be incremental to best balance the needs of the utility with that of the customer.

This study is being undertaken with the knowledge that the City has been using a rate structure that equitably distributes rates across customer classes, with a need to update those rates. The purpose of this rate study is to meet the requirements under Arizona law (ARS 9-511.01) while ensuring that rates allow the City to recover its expenses for utility operations throughout the rate study period. The goal is to meet these requirements while keeping rates to a minimum so as not to have utility rates any higher than necessary, to minimize financial impact to customers.

UTILITIES OVERVIEW

A. Water Utility

The water utility currently has six active wells. There are three wells in each of the city's two pressure zones, a low zone and a high zone. Wells 6, 11, and 17 generally serve the low-pressure zone, while wells 9, 15, and 16 serve the high pressure zone.

The City has three, 300,000-gallon elevated storage tanks and one, 5-million-gallon reservoir, capable of serving both pressure zones in the City.

As of June 2020, there were 5,724 water meters served by the utility, both inside and outside City limits. Not including apartments, residential meters accounted for 86.8% of all meters. Base and consumption fees are categorized by size of meter, with meter sizes ranging from ¾" or smaller, up to 6". Average water use for ¾" meters is similar for customers inside and outside of city limits.

Tables 1 and 2 provide data on user consumption and the number of bills by size of meter for accounts:

Table 1: Water Consumption (Inside City Limits - June 2020)

Inside City Limits - June 2020		
Meter Type	Consumption	# of Bills
3/4"	52,792,300	4,210
1"	4,457,200	242
1-1/2"	2,510,500	86
2"	9,135,400	117
3"	3,386,400	21
4"	625,300	6
6"	1,867,000	4
Hydrant	1,006,300	14
Golf Course	4,477,300	2

Table 2: Water Consumption (Outside City Limits - June 2020)

Outside City Limits - June 2020		
Meter Type	Consumption	# of Bills
3/4"	11,933,100	969
1"	871,000	29
1-1/2"	167,700	6
2"	1,636,400	16
Hydrant	163,200	2

Data on top water users in April 2020 show the top three users as two golf courses and

the City's wastewater plant. Consumption data are in 100's of gallons.

Table 3:Top Water Users (Consumption), April 2020

GOLF COURSE	35,722
GOLF COURSE LAKE	21,624
CITY OF DOUGLAS WASTEWATER PLA	10,650
MADDUX & SONS	9,005
SW VALLEY CONST.	8,231
ADOT/GAX160000032304	7,170
DHS POND	4,681
CITY OF DOUGLAS SPEER PARK	3,376
HUBER MIDDLE SCHOOL	3,194
AZ STATE PRISON COMP	2,695
SUNRAY FAMILY APARTMENTS	2,430
CITY OF DOUGLAS/PASEO OF AMERI	2,417
GERONIMO TRAIL HMA	2,287
DHS WORK SHOP	2,115
CITY OF DOUGLAS SOFTBALL FIELD	2,063
WAL-MART STORE #01-1	2,015
WAL-MART STORE #01-1	1,945
ROBLES, HILDA	1,886
RANCHO PERILLA ESTATES MASTER	1,806
DHS PRACTICE FIELD I	1,771
BYRD, ENRIQUE	1,495
LONG REALTY	1,448
BRITE WASH LAUNDRY	1,403
LOPEZ, RAUL	1,386
CORONADO COURTS LLC	1,350

Data in table 3 shows water system demands in the City. The data show an average day demand of 2,674,848 gallons, or 976,319,520 gallons annually. The maximum day peaking factor is calculated at 1.9, or a maximum day demand of 5,074,660 gallons.

Table 4: Water System Demands

	High Zone	Low Zone	City-Wide
Wells	9, 15, 16	6, 11, 17	-
Average Day Demand (gpd)	1,503,332	1,171,516	2,674,848
Per Capita ADD (gpcpd)	-	-	167.4
Peak Month Demand (gpd)	1,775,363	2,085,968	3,861,331
Peak Month Peak Factor	1.2	1.8	1.5
Maximum Day Demand (gpd)	2,093,660	2,981,000	5,074,660
Maximum Day Peak Factor	1.4	2.5	1.9
Peak Hour Demand (gpd)	4,810,663	3,748,851	8,559,514
Peak Hour Peak Factor (assumed)	3.2	3.2	3.2

Between 2018 and 2020, usage demand has increased 4.41%, based on stable rates and increased usage fees ($727,197 in 2018 and $759,244 in 2020).

B. Wastewater Utility

The wastewater utility utilizes an activated sludge plant with oxidation ditches to reduce the biological components of the waste. Secondary treatment is provided by clarifiers prior to effluent discharge. The plant is capable of processing 2.6 million gallons of waste per day and currently processes an average of 1.8 to 1.9 million gallons of effluent daily. Current sludge production is approximately 20 tons a week.

The plant will treat all wastewater coming into the system, whether it is from infiltration into the system from groundwater entering the sanitary sewers, inflow from inappropriate connections to the system (inflow), or waste. There is very little inflow and infiltration into the system, indicating there is a higher efficiency of treatment due to less dilution of sewage entering the treatment plant and fewer costs associated with decreasing inflow and infiltration.

CAPITAL IMPROVEMENT PLAN

A. Water Utility

1. Overview

The utility's capital improvement (CIP) is designed to serve as a necessary planning document, to allow for adequate financial and operational planning to ensure the utility's future capital needs are met. Due to the reality of capital improvement project planning, a placeholder amount of $150,000 will be assigned to the capital improvement plan years serving this rate study period in FY24 – FY26, years with only equipment needs currently listed.

2. Water Utility Capital Improvement Plan Data

The following is a summary table of the water utility's CIP.

Table 5: Water Utility Capital Improvement Plan Summary

System Need	FY21	FY22	FY23	FY24	FY25	FY26
Chlorinator rooms/alarm	40,000					
Safety barricades	5,000					
Two new wells	1,600,000	1,600,000				
Rehabilitation of well #15	80,000					
Reservoir roof	130,000					
Two backup generators	100,000	100,000				
Mini-excavator		45,000				
Booster pump / motors		5,000				
Flush-to-waste system	20,000					
AMI meter system	500,000					
Elevated tank inspections	30,000					
16" Transmission line		90,000	90,000			
Future need				150,000	150,000	150,000
CAT backhoe lease	7,500	7,500	7,500	7,500	7,500	7,500
1-ton work truck lease	7,500	7,500	7,500	7,500	7,500	7,500
½ ton work truck lease	3,500	3,500	3,500	3,500	3,500	3,500
Vacuum truck lease	7,000	7,000	7,000	7,000	7,000	7,000
Enclosed tool trailer	5,000					
Pumps, Generator, Misc. tools	4,000	4,000	4,000	4,000	4,000	4,000
Single axle dump truck lease	6,500	6,500	6,500	6,500	6,500	6,500
Portable air compressor	3,750					
TOTAL	**2,549,750**	**1,896,000**	**1,826,000**	**186,000**	**186,000**	**186,000**

B. Wastewater Utility

1. Overview

The utility's capital improvement (CIP) is designed to serve as a necessary planning document, to allow for adequate financial and operational planning to ensure the utility's future capital needs are met. There are no projects currently listed in FY25 and FY26 covers the last year of the wastewater rate study. Due to the reality of capital improvement project planning, a placeholder amount of $150,000 will be assigned to the capital improvement plan years serving this rate study period in FY25 and FY26 – years with only equipment needs currently listed.

2. Wastewater Utility Capital Improvement Plan Data

The following is a summary table of the wastewater utility's CIP.

Table 6: Wastewater Utility Capital Improvement Plan Summary

System Need	FY21	FY22	FY23	FY24	FY25	FY26
Work truck	5,000					
50' walkway / chlorine contact chamber	25,000					
Muffin monster for 8" line	30,000					
RR sewer line 17th / 18th Street & F to A Ave		100,000	100,000	100,000		
New main install 20th / 23rd Street & Washington to Lincoln		100,000	100,000	100,000		
New main install 2nd / 3rd St & Cochise to San Antonio		50,000	50,000	50,000		
Future need					150,000	150,000
CAT backhoe lease	7,500	7,500	7,500	7,500	7,500	7,500
1-ton work truck lease	7,500	7,500	7,500	7,500	7,500	7,500
½ ton work truck lease	3,500	3,500	3,500	3,500	3,500	3,500
Vacuum truck lease	7,000	7,000	7,000	7,000	7,000	7,000
Enclosed tool trailer	5,000					
Pumps, Generator, Misc. tools	4,000	4,000	4,000	4,000	4,000	4,000
Single axle dump truck lease	6,500	6,500	6,500	6,500	6,500	6,500
Portable air compressor	3,750					
TOTAL	**104,750**	**286,000**	**286,000**	**286,000**	**186,000**	**186,000**

DEBT SERVICE

A. Water Utility

1. Overview

The water utility's debt service fund is set up to ensure payments are made for its existing debt obligations. The utility currently has two outstanding loans.

2. Existing Debt Service

The water utility's existing debt service includes payments to service loan 910178-19 and loan 920128-08. Neither loan has a required replacement reserve and both loans require payments throughout the rate study period.

Loan 910178-19 has a constant annual payment of $57,534 and loan 920128-08 has a varying annual payment, with payments of $103,176, $103,140, $103,103, $103,065, and $103,026 in each of fiscal years 2022-2026 respectively.

3. Future Debt Service

In order to thoroughly evaluate options for the City of Douglas to consider with regard to future water utility rates, this study analyzed rates from the perspective of paying cash for capital improvement projects as well as borrowing for them. Because the City has historically paid cash for utility capital needs and the desire was to pay cash when possible, this study evaluated both options to provide utility rate setting decision makers with viable options to keep rates as low as possible.

Borrowing for capital improvement projects allows the City to ensure that the entire project cost is not paid for by today's utility customer when that project's useful life (and associated customer benefit) will extend well beyond a single year. Paying cash keeps debt burden low (which has long-term financial benefits); however, borrowing allows for a projects costs to be paid over multiple years, and thus the benefits the project provides are paid by those in the years in which it is being used. Debt service projects provided in the revenue forecasting and revenue requirements section of this report include the following assumptions:

- Borrowing for 75% of certain projects, while paying cash for 25%
- 20-year note at 2.5%
- Equal payments throughout the borrowing period

As will be discussed in more detail later in this report, the option to borrow will allow the utility to reduce revenue requirements during this rate period by $1,586,728, allowing for lower rates to cover expenses.

B. Wastewater Utility

1. Overview

The wastewater utility's debt service fund is set up to ensure payments are made for its existing debt obligations. The utility currently has three outstanding loans.

2. Existing Debt Service

The wastewater utility's existing debt service includes payments to service loan 910172-17, loan 920162-14, and 910144-10. One of the three loans has a reserve requirement equal to a year's debt service (loan 910172-17 in the amount of $302,548).

Loan 910178-19 has a constant annual payment of $57,534 and loan 920128-08 has a varying annual payment, with payments of $103,176, $103,140, $103,103, $103,065, and $103,026 in each of fiscal years 2022-2026 respectively.

The total debt service repayments in each of the rate study planning years are as follows:

Table 7: Wastewater Debt Service Payments Due FY22 - FY26

FY22	$631,419
FY23	$631,360
FY24	$631,299
FY25	$631,236
FY26	$631,173

While only one loan has a required reserve, an unofficial recommended reserve is 1.5x, or ranging between $947,129 and $946,760, depending on the fiscal year.

RATE COMPARISON ANALYSIS

The rate comparison analysis was conducted to provide information to rate-setting decision makers as to how the City's current utility rates compare with other Arizona utilities. There are three sections to the rate comparison analysis: municipal utilities in Cochise County, for-profit utilities in Cochise County, and municipal utilities elsewhere in the State of Arizona of similar size.

With a realization that not all utilities may have their rates set at appropriate levels to fully recover costs and that some utilities might have deteriorating assets without an adequate means to fund depreciation expense (future capital replacement needs), it was important to compare several communities, whether privately owned (for-profit) or owned by the local government.

A. Water Utility

The comparison of municipal water providers in Cochise County includes Sierra Vista, Tombstone, Bisbee, Willcox, Benson, and Huachuca City. The municipalities of Sierra Vista and Bisbee do not provide water service as water is provided by private water companies in those jurisdictions. Many of the comparison communities surveyed do not have separate rates for supplying customers outside of the corporate limits, either because they leave the rate the same or they do not have any customers outside of their corporate limits.

1. Comparison Assumptions

The comparison of for-profit and privately owned water utilities in Cochise County consisted of a survey of 18 entities, all but one of which had significantly fewer service connections than Douglas.

The comparison of other municipal utilities in the State included any organization with between 4,000 and 8,000 service connections. Six communities matched that requirement: Nogales, Marana, Payson, Safford, San Luis, and Show Low.

Each comparison comes from 2019 rates and included the following assumptions:

- Meter size of either 5/8" or 3/4"
- Residential water consumption: varies between 3,000 and 15,000 gallons per month
- Commercial water consumption: 25,000 gallons per month

- Rates include the base fee plus consumption fees
- Similarly sized communities in the state are based on 4,000 - 8,000 service connections, while privately owned water companies are based on being located in Cochise County and either being between 4,000 – 8,000 service connections or being served in the cities of Bisbee or Sierra Vista

2. Comparison Summary

The comparison data show water rates in the City of Douglas are the lowest of any comparison municipal water utility in the State and the City of Douglas water rates are equal to or lower than comparable privately owned water utility in Cochise County.

Residential water rates are compared under various consumption scenarios, allowing for someone in Douglas to better understand how a bill for their particular water usage compares with other jurisdictions.

Depending on usage amounts, residential in-city water for other Cochise County municipal jurisdictions shows water bills are between 11.63% and 79.21% higher than rates found in the City of Douglas. Privately owned comparable water utilities show residential water bills that are between 41.68% and 130.21% higher than rates found in the City of Douglas. Statewide in-city water bills are an average 58% - 142.45% higher than rates in the City of Douglas.

Based on a ¾” meter and 25,000 gallons per month, the average comparable commercial water bill for in-city municipal service is 161.2% higher than in Douglas. That percentage increases to 210.96% for comparable private commercial water rates and 233.8% for comparable municipal commercial water rates in the State of Arizona.

3. Comparison Data

The following tables provide information on comparable water bills between different jurisdictions for residential “in-city” water bills:

Table 8: Cochise County Municipal Water Bill Comparison

Cochise County Municipal	3,000 gallons	5,000 gallons	7,000 gallons	10,000 gallons	15,000 gallons
Tombstone	$34.31	$41.63	$48.95	$59.93	$78.23
Willcox	$17.44	$20.96	$24.67	$30.52	$41.42
Benson	$14.85	$19.12	$23.98	$35.36	$55.61
Huachuca City	$14.00	$18.00	$22.00	$28.00	$38.00
AVERAGE	$20.15	$24.93	$29.90	$38.45	$53.32
Douglas	$18.05	$20.00	$21.80	$25.00	$29.75
Deviation ($)	$2.10	$4.93	$8.10	$13.45	$23.57
Deviation (%)	11.63%	24.64%	37.16%	53.81%	79.21%

Table 9: Cochise County Private Utility Water Bill Comparison

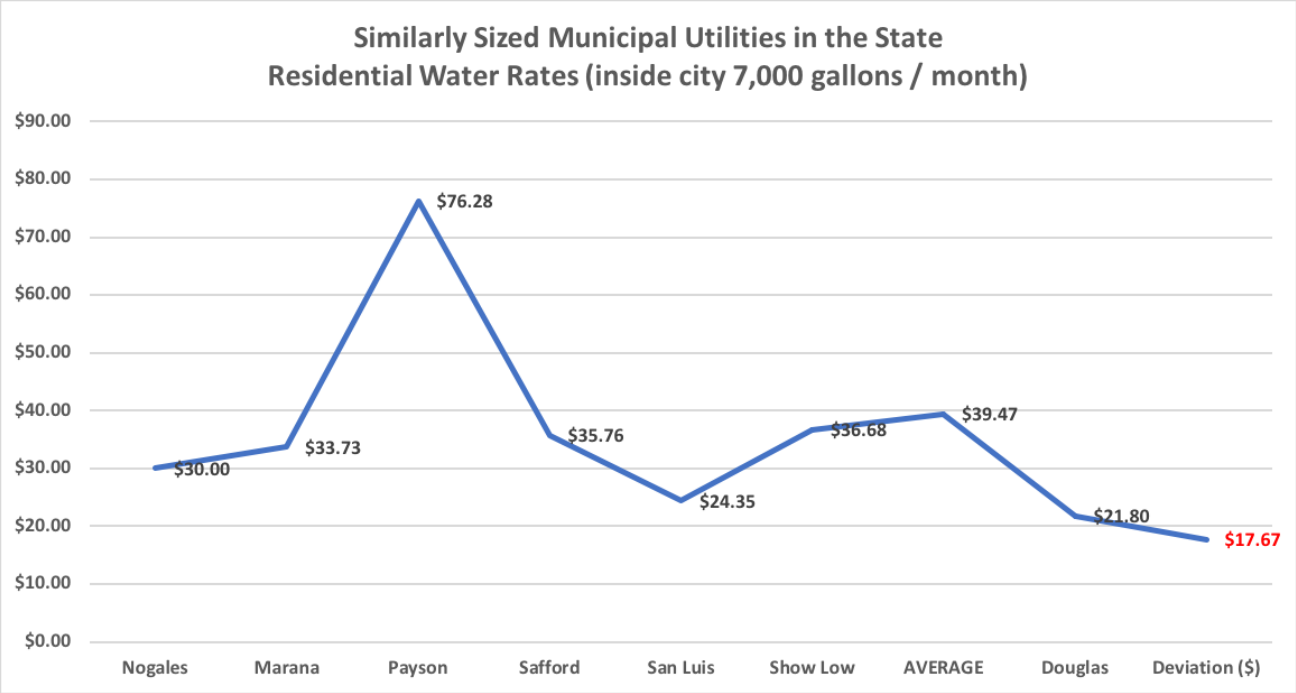
Cochise County Private	3,000 gallons	5,000 gallons	7,000 gallons	10,000 gallons	15,000 gallons
Arizona Water Company - Sierra Vista	$29.02	$35.00	$40.98	$53.37	$78.09
Arizona Water Company - Bisbee	$29.65	$35.88	$42.11	$54.50	$79.22
Pueblo del Sol Water Company (5,021 connections)	$18.05	$22.65	$27.25	$34.15	$48.15
AVERAGE	$25.57	$31.18	$36.78	$47.34	$68.49
Douglas	$18.05	$20.00	$21.80	$25.00	$29.75
Deviation ($)	$7.52	$11.18	$14.98	$22.34	$38.74
Deviation (%)	41.68%	55.88%	68.72%	89.36%	130.21%

Table 10: Statewide Municipal Water Bill Comparison

Statewide Municipal	3,000 gallons	5,000 gallons	7,000 gallons	10,000 gallons	15,000 gallons
Nogales	$17.96	$23.98	$30.00	$39.51	$56.44
Marana	$29.92	$37.14	$44.36	$55.19	$79.34
Payson	$49.10	$60.78	$76.18	$99.28	$143.33
Safford	$27.32	$31.54	$35.76	$42.09	$52.64
San Luis	$15.91	$20.13	$24.35	$30.68	$41.23
Show Low	$30.90	$30.90	$36.68	$45.35	$59.80
AVERAGE	$28.52	$34.08	$41.22	$52.02	$72.13
Douglas	$18.05	$20.00	$21.80	$25.00	$29.75
Deviation ($)	$10.47	$14.08	$19.42	$27.02	$42.38
Deviation (%)	58.00%	70.39%	89.09%	108.07%	142.45%

The following chart shows a deviation of $17.67 for residential in-city water bills when compared to similarly sized municipal water utilities in the State. This indicates that the average bill for 7,000 gallons of water usage by a residential in-city customer is significantly higher in other comparable jurisdictions than it is in the City of Douglas.

Figure 1: Statewide Municipal Water Bill Comparison



The following three charts show how residential in-city water rates differ between comparable locations throughout the state:

Figure 2: Cochise County Municipal Water Bill Comparison

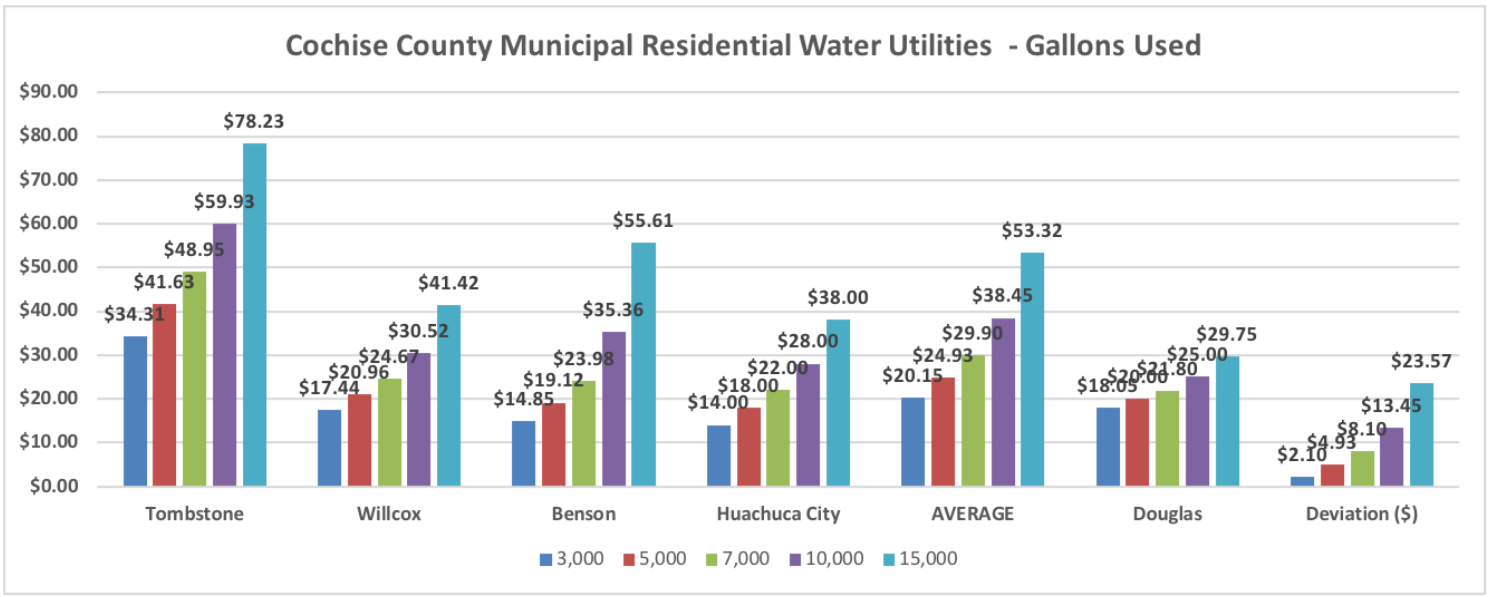


Figure 3: Cochise County Private Utility Water Bill Comparison

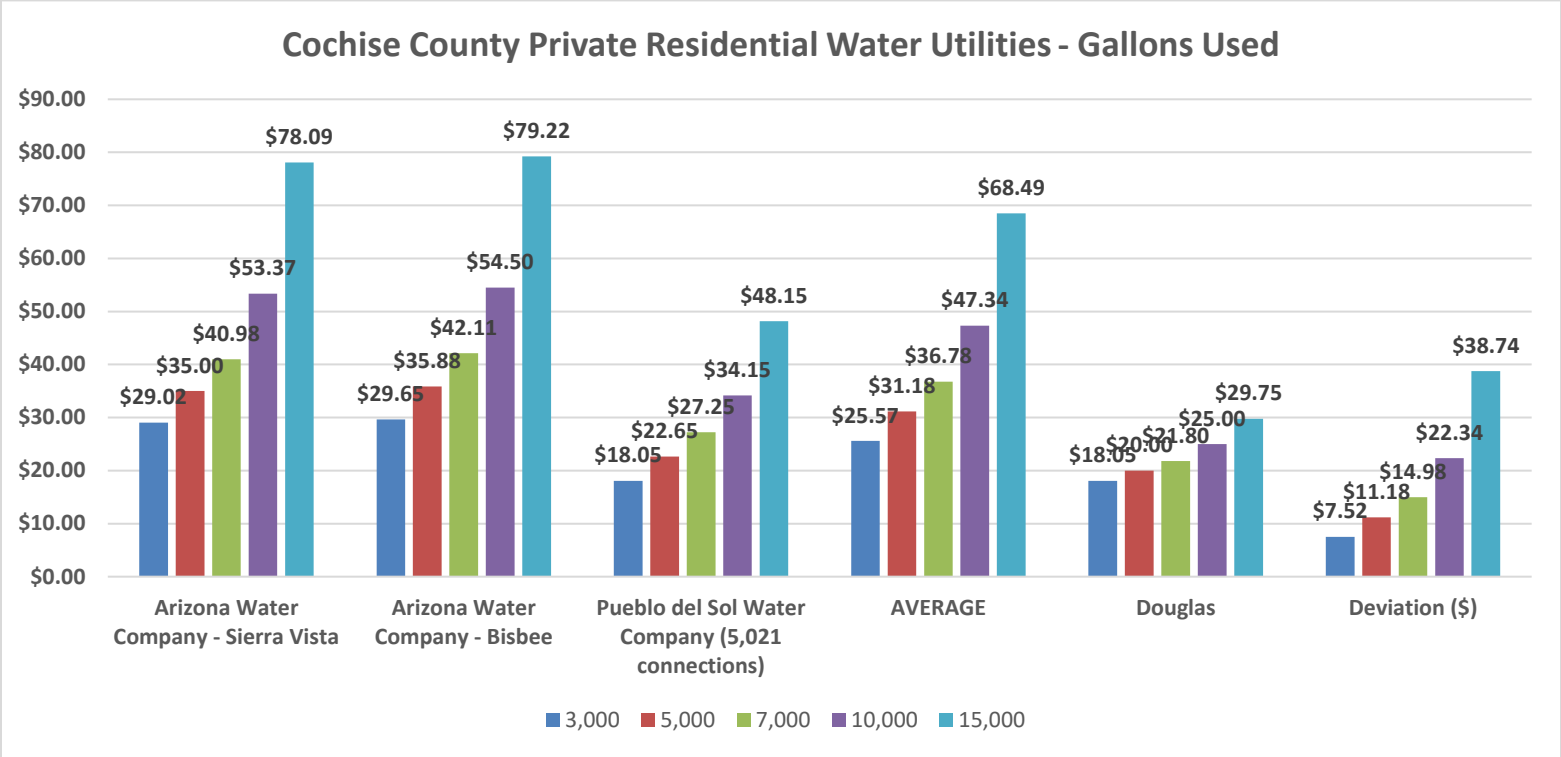
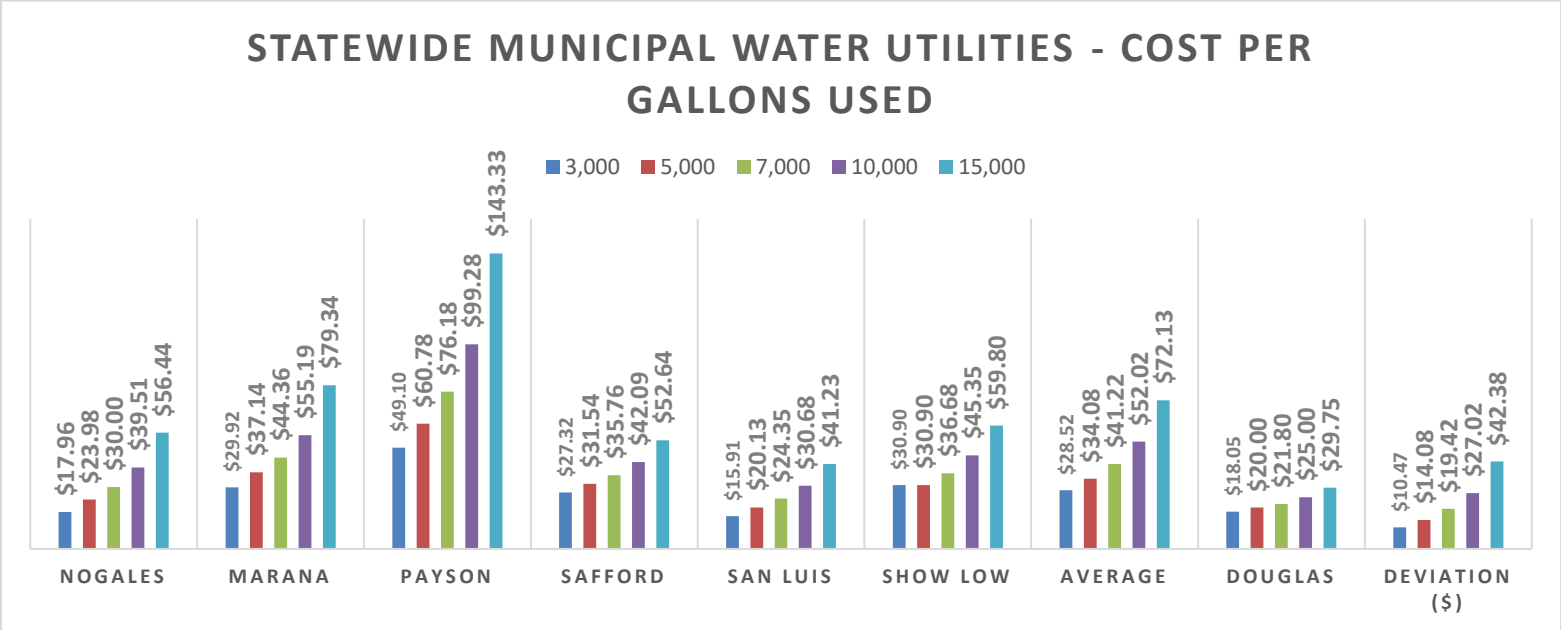


Figure 4: Statewide Municipal Water Bill Comparison



This information shows average residential in-city water bills in all comparable locations throughout the state are higher than those found in the City of Douglas.

A. Wastewater Utility

The comparison of wastewater providers uses the same methodology as with the water system. The for-profit wastewater provider comparison provides three comparison utilities as most private water providers do not offer wastewater services to their customers. Additionally, only a couple of utilities in all categories provide rates for outside city limits, limiting the usefulness of that analysis; therefore, only in-city rates will be provided and compared.

1. Comparison Assumptions

Each comparison comes from 2019 rates and includes up to 199,999 gallons of wastewater per month for commercial classifications.

2. Comparison Summary

The data show that overall, the City of Douglas has lower wastewater rates than any comparison community. Rates were higher than that charged in the City of Douglas by the following:

- Cochise County municipal (residential 30.11%) and (commercial 77.44%).
- Cochise County privately owned (residential 23.11%) and (commercial 70.62%).
- Statewide comparison municipal (residential 52.82%) and (commercial 230.78%).

3. Comparison Data

Table 11 provides data on Cochise County municipal wastewater utilities:

Table 11: Cochise County Municipal Wastewater Rate Comparison

COCHISE COUNTY - MUNICIPAL	Residential Wastewater (inside city)	Commercial Wastewater (inside city)
Sierra Vista	$16.19	$13.28
Tombstone	$32.09	$80.22
Bisbee	$47.60	$53.79
Willcox	$47.34	$117.43
Benson	$34.44	$86.90
Huachuca City	$17.50	$42.30
AVERAGE	**$32.53**	**$65.65**
Douglas	$25.00	$37.00
Deviation ($)	**$7.53**	**$28.65**

Deviation (%)	**30.11%**	**77.44%**

The data show that residential wastewater rates in the comparison communities average 30.11% higher than wastewater rates charged in Douglas, or $7.53 per month. For commercial wastewater rates, rates charged in comparison communities is 77.44% higher than in Douglas, or $28.65 per month.

Figure 5 provides data on wastewater rate comparison with other Cochise Municipal Utilities:

Figure 5: Cochise County Municipal Wastewater Rate Comparison

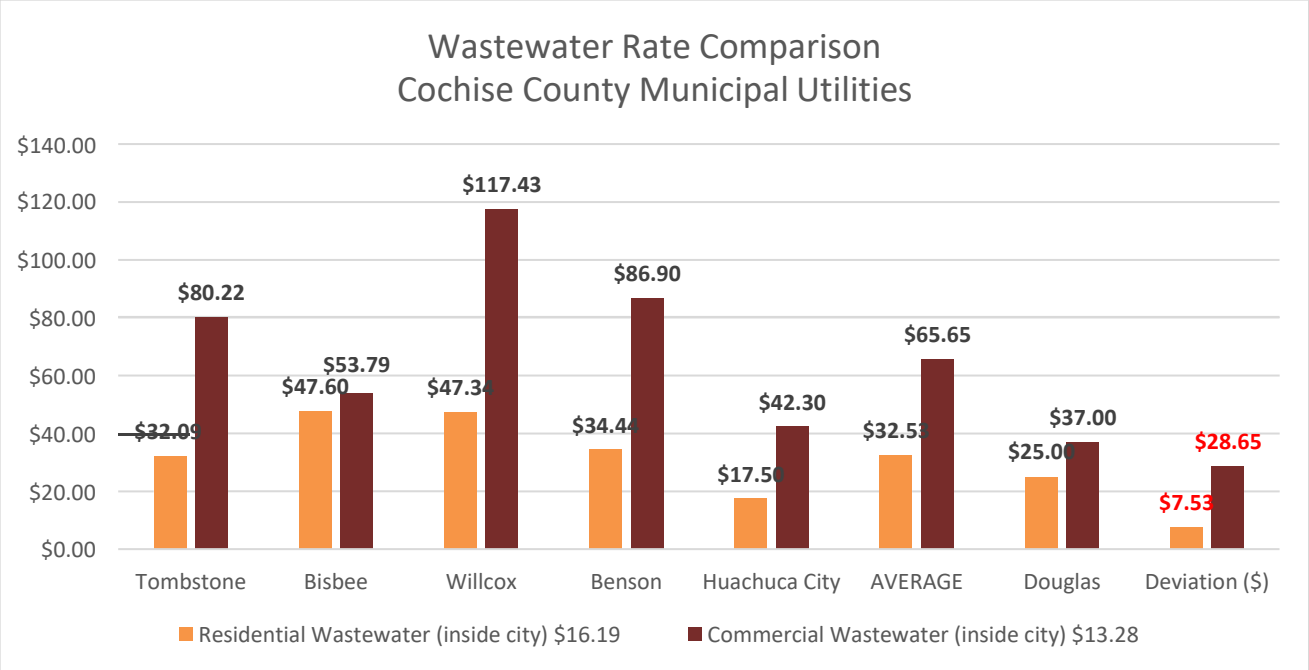


Table 12 provides data on comparable municipal wastewater utilities outside of Cochise County:

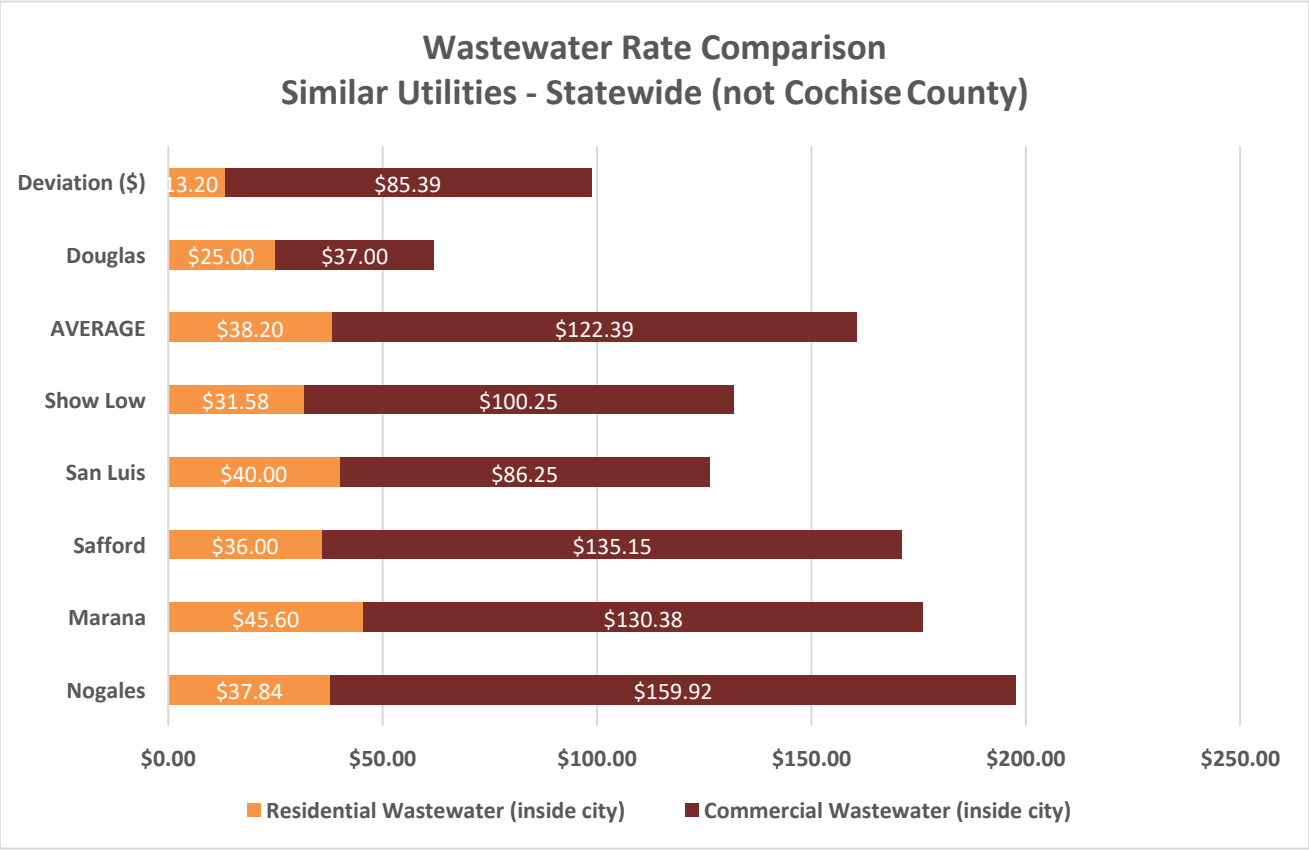
Table 12: Statewide Wastewater Rate Comparison Data

SIMILARLY SIZED MUNICIPAL UTILITIES IN THE STATE (4,000-8,000 service connections)	Residential Wastewater (inside city)	Commercial Wastewater (inside city)
Nogales	$37.84	$159.92
Marana	$45.60	$130.38
Payson	None	None
Safford	$36.00	$135.15
San Luis	$40.00	$86.25

Show Low	$31.58	$100.25
AVERAGE	**$38.20**	**$122.39**
Douglas	$25.00	$37.00
Deviation ($)	**$13.20**	**$85.39**
Deviation (%)	**52.82%**	**230.78%**

Figure 6 shows statewide municipal wastewater rates compared to Douglas:

Figure 6: Statewide Wastewater Rate Comparison



The data show Douglas wastewater rates in comparable jurisdictions throughout the State of Arizona are 52.82% higher for residential customers ($13.20 per month) and 230.78% higher for commercial customers ($85.39 per month) as compared with rates charged in the City of Douglas.

CUSTOMER RATE CLASSES AND RATES

A. Water Utility

The water utility's rates include base fees charged by meter size, consumption (demand) rates, an application fee, a turn off fee, and charges to cover costs to damaged meters. There is also an impact fee; however, those are for new meters and meant for covering new development-related costs to the system and are not a part of this study.

The current application fee is $15.00. This covers the administrative costs associated with setting up a new account. The current turn-off fee is $20.00 and partially covers the cost of an employee to shut off a meter for non-payment. This fee does not currently fully recover the costs the City has to perform this function.

The City does not currently have a meter testing fee for customers who want their meter tested for possible inaccuracies. Any such fee should be designed to fully recover the City's costs at fully loaded labor rates for employees that perform the service, with a provision to waive the fee if the meter's accuracy is determined to exceed a 5% variance.

The following are the water utilities current base and consumption (demand) fees for customers both inside and outside of City limits:

Table 13: Current Water Rates in Douglas

Current Rates			
Base Rates Inside City Limits		Consumption Rates Inside City Limits	
3/4"	15.50	0-3k	0.85
1"	17.50	3-8k	0.90
1-1/2"	20.00	8-20k	0.95
2"	22.50	20-30k	0.95
3"	41.50	30-60k	1.00
4"	50.50	60k+	1.05
6"	73.50		
Base Rates Outside City Limits		Consumption Rates Outside City Limits	
3/4"	19.50	0-3k	0.90
1"	21.50	3-8k	1.00
1-1/2"	24.00	8-20k	1.05

2"	26.50	20-30k	1.05
3"	45.50	30-60k	1.10
4"	54.50	60k+	1.15
6"	77.50		

The base rates are tiered to cover costs commonly associated with utility expenses related to meter size, while consumption rates are applied to all customer classes regardless of meter size and are based upon total monthly consumption.

B. Wastewater Utility

The wastewater utility charges different rates for customers inside and outside of city limits. Current rates are as follows:

Table 14: Current Wastewater Rates

Category	Inside City	Outside City
Residential (per dwelling unit)	$25.00	$40.00
Commercial (up to 199,999 gallons)	$37.00	$65.00
Commercial (200,000 - 399,999 gallons)	$57.00	$95.00
Commercial (400,000 - 599,000 gallons)	$90.00	$130.00
Commercial (600,000 - 799,000 gallons)	$120.00	$160.00
Commercial over 800,000 gallons	$150.00	$195.00
Surcharge / Month	$8.50[1]	$8.65[1]
Industrial	$60.00	$105.00
School	$10.00[2]	$13,75[2]
School	$0.40[3]	$0.55[3]

[1] The listed $8.50 surcharge per month is only for commercial customers who exceed 1,000,000 gallons per year, and is charged per 100,000 gallons over that amount.

[2] Per school site.

[3] Per student.

REVENUE FORECASTING AND REVENUE REQUIREMENTS

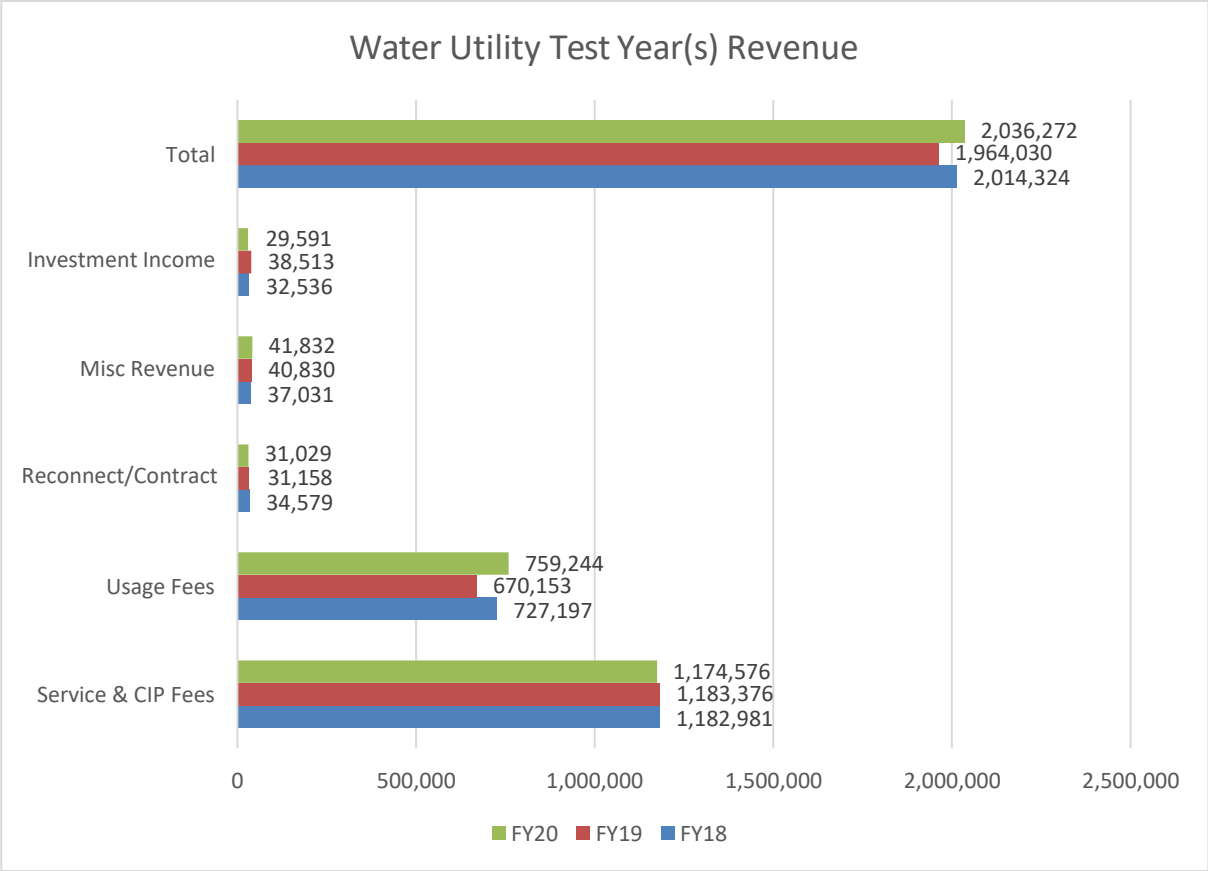
A. Water Utility

Revenue forecasting allows for a determination of the minimum necessary revenue requirements to cover utility costs throughout the rate study period. To determine the minimum revenue requirement to meet anticipated expenditures during the rate study period (FY22 – FY26), we first examine historical revenues. Using test years of FY18, FY19, and FY20, we have the following data:

Table 15: Water Utility Test Year(s) Revenue

Revenues	FY18	FY19	FY20	Change FY18 – FY20
Service & CIP Fees	1,182,981	1,183,376	1,174,576	**-0.71%**
Usage Fees	727,197	670,153	759,244	**4.41%**
Reconnect/Contract	34,579	31,158	31,029	**-10.27%**
Misc. Revenue	37,031	40,830	41,832	**2.45%**
Investment Income	32,536	38,513	29,591	**-23.17%**
Total	**2,014,325**	**1,964,031**	**2,036,273**	**1.24%**

Figure 7: Water Utility Test Year(s) Revenue



The data show combined service and CIP fees (base rates) plus usage fees (consumption) represent approximately 95% of total annual utility revenues. Between FY18 and FY20, service and CIP fees declined by 0.71%%, usage fees increased by 4.41%, reconnect and contract fees decreased 10.27%, miscellaneous revenues increased by 2.45%, and investment income decreased by 23.17%. The net change in revenue between FY18 and FY20 was an increase of 1.24%.

Projected revenues for FY21 through FY26, without any adjustment to rates, is based on the following assumptions:

- Flat service and CIP fee revenues.
- Annual increases in usage fee revenue of 4.1%.
- Flat revenues for reconnect fees.
- 2% annual increases in miscellaneous revenue.
- Flat investment income revenue.

Table 16: Projected Revenues FY21 through FY26

Revenues	FY21	FY22	FY23	FY24	FY25	FY26
Service & CIP Fees	1,233,305	1,233,305	1,233,305	1,233,305	1,233,305	1,233,305
Usage Fees	790,373	822,778	856,512	891,629	928,186	966,242
Reconnect/Contract	31,029	31,029	31,029	31,029	31,029	31,029
Misc. Revenue	42,669	43,522	44,392	45,280	46,186	47,110
Investment Income	29,591	29,591	29,591	29,591	29,591	29,591
Total	**2,126,966**	**2,160,225**	**2,194,829**	**2,230,834**	**2,268,297**	**2,307,276**

Total projected revenue from FY21 through FY 26 is $13,288,428.

The next step in determining revenue requirements is to assess projected expenditures for the same fiscal year period (FY21 – FY26). Expenditure categories include utility billing, operations, the updated capital improvement plan, additional staffing requests for both utilities, and required debt service payments.

Using a test year of FY20, expenditure assumptions include a 2% annual increase to utility billing and operations costs, due to anticipated cost of living adjustments, CIP data come directly from the water utility's existing capital improvement plan (with $150,000 added to the $36,000 planned in FY24 – FY26 as a placeholder for capital expenses in those years), and debt service includes the utility's known debt service expenses (principal and interest – regardless of which fund the utility uses to pay those costs). Since debt service interest payments are made from operations, they are deducted out of the test year's operations expenses total.

There are two expenditure projections calculated for determining water utility revenue requirements: an option that pays cash for all capital improvement plan costs and an option that includes borrowing.

With the understanding that the City prefers to pay cash when possible, the data in the borrowing forecast table includes assumptions of paying cash for 25% of capital costs in FY21, FY22, and FY23, borrowing 75% for CIP costs in those years, and paying cash for CIP costs in FY24 – FY26. Borrowing assumptions include a 20-year note at 2.5% with equal annual repayments.

Table 17 provides expenditure projections for FY21 – FY26 while paying cash for all CIP costs, while table 18 provides expenditure projections while borrowing as described above. The "difference" line provides data on how much that year's projected expenditures are over (a negative number) or under that year's projected revenues.

Table 17: Projected Expenditures FY21 through FY26 (cash option)

Expenditures (Cash)	FY21	FY22	FY23	FY24	FY25	FY26
Utility Billing	282,073	287,714	293,469	299,338	305,325	311,431
Operations	1,539,959	1,570,758	1,602,174	1,634,217	1,666,901	1,700,239
CIP	2,549,750	1,896,000	1,826,000	186,000	186,000	186,000
Debt Service	160,745	160,710	160,674	160,637	160,599	160,560
Total	**4,371,782**	**3,754,473**	**3,721,642**	**2,119,555**	**2,158,226**	**2,197,671**
Difference	(2,244,816)	(1,594,248)	(1,526,813)	111,279	110,071	109,605

The total difference (cumulative rate period revenues v. expenditures) is -$5,034,921 when paying cash for all CIP projects.

Table 18: Projected Expenditures FY21 through FY26 (borrowing option)

Expenditures (Borrowing)	FY21	FY22	FY23	FY24	FY25	FY26
Utility Billing	282,073	287,714	293,469	299,338	305,325	311,431
Operations	1,539,959	1,570,758	1,602,174	1,634,217	1,666,901	1,700,239
CIP	637,438	474,000	447,550	150,000	150,000	150,000
Debt Service	160,745	281,226	370,676	454,737	454,699	454,660
Total	**2,620,215**	**2,613,699**	**2,713,868**	**2,538,292**	**2,576,925**	**2,616,331**
Difference	(493,248)	(453,474)	(519,039)	(307,458)	(308,629)	(309,055)

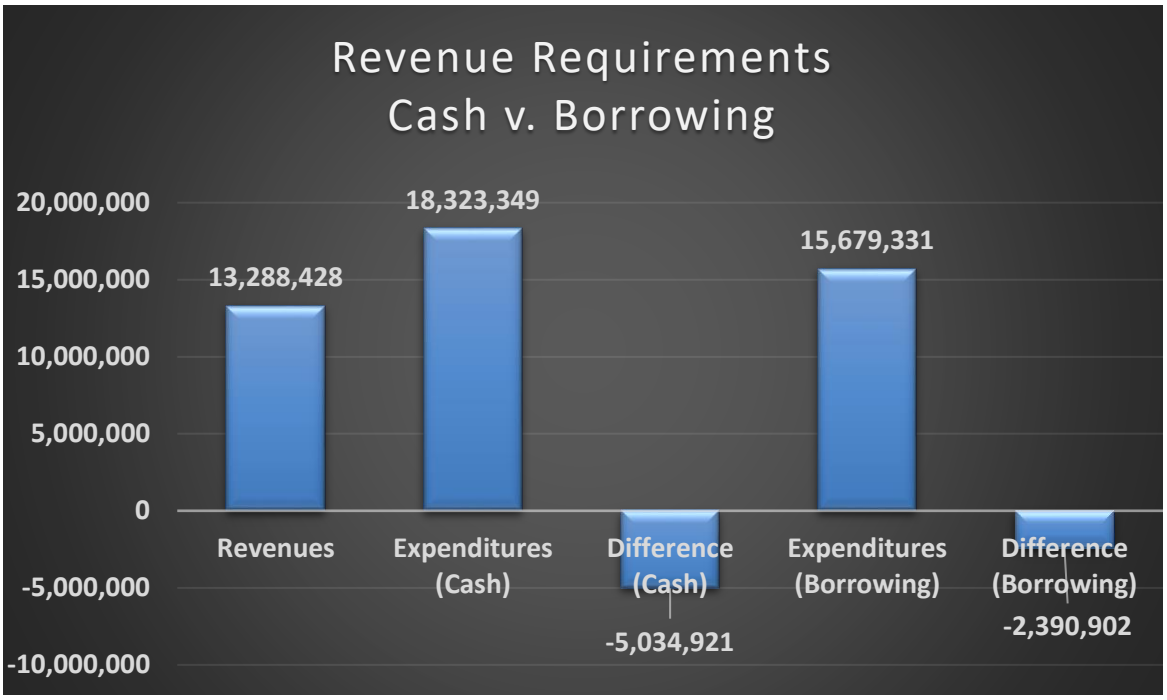
The total difference (cumulative rate period revenues v. expenditures) is -$2,390,902 when borrowing for certain CIP projects.

Costs associated with borrowing for CIP projects include paying $637,458 in cash and borrowing $2,050,348 in FY21, paying $474,000 cash and borrowing $1,395,000 in FY22, and paying 456,500 cash and borrowing $1,369,500 in FY23.

The option to borrow results in a savings during the rate study period of $2,390,902. This is calculated from the reduced cash payments for CIP expenditures while increasing debt service costs by $120,516 for each fiscal year, starting in FY22, increasing another $89,486 for each remaining fiscal year in the rate study period, starting in FY23, and increasing another $84,098 for the final three years of the study period.

Due to the anticipated timing of first year debt service payments for the new loans, each new loan's debt service payments are deferred until the following year.

Figure 8: Revenue Requirements Cash v. Borrowing



Data show that expenditure projections while paying cash for all CIP projects results in total expenditures of $18,323,349, or $5,034,921 additional revenue needed to meet revenue requirements throughout the rate period.

Using borrowing projections, the results show total expenditures during the rate period of $15,679,331, or $2,390,902 needed to meet revenue requirements. By using a balance of paying cash and borrowing for certain year capital improvement projects, the water utility will be able to keep rates lower during the rate study period than by paying cash for all projects.

Based on the water utility's desire to keep rates as low as possible while ensuring revenues cover necessary utility expenditures during the rate period, determining revenue requirements should include an evaluation not just of projected revenues and projected expenditures, but it should also include an option to draw down a portion of the utility's unrestricted fund balance.

As of the start of FY21, the water utility's unrestricted fund balance was $3,543,596. Using FY21 expenditures and borrowing for 75% of capital improvement costs, that represents an unrestricted fund balance of 135.24% of expenditures. While neither existing water loan requires a debt service coverage ratio (typically 1.5x – or in the case of the Douglas water utility, $241,065), it is good financial practice to maintain that coverage ratio plus at least 25% cash on hand, based on total annual expenditures.

This means that absent a formal unrestricted fund balance policy, it is appropriate for the City of Douglas water utility to maintain a minimum unrestricted fund balance of 25% of annual expenditures plus $241,065, or $896,119. By maintaining 25% unrestricted fund balance, that allows the utility to cover expenditures in the event of temporary lower demand.

Using a starting unrestricted fund balance of $3,543,596 and drawing down $1,000,000, the utility would still have an unrestricted balance of $2,543,596, or 97.08% of annual expenditures (based on FY21 expenditures). This represents a drawdown of 28.22% of the current unrestricted balance. Such a drawdown would allow the utility to offset rate increases with existing cash-on-hand to minimize any financial impact to water utility customers, while still providing for an adequate unrestricted reserve.

Table 19 shows the annual unrestricted water utility cash position, by fiscal year, for FY21 and each year in the rate study period (based on projected expenditures by year).

Table 19: Projected Unrestricted Water Utility Fund Balance by Year (w/drawdown and options)

Fiscal Year	Unrestricted Cash w/Drawdown and No Rate Adjustments	Unrestricted Cash with Option 3 Later in This Report
FY21	78.25%	97.55%
FY22	61.1%	119.35%
FY23	39.72%	99.12%
FY24	30.35%	91.81%
FY25	17.92%	88.13%
FY26	5.84%	90.4%

Providing information on a potential unrestricted fund balance drawdown allows for another viable option for rate setting decision-makers to keep rates as low as possible while still providing for necessary financial security of the utility. The data demonstrate that the utility will maintain adequate reserves if $1,000,000 of cash is used to offset expenditures during the rate study period. This information is more fully explored within the proposed rates chapter of this report.

B. Wastewater Utility

Using test years FY18, FY19, and FY20, we show service fee revenue increasing by 1.34%, investment earnings decreasing by 19.18%, and miscellaneous revenue decreasing by 23.2%. Table 20 provides data on historical system revenue:

Table 20: Wastewater Revenue Test Year Data

Revenues	FY18	FY19	FY20	Change FY18-FY20
Service Fees	1,879,676	1,861,331	1,904,813	**1.34%**
Investment Earnings	52,909	24,788	42,760	**-19.18%**
Misc. Revenue	37,987	52,924	29,174	**-23.20%**
Total	**1,970,572**	**1,939,043**	**1,976,747**	**0.31%**

System revenue projections include a 1% increase to service fees and flat earnings for both investment earnings and miscellaneous revenue. Additional revenue of $115,000 is added starting in FY22 related to Bay Acres. Table 21 provides data on these rate projections:

Table 21: Wastewater Utility Revenue Projections

Revenues	FY21	FY22	FY23	FY24	FY25	FY26
Service Fees	1,923,861	2,058,100	2,078,681	2,099,468	2,120,462	2,141,667
Investment Earnings	43,615	43,615	43,615	43,615	43,615	43,615
Misc. Revenue	30,000	30,000	30,000	30,000	30,000	30,000
Total	**1,997,476**	**2,131,715**	**2,152,296**	**2,173,083**	**2,194,077**	**2,215,282**

These revenues reflect no change to existing rates, and they range by year from $1,997,476 in FY21 (test year) to $2,215,282 in FY26 (the last year of the rate study period).

FY20 expenditure data for the utility, minus debt service interest payments (which are calculated elsewhere for the purposes of rate projections), shows $1,256,043. Using a 2% annual increase to operational expenditures, table 22 provides data on estimated expenditures in the test year (FY21) along with the rate study years of FY22 through FY26.

Table 22: Wastewater Utility Expenditure Projections

Expenditures	FY21	FY22	FY23	FY24	FY25	FY26
Operations	1,281,164	1,306,787	1,332,923	1,359,581	1,386,773	1,414,508
CIP	104,750	286,000	286,000	286,000	186,000	186,000
Debt Service	631,452	631,419	631,360	631,299	631,236	631,173
Total	**2,017,366**	**2,224,206**	**2,250,283**	**2,276,880**	**2,204,009**	**2,231,681**

The data show expenditures exceeding revenues in test year (FY21) and each year of the 5-year rate period fiscal years. The differences by year are as follows:

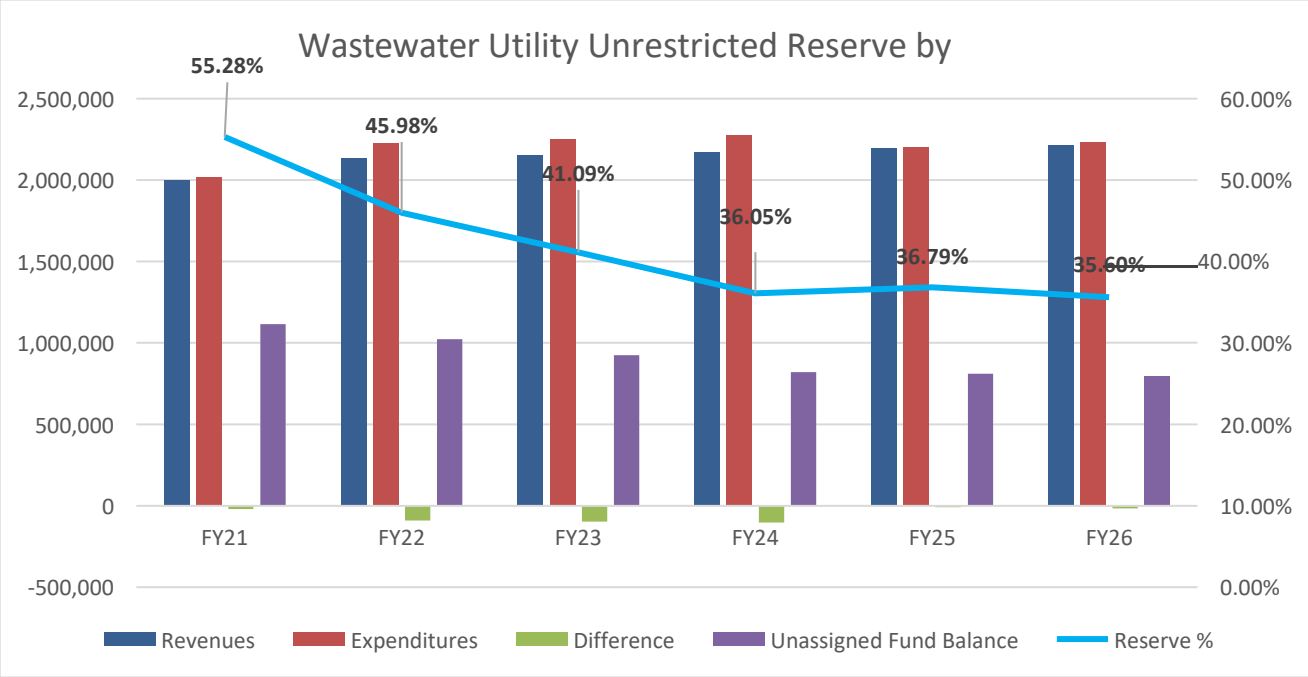
- FY21, ($19,890)

- FY22, ($92,491)
- FY23, (97,987)
- FY24, ($103,798)
- FY25, ($9,932)
- FY26, ($16,399)

The cumulative projected operating loss during the test period is $340,496.

The wastewater utility unrestricted fund balance at the start of FY21 was $1,135,040, or 55.28% of anticipated expenditures for that year. Assuming no increases to rates, the utility's fund balance is projected to be 35.6% by the end of FY26.

Figure 9: Projected Wastewater Utility Unrestricted Fund Balance by Year



The recommended dollar value of the unrestricted fund balance is 1.5x for the total debt service payments for any given year, plus 25% of that year's annual expenditures. Using FY22 estimates, the minimum reserve should be $1,503,180, or 74.51%. Without an increase, not only will revenues not meet anticipated expenditures, but the recommended reserve level will not be met.

PROPOSED RATES

A. Water System

1. Summary of Options

The following is a summary of options for proposed rates necessary to meet system revenue requirements through FY26:

Option 1 Summary:

- Pay cash for all capital improvement plan items FY22 through FY26
- Service and usage fees increase by:
  - 42.5% in FY22
  - 45% in FY23
  - 50% in FY24
  - 50% in FY25
  - 50% in FY26
- The utility meets all revenue requirements through FY26

Option 2 Summary:

- Borrow for 75% of capital improvement plan items in FY21, FY22, and FY23
- Pay cash for CIP items in FY24 and FY25
- Service and usage fees increase by:
  - 20% in FY22
  - 20% in FY23
  - 22.5% in FY24
  - 25% in FY25
  - 25% in FY26
- The utility meets all revenue requirements through FY26

Option 3 Summary:

- Unrestricted fund balance drawdown of $1,000,000
- Borrow for 75% of capital improvement plan items in FY21, FY22, and FY23
- Pay cash for CIP items in FY24 through FY26
- Service and usage fees increase by:
    - 5% in FY22
    - 5% in FY23
    - 5% in FY24
    - 8.5% in FY25
    - 8.5% in FY26
- The utility meets all revenue requirements through FY26

Option 4 Summary:

- Unrestricted fund balance drawdown of $1,000,000
- Borrow for 75% of capital improvement plan items in FY21, FY22, and FY23
- Pay cash for CIP items in FY24 and FY25
- No increase to base rates (shifting the burden to cover increased costs to “usage fees”.
- Usage fees increase by:
    - 25% in FY22
    - 25% in FY23
    - 25% in FY24
    - 35% in FY25
    - 45% in FY26
- The utility meets all revenue requirements through FY26

2. Detailed Information on Rate Options

The following are three options for FY22 through FY26 water rates. The “Difference / Cash” and “Difference / Borrow” lines represent the difference in revenues under each option compared with the expenditure amounts as follows:

- $2,126,966 in FY21
- $2,160,225 in FY22
- $2,194,829 in FY23
- $2,230,834 in FY24
- $2,268,297 in FY25
- $2,307,276 in FY26

Option 1:

This option has the utility paying cash for all capital improvement projects and in order to meet minimum revenue requirements, both service fees and usage fees will need to be increased by 42.5% in FY22, 45% in FY23, 50% in FY24, 50% in FY25, and 50% in FY26. Table 24 provides data on how those rate increases affect revenue requirements.

Table 23: Option 1 - Revenue Requirement Data

Revenues	FY21	FY22	FY23	FY24	FY25	FY26	42.5% year 1, 45% year 2 50% year 3 50 year 4 50% year 5
Service & CIP Fees	1,233,305	1,757,459	1,788,292	1,849,957	1,849,957	1,849,957	
Usage Fees	790,373	1,172,459	1,241,943	1,337,444	1,392,279	1,449,362	
Reconnect/Contract	31,029	31,029	31,029	31,029	31,029	31,029	
Misc. Revenue	42,669	43,522	44,392	45,280	46,186	47,110	
Investment Income	29,591	29,591	29,591	29,591	29,591	29,591	
Total	**2,126,966**	**3,034,060**	**3,135,247**	**3,293,301**	**3,349,042**	**3,407,049**	
Difference / Cash	(2,244,816)	(720,412)	(586,395)	1,173,746	1,190,816	1,209,379	**$22,318**
Difference / Borrow	(493,248)	420,362	421,379	755,009	772,117	790,718	$2,666,336

The data show that by increasing rates as described above, the utility will be close to a breakeven point in its revenue requirement at the end of the study's rate period, when paying cash for all CIP projects. If these rate increases were implemented and the utility borrowed instead of paid cash for certain CIP projects, then there would be a surplus of approximately over $2.67M at the end of the rate period.

Under this option, rates would increase significantly and will certainly create rate shock. This is an option if the water utility decides it wants to pay cash for all capital improvement projects in the CIP; however, ***this option is not recommended due to the "rate shock" that will occur with utility customers.***

Option 2:

This option provides lower increases each year than those found in option 1, with an exception that the utility will borrow for 75% of capital expense costs in FY21, FY22, and FY23. In order to meet revenue requirements, this option has an increase of 20% in FY22, 20% in FY23, 22.5% in FY24, 25% in FY25, and 25% in FY26.

Table 24: Option 2 - Revenue Requirement Data

Revenues	FY21	FY22	FY23	FY24	FY25	FY26	20% FY22 20% FY23 22.5% FY24 25% FY25 25% FY26 borrow
Service & CIP Fees	1,233,305	1,479,966	1,479,966	1,510,798	1,541,631	1,541,631	
Usage Fees	790,373	987,334	1,027,815	1,092,246	1,160,233	1,207,802	
Reconnect/Contract	31,029	31,029	31,029	31,029	31,029	31,029	
Misc. Revenue	42,669	43,522	44,392	45,280	46,186	47,110	
Investment Income	29,591	29,591	29,591	29,591	29,591	29,591	
Total	**2,126,966**	**2,571,442**	**2,612,793**	**2,708,944**	**2,808,669**	**2,857,163**	
Difference / Cash	(2,244,816)	(1,183,031)	(1,108,849)	589,389	650,443	659,492	($2,637,371)
Difference / Borrow	(493,248)	(42,257)	(101,076)	170,652	231,744	240,832	**$6,647**

The data show that by borrowing and increasing rates as specified in this option, the utility will meet its revenue requirements in the rate period. By paying cash, the utility would be over $2.6M short in revenues. This option would result in an average current 3/4” water meter bill of $27.41 per month increasing to $75.56 per month in FY26.

Option 3:

This option provides for a one-time draw down of unrestricted balance in the amount of $1,000,000, borrowing 75% of CIP costs in FY21-FY23, and annual increases in service and usage fees of 5% in each of the first three years of the rate study period, followed by an 8.5% increase in FY25 and an 8.5% increase in FY26.

Table 25: Option 3 - Revenue Requirement Data

Revenues	FY21	FY22	FY23	FY24	FY25	FY26	Draw down $1,000,000 year one, 5% annual increases for the first three years, two years of 8.5% increases, and borrowing
Service & CIP Fees	1,233,305	1,294,970	1,359,719	1,427,704	1,549,059	1,680,729	
Usage Fees	790,373	863,917	899,338	936,211	1,007,082	1,048,372	
Reconnect/Contract	31,029	31,029	31,029	31,029	31,029	31,029	
Misc. Revenue	42,669	43,522	44,392	45,280	46,186	47,110	
Investment Income	29,591	22,963	22,963	22,963	22,963	22,963	
Balance Draw Down	1,000,000	0	0	0	0	0	
Total	**3,126,966**	**2,256,401**	**2,357,440**	**2,463,187**	**2,656,319**	**2,830,203**	
Difference / Cash	(1,244,816)	(1,498,072)	(1,364,202)	343,632	498,093	632,532	(12,632,833)
Difference / Borrow	506,752	(357,298)	(356,428)	(75,105)	79,393	213,872	**$11,186**

Option 3 results in meeting all revenue requirements, creating an estimated $11,186 surplus, having an estimated 90.27% FY26 unrestricted fund balance, and it will keep increases for system users to a minimum.

Table 26 provides data for Option 3 in FY22, showing the number of bills for select meter categories, the average consumption, the average current bill, the average proposed bill, comparison bills for other utilities, and the average increase per month for customers in each respective category.

Table 26: Option 3 Rate Comparison Data

						Comparison Bills			
		# of Bills	AVG Consumption	AVG Current Bill	AVG Proposed Bill	Cochise County Municipal	Cochise County Private	Statewide Municipal	**Average Increase per Month**
3/4" Meters	Inside	4,210	12,540	$27.41	$28.78	$38.35	$55.52	$50.62	$1.37
6" Meters	Inside	4	466,750	$610.26	$622.47	$853.78	$1,236.10	$1,126.92	$30.51
Golf Course	Inside	2	2,238,650	$2,350.58	$2,397.59	$3,288.54	$4,761.14	$4,340.60	$117.53
3/4" Meters	Outside	969	12,315	$32.43	$33.08	$45.37	$65.69	$59.89	$1.62

The data show that the proposed increase will result in water utility rates in Douglas being significantly lower than existing rates for comparison communities across the region and across the state.

Table 27 shows current and adjusted future rates for a 3/4” residential meter water bill with option 3 at 10,000 gallons per month, in each of years FY22 through FY26, including comparison data for other water utilities. This data show how the rate charged in Douglas *in each of the future years* will compare to *today’s rate* for the other utilities

Table 27: Option 3 Average 3/4" Water Meter Bill w/Comparison

		Avg current bill	Avg bill FY22	Avg bill FY23	Avg bill FY24	Avg bill FY25	Avg bill FY26
Option 3	**Douglas**	**$27.41**	**$28.78**	**$30.22**	**$31.73**	**$34.43**	**$37.36**
	Other Cochise County Municipal	**$38.35**	-33.24%	-26.89%	-20.85%	-11.38%	-2.66%
	Cochise County Privately Owned	**$55.52**	-92.89%	-83.70%	-74.96%	-61.25%	-48.62%
	Other Statewide Municipal	**$50.62**	-75.87%	-67.49%	-59.52%	-47.02%	-35.50%

The data show that under Option 3, the average water bill for a 3/4" meter in comparable jurisdictions is $48.16 today, while the average bill in Douglas will only reach $37.36 by FY26.

Option 4:

This option provides for a one-time draw down of unrestricted cash reserves in the amount of $1,000,000, borrowing 75% of capital costs in FY21 through FY23, not increasing base rates, and shifting the burden of increases to "usage".

The result will be increases to usage rates of 25% in FY22 and FY23, 35% in FY24 and FY25, and 45% in FY26. The intent of providing this option for consideration is that high users of the system will pay a higher percentage of necessary increases and thus lower users of the system will not see as much of an overall increase.

Option four is not recommended due to the fact it reduces the utility's guaranteed base income every month, it puts a greater burden on high water users (such as hospitals and nursing homes), and it alters the existing rate methodology.

Table 28: Option 4 Revenue Requirement Data

Revenues	FY21	FY22	FY23	FY24	FY25	FY26	Borrow 75% in FY21-FY23 Drawdown $1,000,000 No increase to base rate Usage increases of: 25% in FY22 25% in FY23 35% in FY24 35% in FY25 45% in FY26
Service & CIP Fees	1,233,305	1,233,305	1,233,305	1,233,305	1,233,305	1,233,305	
Usage Fees	790,373	1,028,473	1,070,640	1,203,699	1,253,051	1,401,050	
Reconnect/Contract	31,029	22,963	22,963	22,963	22,963	22,963	
Misc. Revenue	42,669	43,522	44,392	45,280	46,186	47,110	
Investment Income	29,591	22,963	22,963	22,963	22,963	22,963	
Balance Draw Down	1,000,000	0	0	0	0	0	
Total	**3,126,966**	**2,351,225**	**2,394,263**	**2,528,210**	**2,578,467**	**2,727,390**	
Difference / Cash	(1,244,816)	(1,403,248)	(1,327,379)	408,655	420,241	529,719	(2,616,828)
Difference / Borrow	506,752	(262,474)	(319,606)	(10,082)	1,542	111,059	**$27,190**

3. Proposed Water Rates with Implementation of Option 3

Proposed rates under Option 3 are as follows:

Table 29: Current and Proposed Water Rates

Inside City Limits

Current Rates					Proposed Rates			
Base Rates Inside City Limits		Consumption Rates Inside City Limits			Base Rates Inside City Limits		Consumption Rates Inside City Limits	
3/4”	15.50	0-3k	0.85		3/4”	16.28	0-3k	0.89
1”	17.50	3-8k	0.90		1”	18.38	3-8k	0.95
1-1/2”	20.00	8-20k	0.95		1-1/2”	21.00	8-20k	1.00
2”	22.50	20-30k	0.95		2”	23.63	20-30k	1.00
3”	41.50	30-60k	1.00		3”	43.58	30-60k	1.05
4”	50.50	60k+	1.05		4”	53.03	60k+	1.10
6”	73.50				6”	77.18		

Outside City Limits

Current Rates					Proposed Rates			
Base Rates Outside City Limits		Consumption Rates Outside City Limits			Base Rates Outside City Limits		Consumption Rates Outside City Limits	
3/4"	19.50	0-3k	0.90		3/4"	20.48	0-3k	0.95
1"	21.50	3-8k	1.00		1"	22.58	3-8k	1.05
1-1/2"	24.00	8-20k	1.05		1-1/2"	25.20	8-20k	1.10
2"	26.50	20-30k	1.05		2"	27.83	20-30k	1.10
3"	45.50	30-60k	1.10		3"	47.78	30-60k	1.16
4"	54.50	60k+	1.15		4"	57.23	60k+	1.21
6"	77.50				6"	81.38		

	Current Rates	Proposed Rates
Meter install 3/4" or smaller *	$943	$943
1" [4]	$1,229	$1,229
1.5" [4]	$1,655	$1,655
2" [4]	$2,178	$2,178
3" [4]	$2,896	$2,896
4" [4]	$3,851	$3,851

6" [4]	$5,122	$5,122
Hydrant [4]	$1,000	$1,000
Application fee	$15	$15
Turn-off fee	$20	$25
Meter testing fee[5]	$0	$65

[4] Plus the actual cost of the meter or hydrant

[5] Only charged if the customer requests the test and the results show an accuracy variance greater than 5%.

Turn-off and meter testing fees are based on estimated average time to complete the work at the fully loaded labor rate for an average Water Tech I classification.

The average water increase to an in-city residential customer using 10,000 gallons per month will be $0.78 per month to the base rate and .50 cents per month for usage, for a total monthly increase of $1.28.

Proposed rates throughout the rate period for a residential "**in-city" water customer** based on meter size and consumption, using water rate **OPTION 3**:

*Table 30: Proposed **In-City** Residential Water Rates, Based on Meter Size and Consumption (**Option 3**)*

BASE RATES (IN CITY)						
Meter Size	**Now**	**FY22**	**FY23**	**FY24**	**FY25**	**FY26**
3/4"	$15.50	$16.28	$17.09	$17.94	$19.47	$21.12
1"	$17.50	$18.38	$19.29	$20.26	$21.98	$23.85
1.5"	$20.00	$21.00	$22.05	$23.15	$25.12	$27.26
2"	$22.50	$23.63	$24.81	$26.05	$28.26	$30.66
3"	$41.50	$43.58	$45.75	$48.04	$52.12	$56.56
4"	$50.50	$53.03	$55.68	$58.46	$63.43	$68.82
6"	$73.50	$77.18	$81.03	$85.09	$92.32	$100.16
CONSUMPTION (IN CITY)						
0-3K	$0.85	$0.89	$0.94	$0.98	$1.07	$1.16
3-8K	$0.90	$0.95	$0.99	$1.04	$1.13	$1.23
8-20K	$0.95	$1.00	$1.05	$1.10	$1.19	$1.29
20-30K	$0.95	$1.00	$1.05	$1.10	$1.19	$1.29
30-60K	$1.00	$1.05	$1.10	$1.16	$1.26	$1.36
60K+	$1.05	$1.10	$1.16	$1.22	$1.32	$1.43

Hypothetical water bill throughout the rate period for a residential "**in-city**" water customer using a ¾" water meter, based on varying consumption amounts, under water rate **OPTION 3:**

*Table 31: Hypothetical Residential **In-City** Water Bill Based on Consumption (**Option 3**)*

	3,000 gallons	5,000 gallons	7,000 gallons	10,000 gallons	15,000 gallons
FY21	$18.05	$20.00	$21.80	$25.00	$29.75
FY22	$18.95	$21.00	$22.89	$26.25	$31.24
FY23	$19.90	$22.05	$24.03	$27.56	$32.80
FY24	$20.90	$23.15	$25.24	$28.94	$34.44
FY25	$22.67	$25.12	$27.38	$31.40	$37.37
FY26	$24.60	$27.26	$29.71	$34.07	$40.54

Using this table, a residential customer who uses 5,000 gallons of water in a month can expect a water bill of $21.00 in 2022, while someone who uses 15,000 gallons a month can expect a bill of $31.24.

B. Wastewater System

To overcome the cumulative $340,496 operating loss during the test period and achieve a minimum 74% unrestricted fund balance, a 9% annual increase year-over-year is required throughout the rate study period. To cover operating expenses and eliminate the $340,496 deficit, a 3% increase in each of the first four years followed by a 4.5% increase in the fifth year is necessary.

Option 1 includes an increase of 3% in each of FY22 through FY25 and a 4.5% increase in FY26. The cumulative estimated increase to fund balance during this time is $6,580, resulting in an estimated FY26 ending unrestricted balance of 49.39%.

Option 2 includes a flat 9% annual increase year-over-year. The resulting increase to fund balance is $604,357, resulting in an estimated FY26 ending unrestricted fund balance of 72.23%.

Any increase between 3% and 9% will allow the wastewater utility to meet all revenue requirements in the cumulative rate period. To be consistent with the recommended increase for water (option 3), an increase of 5% in each of the next five years is appropriate. An increase of 5% keeps at the forefront the need for the utility to meet its revenue requirements and recommended unrestricted fund balance while at the same time minimizing increases to wastewater utility customers.

Table 32: Current and Proposed Wastewater Rates

Current Rates - Inside City			Proposed Rates - Inside City	
Residential (per dwelling unit)	$25.00		Residential (per dwelling unit)	$26.25
Commercial (up to 199,999)	$37.00		Commercial (up to 199,999)	$38.85
Commercial (200,000 - 399,999)	$57.00		Commercial (200,000 - 399,999)	$59.85
Commercial (400,000 - 599,000)	$90.00		Commercial (400,000 - 599,000)	$94.50
Commercial (600,000 - 799,000)	$120.00		Commercial (600,000 - 799,000)	$126.00
Commercial over 800,000	$150.00		Commercial over 800,000	$157.50
Surcharge / Month[6]	$8.50		Surcharge / Month[6]	$8.93
Industrial	$60.00		Industrial	$63.00
School[7]	$10.00		School[7]	$10.50
School[8]	$0.40		School[8]	$0.42
Current Rates - Outside City			Proposd Rates - Outside City	
Residential (per dwelling unit)	$40.00		Residential (per dwelling unit)	$42.00
Commercial (up to 199,999)	$65.00		Commercial (up to 199,999)	$68.25
Commercial (200,000 - 399,999)	$95.00		Commercial (200,000 - 399,999)	$99.75

Commercial (400,000 - 599,000)	$130.00		Commercial (400,000 - 599,000)	$136.50
Commercial (600,000 - 799,000)	$160.00		Commercial (600,000 - 799,000)	$168.00
Commercial over 800,000	$195.00		Commercial over 800,000	$204.75
Surcharge / Month[6]	$8.65		Surcharge / Month[6]	$9.08
Industrial	$105.00		Industrial	$110.25
School[7]	$13.75		School[7]	$14.44
School[8]	$0.55		School[8]	$0.58

[6] Charged per 100,000 gallons over 1M gallons / year
[7] Per site
[8] Per student

For FY22, the average wastewater increase to an in-city residential customer will be $1.25 per month.

The following table provides information on the increase to residential “in-city” sewer rates in each of the next five years, assuming a flat 5% increase to rates each year.

Table 33: Residential In-City Sewer Rates Projected for 5-years

Year	Rate
Current	$25.00
FY22	$26.25
FY23	$27.56
FY24	$28.94
FY25	$30.39
FY26	$31.91

Summary:

Using water rate modification option 3, and assuming 10,000 gallons of water usage per month for an in-city residential water customer, the increase in monthly water rate

increase in the first year of the increase will be $1.28. A 5% increase to wastewater charges results in that same customer paying $1.25 per month more in the first year of the increase.

Using this scenario, the combined increase for water and wastewater charges on the utility bill in the first year of an increase will be $2.53 per month, or $30.36 per year.

The result is that both the water and wastewater utilities will meet their minimum revenue requirements for operations, maintenance, capital, and debt service while rates are kept not only as low as possible, but lower than all comparable jurisdictions.