



San Antonio Water System

RATE DESIGN STUDY TECHNICAL MEMORANDUM

FINAL | NOVEMBER 2022



TBPELS No. F-882

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Abbreviations

| | |
|-----------|---|
| AAC | average annual consumption |
| AWWA | American Water Works Association |
| Board | SAWS Board of Trustees |
| BOD | biochemical oxygen demand |
| Carollo | Carollo Engineers, Inc. |
| CoSA | City of San Antonio |
| COS TM | Cost of Service Technical Memorandum |
| EAA | Edwards Aquifer Authority |
| FPL | federal poverty level |
| ICL | inside city limits |
| M1 Manual | AWWA Principles of Water Rates, Fees, and Charges M1 Manual |
| MOP27 | WEF Manual of Practice 27: Financing and Charges for Wastewater Systems |
| OCL | outside city limits |
| RAC | Rate Advisory Committee |
| SAWS | San Antonio Water System |
| Study | Water and Wastewater Cost of Service and Rate Design Study |
| TCEQ | Texas Commission on Environmental Quality |
| TSS | total suspended solids |
| WEF | Water Environment Federation |

Chapter 1

EXECUTIVE SUMMARY

1.1 Introduction

The San Antonio Water System (SAWS) retained Carollo Engineers, Inc. (Carollo) in September 2021 to conduct a Water and Wastewater Cost of Service and Rate Design Study (Study). As part of this process, Carollo used SAWS' 2022 budget to determine the revenue requirements, which were used for the cost-of-service analysis and rate design. The SAWS Board of Trustees (Board) appointed a Rate Advisory Committee (RAC) to provide input on rate design scenarios, priorities, and recommendations.

In 2019, SAWS initiated a new cost of service and rate design study by an outside consultant, but the study was suspended in March 2020 due to the COVID-19 pandemic. The 2019 consultant worked with SAWS staff and the RAC to complete the cost-of-service analysis. The consultant issued a Rate Advisory Committee Report summarizing the cost-of-service recommendations. Carollo reviewed the 2019 cost-of-service recommendations and incorporated them into the 2022 analysis, which is summarized in the 2022 Cost of Service Technical Memorandum (COS TM) and included as Appendix A. The 2022 cost-of-service analysis was approved by the SAWS Board and serves as the basis for the rate design study.

This report details the rate design recommendations for potable water, recycled water, and wastewater rates, which were approved by the SAWS Board and the City Council. It describes the methodology, analysis, rate design options and bill impacts for each customer class presented to the RAC, as well as the RAC's participation in the process.

1.2 Background

SAWS is one of the nation's largest municipally owned utilities. SAWS provides service to over 500,000 water customers and over 450,000 wastewater customers throughout portions of Bexar, Comal, Kendall, Medina, and Atascosa counties. SAWS operations and capital requirements are funded primarily from user charge revenues and impact fees; SAWS does not receive tax revenue. Impact fees are designed to cover the capital investment associated with new development so existing customers do not subsidize construction costs of expanding capacity for future customers.

1.3 RAC Recommendation Highlights

This report provides a review of the RAC process and recommendations, including the following key highlights:

- Recommended rates are forecast to provide sufficient revenue to meet 2022 rate revenue requirements.
- Recommended rates are revenue neutral, which means the rates are forecast to generate the same revenue as existing rates under the same customer account and usage assumptions.
- Recommended rates meet cost of service by customer class as detailed in the COS TM and summarized in Chapter 4 of this report. This means each customer class pays for the costs attributed to them through the cost-of-service analysis.
- 83 percent of residential customers will see a reduction in their water bills, and 100 percent of residential customers will see a reduction in their wastewater bills.

- The combined water and wastewater bill for residential essential use (5,062 gallons per month) will decrease by 8.4 percent.
- Fixed charges will decrease by more than 20 percent for most residential customers.
- A separate rate structure with reduced rates will replace the current affordability discount program (Uplift) to acknowledge that low-income households may use more water due to large household size and/or older plumbing.
- All customers enrolled in the current affordability discount program will see a reduction in their bill under the proposed affordability rates with reductions ranging from 33 percent to 57 percent for essential water use (5,277 gallons per month).
- Reduced fixed charges for the general class will benefit small businesses and low-usage customers.
- Tying the tier thresholds for the general class inclining block volumetric rate structure to the prior year average annual consumption ensures that customers with peak usage pay more per 1,000 gallons than customers with consistent usage.
- Inclining block rates for irrigation continue to send strong price signals for discretionary outdoor water usage.
- Recommended recycled water rate increases will begin to close the cost recovery gap over the next five years while still providing an affordable alternative to potable water.

1.4 Residential Class Rates

1.4.1 Recommended Residential Water Rates

SAWS staff and Carollo developed five alternative residential water rate structures for consideration by the RAC, two of which were quickly eliminated. The details of the three remaining options are presented in this report, and the RAC's recommendation is summarized below. The recommended rate structure consists of a two-tier fixed charge and a five-tier volumetric rate.

Table 1.1 presents the recommended monthly fixed charges for inside city limits (ICL) and outside city limits (OCL) customers. Customers with monthly usage that remains within the Tier 1 allotment pay the Tier 1 fixed charge. Customers with monthly usage that exceeds the Tier 1 allotment pay the Tier 2 fixed charge.

Table 1.1 Recommended Fixed Charges – Residential Water

| Meter Size | ICL Tier 1 Usage | ICL Tier 2+ Usage | OCL Tier 1 Usage | OCL Tier 2+ Usage |
|------------|------------------|-------------------|------------------|-------------------|
| 5/8" | \$9.00 | \$11.00 | \$11.70 | \$14.30 |
| 3/4" | 11.93 | 13.93 | 15.51 | 18.11 |
| 1" | 17.79 | 19.79 | 23.13 | 25.73 |
| 1½" | 32.44 | 34.44 | 42.18 | 44.78 |
| 2" | 50.02 | 52.02 | 65.03 | 67.63 |

Table 1.2 shows the recommended water supply and water delivery volumetric rates for ICL customers, as well as the recommended affordability program cost recovery rate. The recommended volumetric rate structure has five tiers. Customers pay a higher rate per 1,000 gallons as they enter each subsequent tier. For example, a customer with 3,000 gallons of usage in a month will pay \$2.697 per 1,000 gallons, or \$2.697 times 3, for the volumetric portion of the water bill. However, a customer with 6,000 gallons of usage in a month will pay \$2.697 per 1,000 gallons for the first 4,000 gallons and \$4.855 per 1,000 gallons for the next 2,000 gallons, or \$2.697 times 4 plus \$4.855 times 2, for the volumetric portion of the water bill.

Table 1.2 Recommended Volumetric Rates – Residential Water Inside City Limits

| Tier Usage Range (kgals) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Affordability Program Recovery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|--------------------------|--|-------------------|-----------------------------|-------------------------------|---|----------------------------|
| 0.000 – 4.000 | 52% | --- | \$1.631 | \$0.907 | \$0.159 | \$2.697 |
| 4.001 – 7.000 | 21% | 1.85x | 3.018 | 1.678 | 0.159 | 4.855 |
| 7.001 – 12.000 | 14% | 3.35x | 5.464 | 3.039 | 0.159 | 8.662 |
| 12.001 – 20.000 | 7% | 4.40x | 7.177 | 3.991 | 0.159 | 11.327 |
| 20.001+ | 6% | 6.25x | 10.194 | 5.669 | 0.159 | 16.022 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

Table 1.3 shows the recommended water supply and water delivery volumetric rates for OCL customers, as well as the recommended affordability program cost recovery rate.

Table 1.3 Recommended Volumetric Rates – Residential Water Outside City Limits

| Tier Usage Range (kgals) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Affordability Program Cost Recovery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|--------------------------|--|-------------------|-----------------------------|-------------------------------|--|----------------------------|
| 0.000 – 4.000 | 49% | --- | \$1.631 | \$1.180 | \$0.159 | \$2.970 |
| 4.001 – 7.000 | 21% | 1.85x | 3.018 | 2.182 | 0.159 | 5.359 |
| 7.001 – 12.000 | 15% | 3.35x | 5.464 | 3.951 | 0.159 | 9.574 |
| 12.001 – 20.000 | 8% | 4.40x | 7.177 | 5.189 | 0.159 | 12.525 |
| 20.001+ | 7% | 6.25x | 10.194 | 7.370 | 0.159 | 17.723 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

1.4.2 Recommended Residential Wastewater Rates

SAWS staff and Carollo developed one alternative rate structure for residential customers for consideration by the RAC, which the RAC recommends. Table 1.4 shows the recommended fixed charges for ICL and OCL customers, which are based on water meter size.

Table 1.4 Recommended Fixed Charges – Residential Wastewater

| Meter Size | ICL Monthly Fixed Charge | OCL Monthly Fixed Charge |
|------------|--------------------------|--------------------------|
| 5/8" | \$10.00 | \$12.00 |
| 3/4" | 13.89 | 16.67 |
| 1" | 21.66 | 26.00 |
| 1½" | 41.08 | 49.30 |
| 2" | 64.39 | 77.27 |

The recommended wastewater volumetric rate structure eliminates one tier and charges a rate per 1,000 gallons for all estimated wastewater flows, as shown for ICL customers in Table 1.5. The recommended affordability program cost recovery rate is also shown.

Table 1.5 Recommended Volumetric Rates – Residential Wastewater Inside City Limits

| Tier Volume Range (kgals) | % of Volume Billed in Tier ⁽¹⁾ | Tier Differential | Wastewater Rate (\$/kgal) | Affordability Program Recovery Rate (\$/kgal) | Total Wastewater Rate (\$/kgal) |
|---------------------------|---|-------------------|---------------------------|---|---------------------------------|
| 0.000 – 4.000 | 63% | --- | \$2.539 | \$0.161 | \$2.700 |
| 4.001+ | 37% | 1.75x | 4.444 | 0.161 | 4.601 |

Note:

(1) Percentage of volume billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

Table 1.6 shows the recommended wastewater volumetric rates for OCL customers, as well as the recommended affordability program cost recovery rate.

Table 1.6 Recommended Volumetric Rates – Residential Wastewater Outside City Limits

| Tier Volume Range (kgals) | % of Volume Billed in Tier ⁽¹⁾ | Tier Differential | Wastewater Rate (\$/kgal) | Affordability Program Recovery Rate (\$/kgal) | Total Wastewater Rate (\$/kgal) |
|---------------------------|---|-------------------|---------------------------|---|---------------------------------|
| 0.000 – 4.000 | 62% | --- | \$3.047 | \$0.161 | \$3.208 |
| 4.001+ | 38% | 1.75x | 5.333 | 0.161 | 5.494 |

Note:

(1) Percentage of volume billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

1.5 Affordability Program Rates

1.5.1 Recommended Affordability Program Water Rates

SAWS offers four levels of affordability bill discounts for residential customers through its current Uplift program based on household family size and income. Households with income at or below 125 percent of the Federal Poverty Level (FPL) are eligible to apply for a discount. SAWS staff and Carollo developed two alternative rate structures for qualified affordability program customers for consideration by the RAC, which came to a consensus on the recommended rate structure summarized below that would replace the current affordability discount program.

Table 1.7 shows the fixed charges for ICL and OCL.

Table 1.7 Proposed Fixed Charges – Affordability Water

| Meter Size | Usage Tier | ICL Monthly Fixed Charge | OCL Monthly Fixed Charge |
|------------|------------|--------------------------|--------------------------|
| All | Tier 1 | \$0.00 | \$0.00 |
| All | Tiers 2-5 | \$3.00 | \$3.90 |

The recommended volumetric rate structure includes five tiers to incentivize conservation and send a price signal to customers that may have a leak or otherwise high discretionary usage. Table 1.8 provides the recommended volumetric rates for ICL affordability program customers.

Table 1.8 Recommended Volumetric Rates – Affordability Water Inside City Limits

| Tier Usage Range (kgals) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|--------------------------|--|-------------------|-----------------------------|-------------------------------|----------------------------|
| 0.000 – 2.000 | 32% | --- | \$0.000 | \$0.000 | \$0.000 |
| 2.001 – 6.000 | 43% | --- | 1.650 | 1.000 | 2.650 |
| 6.001 – 10.000 | 16% | 1.50x | 2.475 | 1.500 | 3.975 |
| 10.001 – 15.000 | 6% | 2.50x | 4.125 | 2.500 | 6.625 |
| 15.001+ | 3% | 3.50x | 5.775 | 3.500 | 9.275 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

Table 1.9 shows the recommended volumetric rates for OCL affordability customers.

Table 1.9 Recommended Volumetric Rates – Affordability Water Outside City Limits

| Tier Usage Range (kgals) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|--------------------------|--|-------------------|-----------------------------|-------------------------------|----------------------------|
| 0.000 – 2.000 | 30% | --- | \$0.000 | \$0.000 | \$0.000 |
| 2.001 – 6.000 | 43% | --- | 1.650 | 1.300 | 2.950 |
| 6.001 – 10.000 | 16% | 1.50x | 2.475 | 1.950 | 4.425 |
| 10.001 – 15.000 | 7% | 2.50x | 4.125 | 3.250 | 7.375 |
| 15.001+ | 4% | 3.50x | 5.775 | 4.550 | 10.325 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

1.5.2 Recommended Affordability Program Wastewater Rates

The RAC recommended to replace the current wastewater affordability discount program with a separate rate structure that provides discounted rates for qualified affordability program customers. The recommended volumetric rate structure includes two tiers with no charge for Tier 1 volume, which is up to 2,000 gallons per month.

Table 1.10 provides the recommended volumetric rates for ICL and OCL affordability program customers.

Table 1.10 Recommended Volumetric Rates – Affordability Wastewater

| Tier Volume Range (kgals) | % of Volume Billed in Tier ⁽¹⁾ | Tier Differential | ICL Rate (\$/kgal) | OCL Rate (\$/kgal) |
|---------------------------|---|-------------------|--------------------|--------------------|
| 0.000 – 2.000 | 35%/32% | --- | \$0.000 | \$0.000 |
| 2.001+ | 65%/68% | --- | 2.700 | 3.240 |

Note:

(1) Percentage of volume billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020. First percentage shown in each row is for inside city limits customers, and second percentage is for outside city limits customers.

1.6 General Class Rates

1.6.1 Recommended General Class Water Rates

The RAC recommends maintaining the existing four-tier rate structure with updated rates to reflect cost of service, which are summarized below.

Table 1.11 shows the recommended fixed charges for ICL and OCL general class customers.

Table 1.11 Recommended Fixed Charges – General Class Water

| Meter Size | ICL Monthly Fixed Charge | OCL Monthly Fixed Charge |
|------------|--------------------------|--------------------------|
| 5/8" | \$12.70 | \$16.00 |
| 3/4" | 16.48 | 20.66 |
| 1" | 24.04 | 29.98 |
| 1½" | 42.94 | 53.28 |
| 2" | 65.62 | 81.23 |
| 3" | 126.10 | 155.77 |
| 4" | 194.14 | 239.64 |
| 6" | 383.14 | 472.59 |
| 8" | 609.94 | 752.13 |
| 10" | 761.14 | 938.49 |
| 12" | 1,063.54 | 1,311.21 |

Table 1.12 shows the recommended volumetric rates calculated under the existing four-tier structure, which is based on a percentage of each customer's prior year Average Annual Consumption (AAC) or base usage.

Table 1.12 Recommended Volumetric Rates – General Class Water Inside City Limits

| Tier Breakpoint (% of AAC) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Affordability Program Recovery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|----------------------------|--|-------------------|-----------------------------|-------------------------------|---|----------------------------|
| 100% | 83% | --- | \$3.079 | \$1.958 | \$0.159 | \$5.196 |
| 125% | 7% | 1.15x | 3.541 | 2.252 | 0.159 | 5.952 |
| 175% | 4% | 1.50x | 4.619 | 2.937 | 0.159 | 7.715 |
| 175%+ | 6% | 1.75x | 5.389 | 3.427 | 0.159 | 8.975 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

Table 1.13 shows the detail of the volumetric rates for OCL general class customers.

Table 1.13 Recommended Volumetric Rates – General Class Water Outside City Limits

| Tier Breakpoint (% of AAC) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Affordability Program Recovery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|----------------------------|--|-------------------|-----------------------------|-------------------------------|---|----------------------------|
| 100% | 80% | --- | \$3.079 | \$2.546 | \$0.159 | \$5.784 |
| 125% | 7% | 1.15x | 3.541 | 2.928 | 0.159 | 6.628 |
| 175% | 5% | 1.50x | 4.619 | 3.819 | 0.159 | 8.597 |
| 175%+ | 8% | 1.75x | 5.389 | 4.456 | 0.159 | 10.004 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

1.6.2 Recommended General Class Wastewater Rates

Table 1.14 shows the recommended fixed charges for the general class, which are assessed based on the customer's water meter size.

Table 1.14 Recommended Fixed Charges – General Class Wastewater

| Meter Size | Inside City Limits | Outside City Limits |
|------------|--------------------|---------------------|
| 5/8" | \$10.00 | \$12.00 |
| 3/4" | 13.89 | 16.67 |
| 1" | 21.66 | 26.00 |
| 1½" | 41.08 | 49.30 |
| 2" | 64.39 | 77.27 |
| 3" | 126.55 | 151.86 |
| 4" | 196.48 | 235.78 |
| 6" | 390.73 | 468.88 |
| 8" | 623.83 | 748.60 |
| 10" | 779.23 | 935.08 |
| 12" | 1,090.03 | 1,308.04 |

The recommended wastewater volumetric rate structure is a single-tier uniform rate, as shown in Table 1.15.

Table 1.15 Recommended Volumetric Rates – General Class Wastewater

| Tier Volume Range (kgals) | Affordability Program Recovery Rate (\$/kgal) | ICL Wastewater Rate (\$/kgal) | Total ICL Wastewater Rate (\$/kgal) | OCL Wastewater Rate (\$/kgal) | Total OCL Wastewater Rate (\$/kgal) |
|---------------------------|---|-------------------------------|-------------------------------------|-------------------------------|-------------------------------------|
| All | \$0.161 | \$4.368 | \$4.529 | \$5.242 | \$5.403 |

1.7 Irrigation Class Water Rates

The RAC agreed to maintain the existing four-tier rate structure with updated rates to reflect cost of service, which are summarized below.

Table 1.16 shows the recommended fixed charges for ICL and OCL irrigation customers.

Table 1.16 Recommended Fixed Charges – Irrigation Water

| Meter Size | ICL Monthly Fixed Charge | OCL Monthly Fixed Charge |
|------------|--------------------------|--------------------------|
| 5/8" | \$12.70 | \$16.00 |
| 3/4" | 16.48 | 20.66 |
| 1" | 24.04 | 29.98 |
| 1½" | 42.94 | 53.28 |
| 2" | 65.62 | 81.23 |
| 3" | 126.10 | 155.77 |
| 4" | 194.14 | 239.64 |
| 6" | 383.14 | 472.59 |
| 8" | 609.94 | 752.13 |
| 10" | 761.14 | 938.49 |
| 12" | 1,063.54 | 1,311.21 |

Table 1.17 shows the recommended volumetric rates calculated under the existing four-tier volumetric rate structure with minor adjustments to the tier breakpoints, so they are in 1,000-gallon increments rather than 100-cubic foot increments.

Table 1.17 Recommended Volumetric Rates – Irrigation Water Inside City Limits

| Tier Usage Range (kgals) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Affordability Program Recovery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|--------------------------|--|-------------------|-----------------------------|-------------------------------|---|----------------------------|
| 0.000 – 8.000 | 14% | --- | \$3.813 | \$3.475 | \$0.159 | \$7.447 |
| 8.001 – 18.000 | 11% | 1.40x | 5.339 | 4.865 | 0.159 | 10.363 |
| 18.001 – 160.000 | 51% | 1.80x | 6.864 | 6.255 | 0.159 | 13.278 |
| 160.001+ | 24% | 2.30x | 8.770 | 7.993 | 0.159 | 16.922 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

Table 1.18 shows the detail of the volumetric rates for OCL irrigation customers.

Table 1.18 Recommended Volumetric Rates – Irrigation Water Outside City Limits

| Tier Usage Range (kgals) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Affordability Program Recovery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|--------------------------|--|-------------------|-----------------------------|-------------------------------|---|----------------------------|
| 0.000 – 8.000 | 14% | --- | \$3.813 | \$4.518 | \$0.159 | \$8.490 |
| 8.001 – 18.000 | 11% | 1.40x | 5.339 | 6.325 | 0.159 | 11.823 |
| 18.001 – 160.000 | 51% | 1.80x | 6.864 | 8.132 | 0.159 | 15.155 |
| 160.001+ | 24% | 2.30x | 8.770 | 10.391 | 0.159 | 19.320 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

1.8 Recycled Water Rates

The RAC agreed with the 2019 RAC's recommendation, which included a proposed 15 percent rate increase in Year 1 followed by proposed 10 percent annual rate increases in Years 2 through 5. The resulting recommendations for Year 1 are presented below.

Table 1.19 provides the recommended fixed charges, which are the same for Edwards Exchange and Non-Edwards Exchange recycled water customers.

Table 1.19 Recommended Fixed Charges – Recycled Water

| Meter Size | Edwards Exchange | Non-Edwards Exchange |
|------------|------------------|----------------------|
| 5/8" | \$16.92 | \$16.92 |
| 3/4" | 22.00 | 22.00 |
| 1" | 28.69 | 28.69 |
| 1½" | 45.57 | 45.57 |
| 2" | 66.62 | 66.62 |
| 3" | 177.21 | 177.21 |
| 4" | 263.40 | 263.40 |
| 6" | 502.44 | 502.44 |
| 8" | 757.37 | 757.37 |
| 10" | 1,038.52 | 1,038.52 |
| 12" | 1,281.36 | 1,281.36 |

The recommended volumetric rate structure for Edwards Exchange customers is unchanged, but the proposed rates have been increased by 15 percent, as shown in Table 1.20.

Table 1.20 Recommended Volumetric Rates – Edwards Exchange Recycled Water

| Tier Description | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential ⁽²⁾ | Standard Rate (\$/kgal) | Seasonal Rate (\$/kgal) |
|-----------------------|--|----------------------------------|-------------------------|-------------------------|
| Transferred Amount | 100% | --- | \$0.446 | \$0.446 |
| In Excess of Transfer | 0% | 3.75x/4.00x | 1.670 | 1.774 |

Notes:

(1) Analysis assumes Edwards Exchange recycled water customers do not exceed transferred amount.

(2) First differential shown is for the standard rates, and second differential is for the seasonal rates.

The recommended volumetric rate structure for Non-Edwards Exchange customers is unchanged, but the proposed rates have been increased by 15 percent, as shown in Table 1.21.

Table 1.21 Existing 2022 Volumetric Rates – Non-Edwards Exchange Recycled Water

| Tier Volume Range (kgals) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential ⁽²⁾ | Standard Rate (\$/kgal) | Seasonal Rate (\$/kgal) |
|---------------------------|--|----------------------------------|-------------------------|-------------------------|
| 0.000 – 748.000 | 29%/20% | --- | \$1.786 | \$1.921 |
| 748.001+ | 71%/80% | 1.02x/1.01x | 1.827 | 1.937 |

Notes:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020. First percentage shown is for the standard rates, and second percentage is for the seasonal rates.

(2) First differential shown is for the standard rates, and second differential is for the seasonal rates.

1.9 Wholesale Water and Wastewater Rates

1.9.1 Recommended Wholesale Class Water Rates

SAWS staff and Carollo developed a recommendation for wholesale class water rates that maintains the existing two-tier rate structure with a reduced tier differential. This was presented to the RAC, and no objections to staff's recommendation were expressed by RAC members. Table 1.22 shows the recommended fixed charges for wholesale water.

Table 1.22 Recommended Fixed Charges – Wholesale Water

| Meter Size | Fixed Charge |
|------------|--------------|
| 6" | \$298.14 |
| 8" | 473.94 |
| 10" | 591.14 |
| 12" | 825.54 |

SAWS staff and Carollo recommend maintaining the existing two-tier volumetric rate structure, which is based on a percentage of each customer's prior year AAC or base usage. The recommended rates are shown in Table 1.23.

Table 1.23 Recommended Volumetric Rates – Wholesale Water

| Tier Breakpoint (% of AAC) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|----------------------------|--|-------------------|-----------------------------|-------------------------------|----------------------------|
| 100% | 100% | --- | \$3.567 | \$2.723 | \$6.290 |
| 100%+ | 0% | 2.00x | 7.134 | 5.446 | 12.580 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

1.9.2 Recommended Wholesale Class Wastewater Rates

SAWS staff and Carollo recommend maintaining the existing rate structure for wholesale wastewater. The recommended rates were calculated using the final wholesale wastewater cost of service, as shown in Table 1.24.

Table 1.24 Recommended Wholesale Wastewater Fixed Charge and Volumetric Rate

| Description | Charge |
|---------------------------|----------|
| Fixed Monthly Charge | \$340.07 |
| Volumetric Rate (\$/kgal) | \$4.256 |

Chapter 2

INTRODUCTION

2.1 Study Background

SAWS is one of the nation's largest municipally owned utilities. SAWS provides service to over 500,000 water customers and over 450,000 wastewater customers throughout portions of Bexar, Comal, Kendall, Medina, and Atascosa counties. SAWS operations and capital requirements are funded primarily from user charge revenues and impact fees; SAWS does not receive tax revenue. Impact fees are designed to cover the capital investment associated with new development so existing customers do not subsidize construction costs of expanding capacity for future customers.

SAWS reviews rates annually by updating its financial planning models and reviews its rate structure approximately every five years by completing a cost of service and rate design study. Rates vary by customer class and recover the costs associated with providing service to that class, as approved by the Board. The cost-of-service process determines the allocation of revenue requirements to be recovered from each customer class based on the costs they impose on the utility. The computed cost allocations may be modified to achieve specific policy objectives. Any such changes are made via beneficial reallocation and must be approved by the Board as part of its cost-of-service approval process.

The last completed rate study was conducted in 2015 by an outside consultant. In 2019, SAWS initiated a new rate study by an outside consultant, but it was suspended in March 2020 due to the COVID-19 pandemic. The initial cost-of-service findings were reviewed by the SAWS RAC in early 2020, an advisory group appointed by the Board. In September 2021, the Board engaged Carollo to conduct a comprehensive Study. Carollo Engineers began the Study in October 2021.

The Study objectives include:

- Updating the 2019 cost-of-service analysis based on the 2022 budget and assessing the customer class cost of service compared to revenue generated from existing rates by each class.
- Developing new models to support the cost-of-service analysis and rate design alternatives.
- Engaging the Rate Advisory Committee to review the existing rate design and recommend any changes to the Board.

The Study reviewed the effectiveness of the current rate structures while considering customer affordability, revenue stability, conservation targets, and changing weather conditions. SAWS staff and Carollo worked simultaneously with the RAC to share data to assist the RAC in analyzing rate design alternatives for recommendation to the Board. This report provides rate design recommendations for water delivery, water supply, recycled water, and wastewater services.

2.2 Methodology

A cost-of-service rate study is composed of three phases, as shown in Figure 2.1.

SAWS established a 2022 budget prior to this Rate Study, which Carollo reviewed to identify and categorize the line items that make up the annual rate revenue requirements. The revenue requirements were used to conduct the Cost of Service and Rate Design components of the Study.

The second phase of the rate study takes the total revenue requirements and allocates them to the customer classes. To allocate costs, Carollo used a methodology consistent with the American Water Works Association's (AWWA) *Principles of Water Rates, Fees, and Charges M1 Manual* (M1 Manual) and the Water Environment Federation's (WEF) *Manual of Practice 27: Financing and Charges for Wastewater Systems* (MOP27), which are both water and wastewater industry guidelines for rate-setting.

First, the revenue requirements are allocated to functional categories and rate components.

Then a unit cost is calculated for each rate component. Finally, the unit costs are applied to allocate costs to the customer classes based on how those classes are consuming water and contributing wastewater. The cost-of-service analysis is detailed in the corresponding 2022 COS TM, published in February 2022 and included as Appendix A.

As discussed in the 2022 COS TM, Carollo analyzed actual customer billing data from 2018, 2019, and 2020 to determine the average percentage of usage in each tier by customer class. The distribution of usage among the tiers was applied to the 2022 forecasted usage by customer class to estimate the 2022 usage within each tier.

The final phase, Rate Design and Calculation, involves developing a rate structure that equitably and proportionately recovers costs from customers. This rate equity is built upon each customer's relative use of the system, as established in the COS TM. The rate structure must be tailored to SAWS' unique operation and customers. The existing rate structures are relatively complex compared to those assessed by other Texas utilities. Both the water and wastewater rate structures are comprised of fixed and variable rates, separate for inside and outside city customers, as well as lifeline rates and an affordability program. The recycled water rate structure has contracted volumes based on different types of usage and is also comprised of fixed and variable rates.

The rate design process is intended to quantify the nexus between the revenue requirements determined by the 2022 Budget and the final rates that customers are charged. This process connects planned expenditures to the designed rates by establishing rates to match the estimated revenue generation with expenditures.

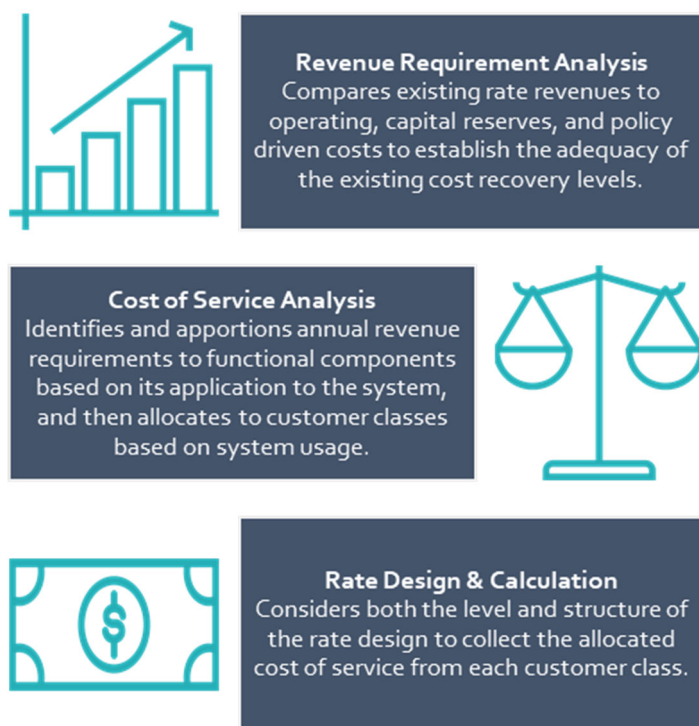


Figure 2.1 Conceptual Overview of the Rate Setting Process

2.3 Rate Study Timeline

The rate study timeline is outlined below.

October – December 2021: Completed customer data analysis, established assumptions and projections, developed cost of service model, and determined cost of service allocations.

January 2022: Presented RAC Bylaws to Board for approval, briefed Board on preliminary cost of service findings (water).

February 2022: Presented RAC membership to Board for approval, briefed Board on preliminary cost of service findings (wastewater), finalized COS TM.

March 2022: Presented final cost of service (water & wastewater) to Board for approval.

February – June 2022: Facilitated seven Rate Advisory Committee meetings to develop recommended rate design.

July – August 2022: Present RAC recommendations to Board.

August – November 2022: Conduct Public Outreach.

November 2022: Present rate structure recommendations to Board for consideration and approval, present Board-approved rate structure recommendations to Council for consideration and approval.

January 2023: Implement approved rate structure changes.

Chapter 3

RATE ADVISORY COMMITTEE

3.1 Public Involvement

The Board appoints a twenty-one-member RAC in synchronization with the rate study as a special purpose advisory group providing valuable insight to the Board about rate design scenarios, considerations, and recommendations.

The RAC is advisory in nature and created to provide community input into the development of the rate structure. The RAC is charged with two primary objectives:

- Evaluate rate structure alternatives from the perspective of the community and provide feedback to SAWS staff and the Board based on that perspective.
- Provide recommendations to SAWS staff and Board on the structure of the rate design for water delivery, water supply, recycled water, and wastewater operations.

RAC meetings provide multiple opportunities for stakeholder and community input to the rate design study. This structure facilitates transparency and ensures that rates are developed to recover the cost of providing utility service while also reflecting SAWS' values and the objectives of the community.

The RAC is part of a larger rate study team which is comprised of the City of San Antonio City Council, the SAWS Board of Trustees, SAWS staff, and the Carollo consulting team. Carollo worked with SAWS staff and the RAC to analyze data and make appropriate recommendations. The SAWS Board of Trustees is ultimately responsible for ensuring SAWS is managed effectively and considers the recommendations submitted by the RAC. The Board of Trustees will then submit their recommendations to the San Antonio City Council, who will have the final approval of the SAWS rate and rate structure recommendations.

3.2 Membership

Membership of the Rate Advisory Committee reflects a representation of customers within SAWS' service territory. The twenty-one-member committee was appointed by the Board in early 2022, with ten of its members nominated by each member of the San Antonio City Council. Each RAC member represents a constituency to help open the lines of communication between the community and SAWS Management and the Board of Trustees.

SAWS requested nominations from San Antonio City Council members, neighborhood associations, chambers of commerce, and business associations to appoint RAC members to represent the utility's service area and customers including:

- City Council districts within the SAWS service area.
- Customers outside the San Antonio city limits within the SAWS service area.
- Each water and wastewater rate class, to include Affordability Program customers, high-water use customers, and wholesale customers.
- Neighborhood associations.
- Multi-family customers.
- Recycled water customers.

- Large and small businesses.
- Environmental and community advocacy groups.

The Chair of the RAC is Frances A. Gonzalez. Ms. Gonzalez was nominated by the SAWS President/CEO and approved by the Board of Trustees, as stated in the Bylaws of the San Antonio Water System Rate Advisory Committee.

Table 3.1 lists the RAC members who were nominated by City Council.

Table 3.1 City Council Nominees to the 2022 Rate Advisory Committee

| City Council District | RAC Member |
|-----------------------|--------------------------------------|
| 1 | Christine Drennon |
| 2 | Velma Willoughby-Kemp ⁽¹⁾ |
| 3 | Karen Burgard |
| 4 | Genevieve Trinidad ⁽¹⁾ |
| 5 | Alfred Montoya |
| 6 | Ramiro Cabrera ⁽¹⁾ |
| 7 | James Smyle ⁽¹⁾ |
| 8 | Patricia Wallace ⁽¹⁾ |
| 9 | Joseph Yakubik ⁽¹⁾ |
| 10 | Vaughn Caudill |

Note:

(1) Served on 2019 RAC.

Table 3.2 lists the RAC members who were nominated by other community groups and the customers they represent.

Table 3.2 Other Nominees to the 2022 Rate Advisory Committee

| Nominating Group | RAC Member | Customer Representation |
|-------------------------------|---------------------------------|------------------------------|
| Hispanic Chamber of Commerce | Steve Alaniz | Commercial |
| SAWS Staff | Mike Chapline ⁽¹⁾ | OCL Residential |
| SAWS Staff | Jeff Harris | Recycled Water |
| Chamber of Commerce | Cacie Madrid | Commercial |
| SA Restaurant Assn. | Steve Richmond ⁽¹⁾ | Commercial – Restaurants |
| SA Hotel & Lodging Assn. | Tamara Benavides ⁽¹⁾ | Commercial – Hotel & Lodging |
| SA Manufacturers Assn. | Patrick Garcia ⁽¹⁾ | Commercial/Industrial |
| Balcones Heights | Steven Lara ⁽¹⁾ | Wholesale |
| SA Apartment Assn. | Allyson McKay | Multi-family |
| Northside Chamber of Commerce | Preston Woolfolk | Commercial |

Note:

(1) Served on 2019 RAC.

3.3 Purpose & Oversight

The RAC adopted the following mission statement:

The mission of the Rate Advisory Committee is to assemble a diversity of perspectives that represent our community to evaluate and make recommendations on the water, sewer, and recycled water rate structures.

The RAC provides rate design recommendations to the Board regarding the rate structures for water delivery, water supply, recycled water, and wastewater services. Recommendations shall be:

- Designed to fully recover the revenue requirements identified by SAWS rate consultant.
- In accordance with industry standards.
- Based on the cost-of-service allocations developed by the SAWS rate consultant and approved by the SAWS Board of Trustees.

The RAC's roles and responsibilities were reviewed at the first RAC meeting and include:

- Attend all meetings.
- Be respectful of others' views and input.
- Act as a representative for the study to fellow community members.
- Remain accessible to the project team for follow-up as needed.

The RAC Chair also reviewed the Committee's rules of engagement, which include:

- Be respectful of the ideas of others to include the public and members of the committee.
- Members represent a variety of backgrounds, personalities, values, and opinions.
- Tangent topics and questions will be tabled until all the meeting items are covered.
- Share responsibility for making the discussion constructive.

The RAC members attended seven meetings from February through June, and all meeting materials are available on SAWS' website at www.saws.org/rac. In addition, minutes from these meetings are included in Appendix B of this report.

3.4 Rate Study Priorities and Pricing Objectives

One of the foundations of the rate setting process is the establishment of pricing objectives and the prioritization of these objectives. The 2019 RAC spent considerable time identifying, defining, and ranking pricing objectives. The 2022 RAC was encouraged to review those pricing objectives and recommend changes to the rankings as needed.

3.4.1 Definitions of Pricing Objectives

The following definitions for the pricing objectives were established by the 2019 RAC. The 2022 RAC did not recommend any changes to these definitions.

Affordability: Customers are able to afford the essential water and sewer services provided by SAWS.

Conservation: A pricing structure that encourages reductions in discretionary water usage and the efficient use of water.

Minimization of Customer Impacts/Rate Stability: Avoid large changes to customers' bills; rates are predictable and stable.

Revenue Stability: Rate structure results in revenue that is predictable and stable; avoids volatile swings in revenues.

Simple to Understand: Rate structure should be simple for customer to understand; promote easy communication with customers and stakeholders.

Equity: A rate structure that incorporates the City of San Antonio's (CoSA) definition of equity: "Equity means that our policymaking, service delivery, and distribution of resources account for the different histories, challenges, and needs of the people we serve. Racial equity means we eliminate racial disproportionalities so that race can no longer be used to predict success, and we increase the success of all communities."

Drought Management: Strong price signals sent to customers to achieve water use reductions during drought stages.

Practicality of Implementation: The implementation of a rate structure that is compatible with the existing billing system.

3.4.2 Prioritization of Pricing Objectives

The 2019 RAC spent several meetings discussing the pricing objectives and how to best prioritize them. Table 3.3 shows the 2019 RAC's ranking of the pricing objectives.

Table 3.3 2019 RAC's Prioritization of Pricing Objectives

| Priority | Ranking | Objective |
|-----------------|---------|--|
| Essential | 1 | Affordability |
| | 2 | Conservation |
| Very Important | 3 | Minimize Customer Impacts/Rate Stability |
| | 4 | Cost of Service Based Allocations |
| | 5 | Revenue Stability |
| Important | 6 | Simple to Understand |
| | 7 | Equity |
| | 8 | Drought Management |
| Least Important | 9 | Practicality of Implementation |

The 2022 RAC was asked to review and consider the pricing objectives identified by the 2019 RAC, as well as their rankings. Cost of Service Based Allocations was removed as an objective since the Board directed the 2022 RAC to base their rate recommendations on the cost-of-service analysis performed by Carollo and approved by the Board.

The 2022 RAC discussed the prioritized pricing objectives during a meeting, and each RAC member submitted their recommended rankings. SAWS staff tallied the submitted rankings from each RAC member and presented the resulting prioritization, as shown in Table 3.4.

Table 3.4 2022 RAC's Prioritization of Pricing Objectives

| Priority | Ranking | Objective |
|-----------------|---------|--|
| Essential | 1 | Affordability |
| | 2 | Minimize Customer Impacts/Rate Stability |
| Very Important | 3 | Conservation |
| | 4 | Revenue Stability |
| | 5 | Equity |
| Important | 6 | Drought Management |
| | 7 | Simple to Understand |
| Least Important | 8 | Practicality of Implementation |

Chapter 4

SUMMARY OF COST-OF-SERVICE ANALYSIS

The cost-of-service analysis serves as a rational basis for distributing the full costs of SAWS' services to each customer class in proportion to the demands placed on the system. The analysis is typically completed in three steps:

1. Allocate costs to functional categories (e.g., water production, pumping, collection system).
2. Allocate functionalized costs to rate components:
 - a. Water – base, extra capacity, customer.
 - b. Wastewater – flow, loadings, customer.
3. Allocate costs to customer classes using rate component unit costs.

The study followed this approach to develop a detailed cost allocation that serves as the basis for any changes to the rates. This analysis yielded an appropriate method for allocating costs, which is sustainable unless substantial changes in cost drivers or customer consumption patterns occur.

The 2022 COS TM, included as Appendix A, details the methodology and calculations used to establish the revenue requirements allocated to each customer class. The focus of that process is to achieve full cost recovery as well as to substantiate that customers pay their fair and proportionate share of system costs.

This report was prepared following completion of the cost-of-service analysis and prior to the onset of meetings with the 2022 RAC with the understanding that the 2022 RAC may make decisions that would impact the initial cost of service analysis performed by Carollo. Carollo was directed by the Board to update the cost-of-service analysis to reflect the recommendations made by the RAC related to rates charged to low-income customers and recycled water rates. This chapter presents the final cost of service results, which reflect the following recommendations made by the RAC:

- The RAC recommendation to increase to Recycled Water rates by 15 percent.
- The RAC recommendation to create a separate rate structure for qualified low-income customers, the cost of which would be recovered through an affordability program cost recovery rate.

In addition to the changes resulting from these RAC recommendations, SAWS negotiated a new recycled water contract with the City of San Antonio that will increase existing Recycled Water revenue by \$862,998 before the 15 percent rate increase recommended by the RAC. This additional Recycled Water revenue required further adjustments to the cost-of-service analysis.

The increased revenue from the CoSA contract and the recycled water rate increase results in additional beneficial reallocations as described in the 2022 COS TM, which are included in the final results presented in this chapter.

The cost of the current Uplift Program discount is recovered through the cost-of-service rates. Since this discount will be replaced by the recommended affordability rate structure, the cost of the current program is removed from the cost-of-service analysis. This reduces the cost of service for each customer class, as well as the budgeted revenue by class. This is reflected in the final cost of service results presented in this chapter.

4.1 Water System

The cost-of-service analysis is consistent with the AWWA M1 Manual, standard methods to allocate the revenue requirements among the various customer classes based on their usage characteristics.

4.1.1 Water Supply

Table 4.1 summarizes the updated results of the water supply cost-of-service analysis before beneficial reallocation.

Table 4.1 2022 Water Supply Cost of Service by Customer Class

| Customer Class | Cost-of-Service | Budgeted Revenue | Difference (\$) | Difference (%) |
|-----------------------------|----------------------|----------------------|-----------------|----------------|
| Residential | \$149,304,758 | \$148,042,534 | \$1,262,224 | 0.9% |
| General ⁽²⁾ | 90,049,083 | 83,199,695 | 6,849,388 | 8.2% |
| Irrigation | 16,720,483 | 30,970,570 | (14,250,087) | (46.0%) |
| Wholesale | 1,398,942 | 1,443,381 | (44,439) | (3.1%) |
| Recycled Water | 9,167,915 | 2,985,000 | 6,182,915 | 207.1% |
| TOTAL ⁽¹⁾ | \$266,641,180 | \$266,641,180 | \$0 | 0.0% |

Notes:

(1) Totals may not sum due to rounding.

(2) General includes Multi-family, Commercial, and Industrial.

4.1.1.1 Beneficial Reallocation of Costs

The beneficial reallocation of costs, discussed in detail in Section 3.4 of the 2022 COS TM, was updated to reflect the updated cost of service and is shown in Table 4.2 with the final water supply cost of service results.

Table 4.2 Water Supply Beneficial Reallocation

| Customer Class | 2022 Calculated Cost of Service | Recycled Water Reallocation | Irrigation Reallocation | 2022 Final Cost of Service | Difference (%) ⁽³⁾ |
|-----------------------------|---------------------------------|-----------------------------|-------------------------|----------------------------|-------------------------------|
| Residential | \$149,304,758 | \$2,979,930 | (\$6,055,825) | \$146,228,862 | (1.2%) |
| General ⁽²⁾ | 90,049,083 | 0 | (3,331,920) | 86,717,163 | 4.2% |
| Irrigation | 16,720,483 | 1,762,787 | 9,440,042 | 27,923,312 | (9.8%) |
| Wholesale | 1,398,942 | 0 | (52,297) | 1,346,645 | (6.7%) |
| Recycled Water | 9,167,915 | (4,742,717) | 0 | 4,425,198 | 48.2% |
| TOTAL ⁽¹⁾ | \$266,641,180 | \$0 | \$0 | \$266,641,180 | |

Notes:

(1) Totals may not sum due to rounding.

(2) General includes Multi-family, Commercial, and Industrial.

(3) Difference between 2022 Final Cost of Service and Budgeted Revenue (Table 4.1).

4.1.2 Water Delivery

Table 4.3 summarizes the final results of the water delivery cost-of-service analysis.

Table 4.3 2022 Water Delivery Cost of Service by Customer Class

| Customer Class | Cost-of-Service | Budgeted Revenue | Difference (\$) | Difference (%) |
|-----------------------------|----------------------|----------------------|-----------------|----------------|
| Residential | \$134,443,054 | \$137,028,111 | (\$2,585,057) | (1.9%) |
| General ⁽²⁾ | 66,069,186 | 66,740,749 | (671,563) | (1.0%) |
| Irrigation | 28,259,759 | 25,212,501 | 3,047,258 | 12.1% |
| Wholesale | 1,051,432 | 842,070 | 209,362 | 24.9% |
| TOTAL ⁽¹⁾ | \$229,823,431 | \$229,823,431 | \$0 | 0.0% |

Notes:

(1) Totals may not sum due to rounding.

(2) General includes Multi-family, Commercial, and Industrial.

4.1.3 Total Water System

Table 4.4 summarizes the final results of the total water system cost-of-service analysis, combining water supply and water delivery, and including the updated beneficial reallocation of costs.

Table 4.4 2022 Total Water Cost-of-Service by Customer Class

| Customer Class | Cost-of-Service ⁽³⁾ | Budgeted Revenue | Difference (\$) | Difference (%) |
|-----------------------------|--------------------------------|----------------------|-----------------|----------------|
| Residential | \$280,671,916 | \$285,070,646 | (\$4,398,730) | (1.5%) |
| General ⁽²⁾ | 152,786,349 | 149,940,444 | 2,845,905 | 1.9% |
| Irrigation | 56,183,071 | 56,183,071 | 0 | 0.0% |
| Wholesale | 2,398,077 | 2,285,450 | 112,627 | 4.9% |
| Recycled Water | 4,425,198 | 2,985,000 | 1,440,198 | 48.2% |
| TOTAL ⁽¹⁾ | \$496,464,611 | \$496,464,611 | \$0 | 0.0% |

Notes:

(1) Totals may not sum due to rounding.

(2) General includes Multi-family, Commercial, and Industrial.

(3) Cost-of-service shown includes beneficial reallocation, as discussed in Section 3.4 of the 2022 Cost of Service Technical Memorandum.

4.2 Wastewater Cost of Service

The cost-of-service analysis is consistent with the WEF MOP 27, standard methods to allocate the revenue requirements among the various customer classes based on their wastewater contributions. The final results of the wastewater cost-of-service analysis are summarized in Table 4.5.

Table 4.5 2022 Wastewater Cost-of-Service by Customer Class

| Customer Class | Cost-of-Service | Budgeted Revenue | Difference (\$) | Difference (%) |
|-----------------------------|----------------------|----------------------|-----------------|----------------|
| Residential | \$153,486,460 | \$164,480,244 | (\$10,993,783) | (6.7%) |
| General ⁽²⁾ | 110,335,885 | 98,537,207 | 11,798,678 | 12.0% |
| Wholesale | 11,611,699 | 11,895,651 | (283,951) | (2.4%) |
| Surcharge | 5,364,764 | 5,885,707 | (520,943) | (8.9%) |
| TOTAL ⁽¹⁾ | \$280,798,808 | \$280,798,808 | \$0 | 0.0% |

Notes:

(1) Totals may not sum due to rounding.

(2) General includes Multi-family, Commercial, and Industrial.

Chapter 5

RESIDENTIAL WATER AND WASTEWATER RATES

5.1 Water Rate Design

5.1.1 Existing Rates

SAWS' existing residential water rates have been in place since January 1, 2020, and include monthly fixed charges based on meter size and tiered volumetric rates for water supply and water delivery. The volumetric rate structure consists of eight tiers, increasing the rate per 1,000 gallons as a customer uses more water.

Fixed Charges. The existing fixed charges for customers located inside the city limits are shown below in Table 5.1. For customers with usage exceeding the Tier 1 allotment, an additional \$2.57 per month is added to the fixed charge. Customers with monthly usage that remains within the Tier 1 allotment pay the Tier 1 fixed charge. Customers with monthly usage that exceeds the Tier 1 allotment pay the Tier 2 fixed charge.

Table 5.1 Existing 2022 Fixed Charges – Residential Water Inside City Limits

| Meter Size | Tier 1 Usage | Tier 2+ Usage |
|------------|--------------|---------------|
| 5/8" | \$10.25 | \$12.82 |
| 3/4" | 14.40 | 16.97 |
| 1" | 22.65 | 25.22 |
| 1½" | 43.28 | 45.85 |
| 2" | 68.01 | 70.58 |

The existing fixed charges for customers located outside the city limits are shown below in Table 5.2. A multiplier of 1.3x is applied to the ICL fixed charges to determine the OCL fixed charges. For customers with usage exceeding the Tier 1 allotment, an additional \$3.34 per month is added to the fixed charge.

Table 5.2 Existing 2022 Fixed Charges – Residential Water Outside City Limits

| Meter Size | Tier 1 Usage | Tier 2+ Usage |
|------------|--------------|---------------|
| 5/8" | \$13.33 | \$16.67 |
| 3/4" | 18.72 | 22.06 |
| 1" | 29.45 | 32.79 |
| 1½" | 56.27 | 59.61 |
| 2" | 88.41 | 91.75 |

Volumetric Rates. Table 5.3 shows the existing water supply and water delivery volumetric rates for customers located inside the city limits. The existing volumetric rate structure has eight tiers. Customers pay a higher rate per 1,000 gallons as they enter each subsequent tier. For example, a customer with 2,000 gallons of usage in a month will pay \$2.325 per 1,000 gallons, or \$2.325 times 2, for the volumetric portion of the water bill. However, a customer with 4,000 gallons of usage in a month will pay \$2.325 per 1,000 gallons for the first 2,992 gallons and \$4.067 per 1,000 gallons for the next 1,008 gallons, or \$2.325 times 2.992 plus \$4.067 times 1.008, for the volumetric portion of the water bill.

Table 5.3 Existing 2022 Volumetric Rates – Residential Water Inside City Limits

| Tier Usage Range (kgals) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|--------------------------|--|-------------------|-----------------------------|-------------------------------|----------------------------|
| 0.000 – 2.992 | 42% | --- | \$1.585 | \$0.740 | \$2.325 |
| 2.993 – 4.489 | 15% | 1.75x | 2.772 | 1.295 | 4.067 |
| 4.490 – 5.985 | 11% | 2.25x | 3.563 | 1.665 | 5.228 |
| 5.986 – 7.481 | 7% | 2.75x | 4.357 | 2.034 | 6.391 |
| 7.482 – 10.473 | 9% | 3.25x | 5.150 | 2.405 | 7.555 |
| 10.474 – 14.962 | 6% | 3.75x | 5.942 | 2.775 | 8.717 |
| 14.963 – 20.199 | 4% | 4.50x | 7.129 | 3.329 | 10.458 |
| 20.200+ | 6% | 6.50x | 10.296 | 4.809 | 15.105 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

Table 5.4 shows the existing water supply and water delivery volumetric rates for customers located outside the city limits. A multiplier of 1.3x is applied to the ICL water delivery volumetric rates to determine the OCL water delivery volumetric rates. No multiplier is applied to the water supply volumetric rates.

Table 5.4 Existing 2022 Volumetric Rates – Residential Water Outside City Limits

| Tier Usage Range (kgals) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|--------------------------|--|-------------------|-----------------------------|-------------------------------|----------------------------|
| 0.000 – 2.992 | 39% | --- | \$1.585 | \$0.962 | \$2.547 |
| 2.993 – 4.489 | 15% | 1.75x | 2.772 | 1.683 | 4.455 |
| 4.490 – 5.985 | 11% | 2.25x | 3.563 | 2.165 | 5.728 |
| 5.986 – 7.481 | 8% | 2.75x | 4.357 | 2.645 | 7.002 |
| 7.482 – 10.473 | 10% | 3.25x | 5.150 | 3.125 | 8.275 |
| 10.474 – 14.962 | 7% | 3.75x | 5.942 | 3.607 | 9.549 |
| 14.963 – 20.199 | 4% | 4.50x | 7.129 | 4.328 | 11.457 |
| 20.200+ | 6% | 6.50x | 10.296 | 6.253 | 16.549 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

5.1.2 Recommended Rates

SAWS staff and Carollo developed five alternative rate structures for residential customers for consideration by the RAC, numbered Options 1 through 5. The RAC quickly eliminated Options 1 and 3. The details of the remaining three options are presented in this chapter, along with the RAC's recommendation. All options were developed using the 2022 budget with no overall revenue increase and are all projected to generate the residential water cost of service as presented in Chapter 4 of this report, assuming the 2022 budgeted usage.

5.1.2.1 Proposed Option 2

Option 2 addresses a request from the RAC for a reduced single-tier fixed charge and a six-tier volumetric rate structure that results in significantly decreased bills for low-volume customers and significantly increased bills for high-volume customers.

Fixed Charges. The 2022 COS TM shows the detailed calculation of the unit cost for customer service and billing. This is part of the fixed charge and is constant for all meter sizes. The updated water supply portion is \$1.28 per monthly bill, and the updated water delivery portion is \$1.86 per monthly bill.

While the customer service and billing portion of the fixed charge is held constant, the remaining portion of the fixed charge, which recovers costs associated with the meters and service lines and a portion of costs for local distribution main capacity, is escalated for larger meters using a meter equivalent factor. The meter equivalent factors are based on the standard safe maximum operating capacity for each meter size, as published by AWWA.

Table 5.5 shows the detailed development of ICL fixed charges for Option 2. OCL fixed charges are also shown, which are determined by applying the 1.3x multiplier to the ICL fixed charges.

Table 5.5 Proposed Fixed Charges – Residential Water Option 2

| Meter Size | Meter Equivalent Factor | Customer Service and Billing | Meters/Services and Capacity | ICL Monthly Fixed Charge | OCL Monthly Fixed Charge |
|------------|-------------------------|------------------------------|------------------------------|--------------------------|--------------------------|
| 5/8" | 1.0 | \$3.14 | \$5.36 | \$8.50 | \$11.05 |
| 3/4" | 1.5 | 3.14 | 8.04 | 11.18 | 14.54 |
| 1" | 2.5 | 3.14 | 13.40 | 16.54 | 21.51 |
| 1½" | 5.0 | 3.14 | 26.80 | 29.94 | 38.93 |
| 2" | 8.0 | 3.14 | 42.88 | 46.02 | 59.83 |

Volumetric Rates. Option 2 proposes to eliminate two tiers by increasing the size of Tiers 1 through 3. Tiers 4 through 6 are roughly the same size as existing Tiers 6 through 8, but with higher rates, as shown below for ICL customers in Table 5.6.

Table 5.6 Proposed Volumetric Rates – Residential Water Inside City Limits Option 2

| Tier Usage Range (kgals) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|--------------------------|--|-------------------|-----------------------------|-------------------------------|----------------------------|
| 0.000 – 4.000 | 52% | --- | \$1.560 | \$0.970 | \$2.530 |
| 4.001 – 7.000 | 21% | 2.00x | 3.120 | 1.940 | 5.060 |
| 7.001 – 11.000 | 12% | 3.75x | 5.850 | 3.638 | 9.488 |
| 11.001 – 15.000 | 6% | 4.45x | 6.942 | 4.317 | 11.259 |
| 15.001 – 20.000 | 3% | 5.05x | 7.878 | 4.899 | 12.777 |
| 20.001+ | 6% | 6.80x | 10.608 | 6.596 | 17.204 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

Table 5.7 shows the detail of the Option 2 volumetric rates for OCL residential customers. As with existing rates, the water supply rates are the same as for ICL customers, but the water delivery rates are 1.3x higher than the ICL water delivery rates.

Table 5.7 Proposed Volumetric Rates – Residential Water Outside City Limits Option 2

| Tier Usage Range (kgals) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|--------------------------|--|-------------------|-----------------------------|-------------------------------|----------------------------|
| 0.000 – 4.000 | 49% | --- | \$1.560 | \$1.261 | \$2.821 |
| 4.001 – 7.000 | 21% | 2.00x | 3.120 | 2.522 | 5.642 |
| 7.001 – 11.000 | 13% | 3.75x | 5.850 | 4.730 | 10.580 |
| 11.001 – 15.000 | 6% | 4.45x | 6.942 | 5.613 | 12.555 |
| 15.001 – 20.000 | 4% | 5.05x | 7.878 | 6.369 | 14.247 |
| 20.001+ | 7% | 6.80x | 10.608 | 8.575 | 19.183 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

5.1.2.2 Proposed Option 4

Option 4 consists of a reduced single-tier fixed charge and a four-tier volumetric rate structure that results in less significant bill decreases for low-volume customers and less significant bill increases for high-volume customers as compared to Option 2.

Fixed Charges. Like with Option 2, the customer service and billing portion of the fixed charge is held constant at the calculated unit cost, and the remaining portion of the fixed charge, which recovers costs associated with the meters and service lines and a portion of costs for local distribution main capacity, is escalated for larger meters using the AWWA meter equivalent factors.

Table 5.8 shows the detailed development of ICL fixed charges for Option 4. OCL fixed charges are also shown, which are determined by applying the 1.3x multiplier to the ICL fixed charges.

Table 5.8 Proposed Fixed Charges – Residential Water Option 4

| Meter Size | Meter Equivalent Factor | Customer Service and Billing | Meters/Services and Capacity | ICL Monthly Fixed Charge | OCL Monthly Fixed Charge |
|------------|-------------------------|------------------------------|------------------------------|--------------------------|--------------------------|
| 5/8" | 1.0 | \$3.14 | \$5.86 | \$9.00 | \$11.70 |
| 3/4" | 1.5 | 3.14 | 8.79 | 11.93 | 15.51 |
| 1" | 2.5 | 3.14 | 14.65 | 17.79 | 23.13 |
| 1½" | 5.0 | 3.14 | 29.30 | 32.44 | 42.18 |
| 2" | 8.0 | 3.14 | 46.88 | 50.02 | 65.03 |

Volumetric Rates. Option 4 eliminates 4 tiers by increasing the sizes of Tiers 1 through 3. Tier 4 is comparable to the existing Tier 8, as shown below for ICL customers in Table 5.9.

Table 5.9 Proposed Volumetric Rates – Residential Water Inside City Limits Option 4

| Tier Usage Range (kgals) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|--------------------------|--|-------------------|-----------------------------|-------------------------------|----------------------------|
| 0.000 – 4.000 | 52% | --- | \$1.721 | \$1.046 | \$2.767 |
| 4.001 – 9.000 | 28% | 2.30x | 3.959 | 2.406 | 6.365 |
| 9.001 – 20.000 | 14% | 3.60x | 6.196 | 3.766 | 9.962 |
| 20.001+ | 6% | 5.70x | 9.810 | 5.963 | 15.773 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

Table 5.10 shows the detail of the Option 4 volumetric rates for OCL residential customers. As with existing rates, the water supply rates are the same as for ICL customers, but the water delivery rates are 1.3x higher than the ICL water delivery rates.

Table 5.10 Proposed Volumetric Rates – Residential Water Outside City Limits Option 4

| Tier Usage Range (kgals) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|--------------------------|--|-------------------|-----------------------------|-------------------------------|----------------------------|
| 0.000 – 4.000 | 49% | --- | \$1.721 | \$1.360 | \$3.081 |
| 4.001 – 9.000 | 29% | 2.30x | 3.959 | 3.128 | 7.087 |
| 9.001 – 20.000 | 16% | 3.60x | 6.196 | 4.896 | 11.092 |
| 20.001+ | 6% | 5.70x | 9.810 | 7.752 | 17.562 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

5.1.2.3 Proposed Option 5

Option 5 addresses a request from the RAC for an option that results in bill impacts between those of Options 2 and 4.

Fixed Charges. Like with Options 2 and 4, the customer service and billing portion of the fixed charge is held constant at the calculated unit cost, and the remaining portion of the fixed charge, which recovers costs associated with the meters and service lines and a portion of costs for local distribution main capacity, is escalated for larger meters using the AWWA meter equivalent factors. However, Option 5 also includes an additional fixed charge for customers who exceed the usage allotment for Tier 1. This additional charge is the same for all meter sizes.

Table 5.11 shows the detailed development of ICL fixed charges for Option 5.

Table 5.11 Proposed Fixed Charges – Residential Water Inside City Limits Option 5

| Meter Size | Meter Equivalent Factor | Customer Service and Billing | Meters/Services and Capacity | ICL Monthly Fixed Charge |
|------------|-------------------------|------------------------------|------------------------------|--------------------------|
| 5/8" | 1.0 | \$3.14 | \$5.86 | \$9.00 |
| 3/4" | 1.5 | 3.14 | 8.79 | 11.93 |
| 1" | 2.5 | 3.14 | 14.65 | 17.79 |
| 1½" | 5.0 | 3.14 | 29.30 | 32.44 |
| 2" | 8.0 | 3.14 | 46.88 | 50.02 |

The fixed charge calculated in Table 5.11 is for ICL customers whose usage does not exceed the Tier 1 allotment. Table 5.12 adds the additional fixed charge for usage in excess of the Tier 1 allotment. OCL fixed charges are also shown, which are determined by applying the 1.3x multiplier to the ICL fixed charge.

Table 5.12 Proposed Fixed Charges – Residential Water Option 5

| Meter Size | ICL Tier 1 Usage | ICL Tier 2+ Usage | OCL Tier 1 Usage | OCL Tier 2+ Usage |
|------------|------------------|-------------------|------------------|-------------------|
| 5/8" | \$9.00 | \$11.00 | \$11.70 | \$14.30 |
| 3/4" | 11.93 | 13.93 | 15.51 | 18.11 |
| 1" | 17.79 | 19.79 | 23.13 | 25.73 |
| 1½" | 32.44 | 34.44 | 42.18 | 44.78 |
| 2" | 50.02 | 52.02 | 65.03 | 67.63 |

Volumetric Rates. Option 5 proposes to eliminate three tiers by increasing the size of Tiers 1 through 4. Tier 5 is comparable to the existing Tier 8, as shown below for ICL customers in Table 5.13.

Table 5.13 Proposed Volumetric Rates – Residential Water Inside City Limits Option 5

| Tier Usage Range (kgals) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|--------------------------|--|-------------------|-----------------------------|-------------------------------|----------------------------|
| 0.000 – 4.000 | 52% | --- | \$1.669 | \$0.922 | \$2.591 |
| 4.001 – 7.000 | 21% | 1.85x | 3.088 | 1.706 | 4.794 |
| 7.001 – 12.000 | 14% | 3.35x | 5.592 | 3.089 | 8.681 |
| 12.001 – 20.000 | 7% | 4.40x | 7.344 | 4.057 | 11.401 |
| 20.001+ | 6% | 6.25x | 10.432 | 5.763 | 16.195 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

Table 5.14 shows the detail of the Option 5 volumetric rates for OCL residential customers. As with existing rates, the water supply rates are the same as for ICL customers, but the water delivery rates are 1.3x higher than the ICL water delivery rates.

Table 5.14 Proposed Volumetric Rates – Residential Water Outside City Limits Option 5

| Tier Usage Range (kgals) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|--------------------------|--|-------------------|-----------------------------|-------------------------------|----------------------------|
| 0.000 – 4.000 | 49% | --- | \$1.669 | \$1.199 | \$2.868 |
| 4.001 – 7.000 | 21% | 1.85x | 3.088 | 2.218 | 5.306 |
| 7.001 – 12.000 | 15% | 3.35x | 5.592 | 4.016 | 9.608 |
| 12.001 – 20.000 | 8% | 4.40x | 7.344 | 5.275 | 12.619 |
| 20.001+ | 7% | 6.25x | 10.432 | 7.492 | 17.924 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

5.1.2.4 Recommended Option

Support among RAC members was split between Options 2 and 4. Those in support of Option 2 expressed that it best met the pricing objectives of Affordability and Conservation. Those in support of Option 4 indicated that this option also met the pricing objectives of Affordability and Conservation while minimizing the impact to customers. Additionally, Option 4 did not significantly impact revenue stability based on an analysis performed by SAWS staff. This analysis imposed a reduction in water usage similar to that experienced in 2021 as a result of greater than normal rainfall during the spring and summer months. That analysis showed that revenue lost under Option 4 would be similar to revenue lost from existing rates.

Both Options 2 and 5 were somewhat more volatile, with Option 2 being the most volatile. Because Option 5 represented an acceptable compromise between Options 2 and 4, the RAC came to a consensus on Option 5. More information about the RAC members' discussion of these various rate options is available in the minutes from the meeting on June 8, 2022, which are included in Appendix B to this report.

The rates presented above were adjusted to reflect the final cost of service results from Chapter 4, and the adjusted Option 5 rates are presented in the following tables. Table 5.15 presents the recommended monthly fixed charges for ICL and OCL customers.

Table 5.15 Recommended Fixed Charges – Residential Water

| Meter Size | ICL Tier 1 Usage | ICL Tier 2+ Usage | OCL Tier 1 Usage | OCL Tier 2+ Usage |
|------------|------------------|-------------------|------------------|-------------------|
| 5/8" | \$9.00 | \$11.00 | \$11.70 | \$14.30 |
| 3/4" | 11.93 | 13.93 | 15.51 | 18.11 |
| 1" | 17.79 | 19.79 | 23.13 | 25.73 |
| 1½" | 32.44 | 34.44 | 42.18 | 44.78 |
| 2" | 50.02 | 52.02 | 65.03 | 67.63 |

Table 5.16 shows the recommended water supply and water delivery volumetric rates for ICL customers, as well as the recommended affordability program cost recovery rate. This rate recovers the cost of the recommended affordability program rate structure, which is discussed in the next chapter.

Table 5.16 Recommended Volumetric Rates – Residential Water Inside City Limits

| Tier Usage Range (kgals) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Affordability Program Recovery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|--------------------------|--|-------------------|-----------------------------|-------------------------------|---|----------------------------|
| 0.000 – 4.000 | 52% | --- | \$1.631 | \$0.907 | \$0.159 | \$2.697 |
| 4.001 – 7.000 | 21% | 1.85x | 3.018 | 1.678 | 0.159 | 4.855 |
| 7.001 – 12.000 | 14% | 3.35x | 5.464 | 3.039 | 0.159 | 8.662 |
| 12.001 – 20.000 | 7% | 4.40x | 7.177 | 3.991 | 0.159 | 11.327 |
| 20.001+ | 6% | 6.25x | 10.194 | 5.669 | 0.159 | 16.022 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

Table 5.17 shows the recommended water supply and water delivery volumetric rates for OCL customers, as well as the recommended affordability program cost recovery rate. A 1.3x multiplier is applied to ICL water delivery rates to calculate OCL water delivery rates. No multiplier is applied to water supply rates or the affordability program cost recovery rate.

Table 5.17 Recommended Volumetric Rates – Residential Water Outside City Limits

| Tier Usage Range (kgals) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Affordability Program Cost Recovery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|--------------------------|--|-------------------|-----------------------------|-------------------------------|--|----------------------------|
| 0.000 – 4.000 | 49% | --- | \$1.631 | \$1.180 | \$0.159 | \$2.970 |
| 4.001 – 7.000 | 21% | 1.85x | 3.018 | 2.182 | 0.159 | 5.359 |
| 7.001 – 12.000 | 15% | 3.35x | 5.464 | 3.951 | 0.159 | 9.574 |
| 12.001 – 20.000 | 8% | 4.40x | 7.177 | 5.189 | 0.159 | 12.525 |
| 20.001+ | 7% | 6.25x | 10.194 | 7.370 | 0.159 | 17.723 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

Figure 5.1 compares the existing and recommended volumetric rate structure and rates for ICL and OCL residential water customers.

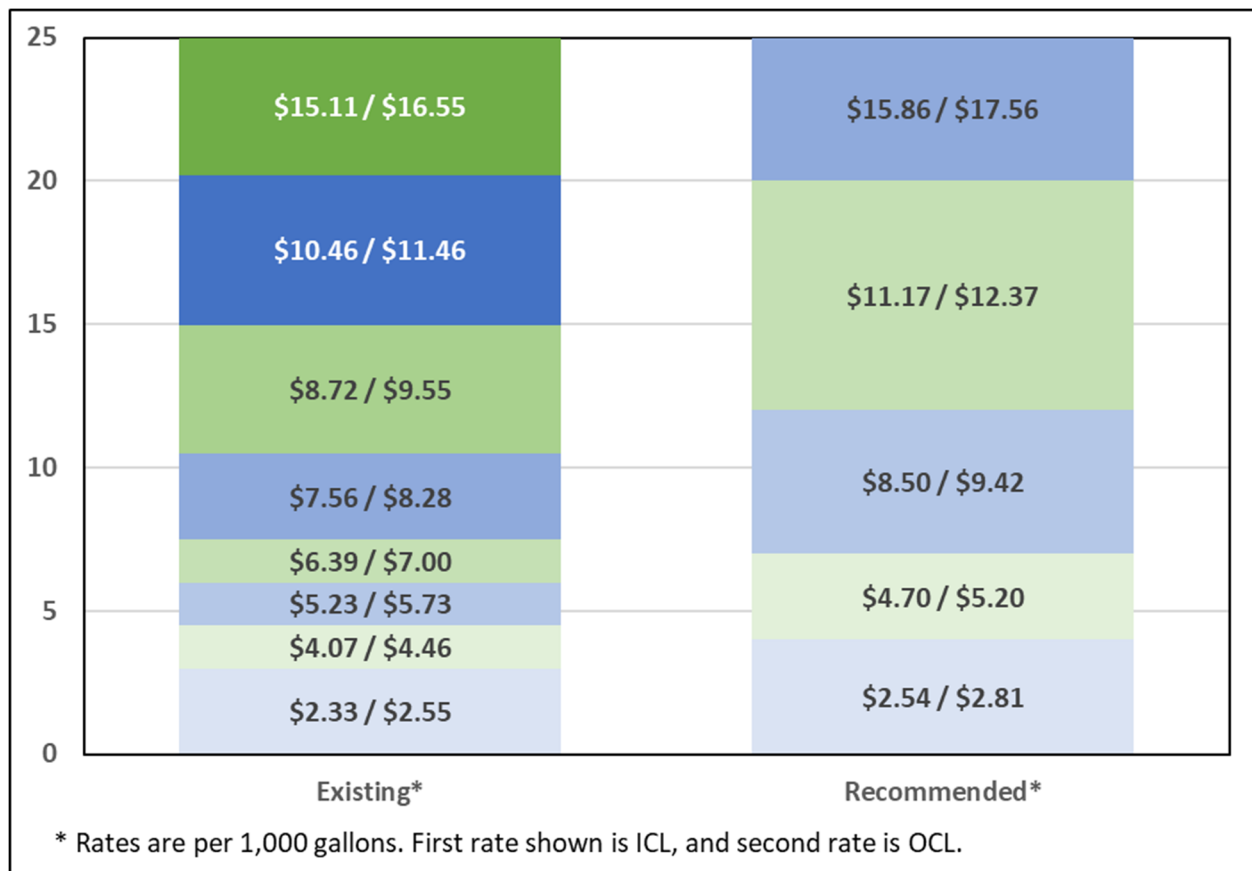


Figure 5.1 Existing and Recommended Residential Water Volumetric Rate Structures and Rates

5.2 Wastewater Rate Design

5.2.1 Existing Rates

SAWS' existing residential wastewater rates have been in place since January 1, 2019, and include monthly fixed charges based on water meter size and tiered volumetric rates. The volumetric rate structure consists of three tiers, increasing the rate per 1,000 gallons as a customer's estimated wastewater flow increases. A residential customer's monthly wastewater flow is estimated based on the customer's water usage for three consecutive billing cycles between November 15 and March 15.

Fixed Charges. The existing wastewater fixed charges are shown below in Table 5.18. A multiplier of 1.2x is applied to the ICL fixed charges to determine the OCL fixed charges.

Table 5.18 Existing 2022 Fixed Charges – Residential Wastewater

| Meter Size | Inside City Limits | Outside City Limits |
|------------|--------------------|---------------------|
| 5/8" | \$14.53 | \$17.43 |
| 3/4" | 15.97 | 19.18 |
| 1" | 18.14 | 21.78 |
| 1½" | 25.41 | 30.50 |
| 2" | 36.31 | 43.58 |

Volumetric Rates. Table 5.19 shows the existing wastewater volumetric rates for customers located inside the city limits and outside the city limits. A multiplier of 1.2x is applied to the ICL wastewater volumetric rates to determine the OCL wastewater volumetric rates.

Table 5.19 Existing 2022 Volumetric Rates – Residential Wastewater

| Tier Volume Range (kgals) | % of Volume Billed in Tier ⁽¹⁾ | Tier Differential | ICL Rate (\$/kgal) | OCL Rate (\$/kgal) |
|---------------------------|---|-------------------|--------------------|--------------------|
| 0.000 – 1.496 | 28%/26% | --- | \$0.000 | \$0.000 |
| 1.497 – 2.992 | 23%/23% | --- | 3.104 | 3.725 |
| 2.993+ | 49%/51% | 1.50x | 4.657 | 5.588 |

Notes:

(1) Percentage of volume billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020. First percentage shown in each row is for inside city limits customers, and second percentage is for outside city limits customers.

5.2.2 Recommended Rates

SAWS staff and Carollo developed one alternative rate structure for residential customers for consideration by the RAC, which the RAC recommends. The details of the recommended residential wastewater rate structure are presented in this section. The recommended option was developed using the 2022 budget with no overall revenue increase and using the final residential wastewater cost of service.

Fixed Charges. Fixed charges for wastewater service are based on the size of the customer's water meter. The 2022 COS TM shows the detailed calculation of the unit cost for customer service and billing. This is part of the fixed charge and is constant for all meter sizes. The updated unit cost is \$2.23 per monthly bill.

While the customer service and billing portion of the fixed charge is held constant, the remaining portion of the fixed charge, which recovers costs associated with the service lines and a portion of costs for local collection main capacity, is escalated for larger meters using a meter equivalent factor. The meter equivalent factors are based on the standard safe maximum operating capacity for each meter size, as published by AWWA.

Table 5.20 shows the detailed development of ICL fixed charges. OCL fixed charges are also shown, which are determined by applying the 1.2x multiplier to the ICL fixed charges.

Table 5.20 Recommended Fixed Charges – Residential Wastewater

| Meter Size | Meter Equivalent Factor | Customer Service and Billing | Meters/Services and Capacity | ICL Monthly Fixed Charge | OCL Monthly Fixed Charge |
|------------|-------------------------|------------------------------|------------------------------|--------------------------|--------------------------|
| 5/8" | 1.0 | \$2.23 | \$7.77 | \$10.00 | \$12.00 |
| 3/4" | 1.5 | 2.23 | 11.66 | 13.89 | 16.67 |
| 1" | 2.5 | 2.23 | 19.43 | 21.66 | 26.00 |
| 1½" | 5.0 | 2.23 | 38.85 | 41.08 | 49.30 |
| 2" | 8.0 | 2.23 | 62.16 | 64.39 | 77.27 |

Volumetric Rates. The recommended wastewater volumetric rate structure eliminates one tier and charges a rate per 1,000 gallons for all estimated wastewater flows, as shown for ICL customers in Table 5.21. The recommended affordability program cost recovery rate is also shown, which recovers the cost of the recommended affordability program rate structure discussed in the next chapter.

Table 5.21 Recommended Volumetric Rates – Residential Wastewater Inside City Limits

| Tier Volume Range (kgals) | % of Volume Billed in Tier ⁽¹⁾ | Tier Differential | Wastewater Rate (\$/kgal) | Affordability Program Recovery Rate (\$/kgal) | Total Wastewater Rate (\$/kgal) |
|---------------------------|---|-------------------|---------------------------|---|---------------------------------|
| 0.000 – 4.000 | 63% | --- | \$2.539 | \$0.161 | \$2.700 |
| 4.001+ | 37% | 1.75x | 4.444 | 0.161 | 4.601 |

Note:

(1) Percentage of volume billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

Table 5.22 shows the recommended wastewater volumetric rates for OCL customers, as well as the recommended affordability program cost recovery rate. A 1.2x multiplier is applied to ICL wastewater rates to calculate OCL wastewater rates. No multiplier is applied to the affordability program cost recovery rate.

Table 5.22 Recommended Volumetric Rates – Residential Wastewater Outside City Limits

| Tier Volume Range (kgals) | % of Volume Billed in Tier ⁽¹⁾ | Tier Differential | Wastewater Rate (\$/kgal) | Affordability Program Recovery Rate (\$/kgal) | Total Wastewater Rate (\$/kgal) |
|---------------------------|---|-------------------|---------------------------|---|---------------------------------|
| 0.000 – 4.000 | 62% | --- | \$3.047 | \$0.161 | \$3.208 |
| 4.001+ | 38% | 1.75x | 5.333 | 0.161 | 5.494 |

Note:

(1) Percentage of volume billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

Figure 5.2 compares the existing and recommended volumetric rate structure and rates for ICL and OCL residential wastewater customers.



Figure 5.2 Existing and Recommended Residential Wastewater Volumetric Rate Structures and Rates

5.3 Bill Impacts

Figure 5.3 shows the cumulative percentage of residential bills at each incremental usage level up to 30,000 gallons per month. From this chart, we see that the median for bills is around 5,000 gallons, with 51.5 percent of the ICL residential bills and 47.1 percent of the OCL residential bills for 5,000 gallons or less. Figure 5.3 also shows the cumulative usage that is billed at each incremental usage level. The median for usage is around 4,000 gallons with 52.4 percent of the ICL residential usage and 49.3 percent of the OCL residential usage. This means that around half of the residential usage is billed at the Tier 1 rate, which includes the first 4,000 gallons of usage per month.

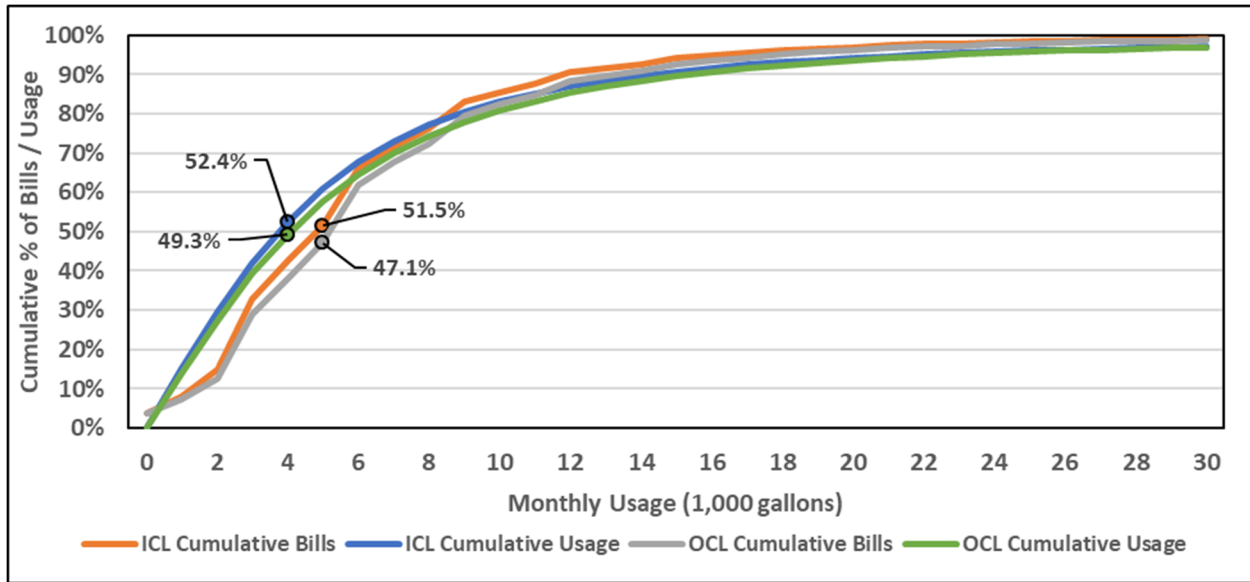


Figure 5.3 Bill Frequency Analysis – Residential Water

Figure 5.4 illustrates the impact of the recommended rates on water bills for ICL and OCL residential customers with a 5/8-inch meter and monthly water usage up to 30,000 gallons. The bill impacts include the Edwards Aquifer Authority (EAA) pass-through of \$0.3385 per 1,000 gallons and the Texas Commission on Environmental Quality (TCEQ) pass-through of \$0.21 per bill.

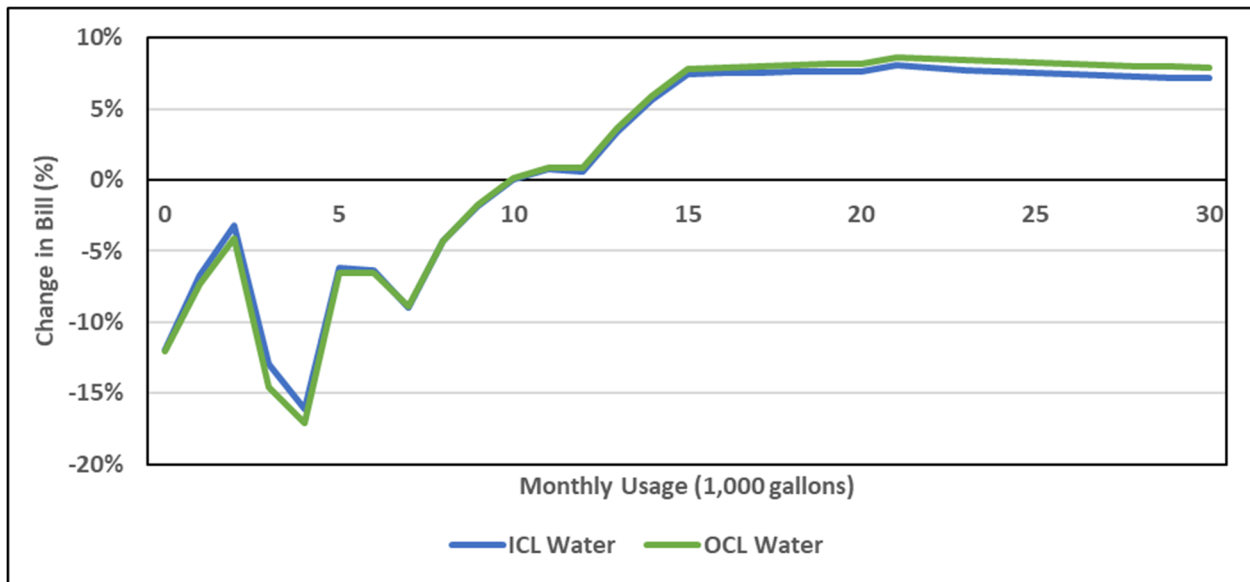


Figure 5.4 Monthly Bill Impact – Residential Water

Figure 5.5 illustrates the impact of the recommended rates on wastewater bills for ICL and OCL residential customers with a 5/8-inch water meter and monthly wastewater volume up to 30,000 gallons. The bill impacts include the TCEQ pass-through of \$0.06 per bill.

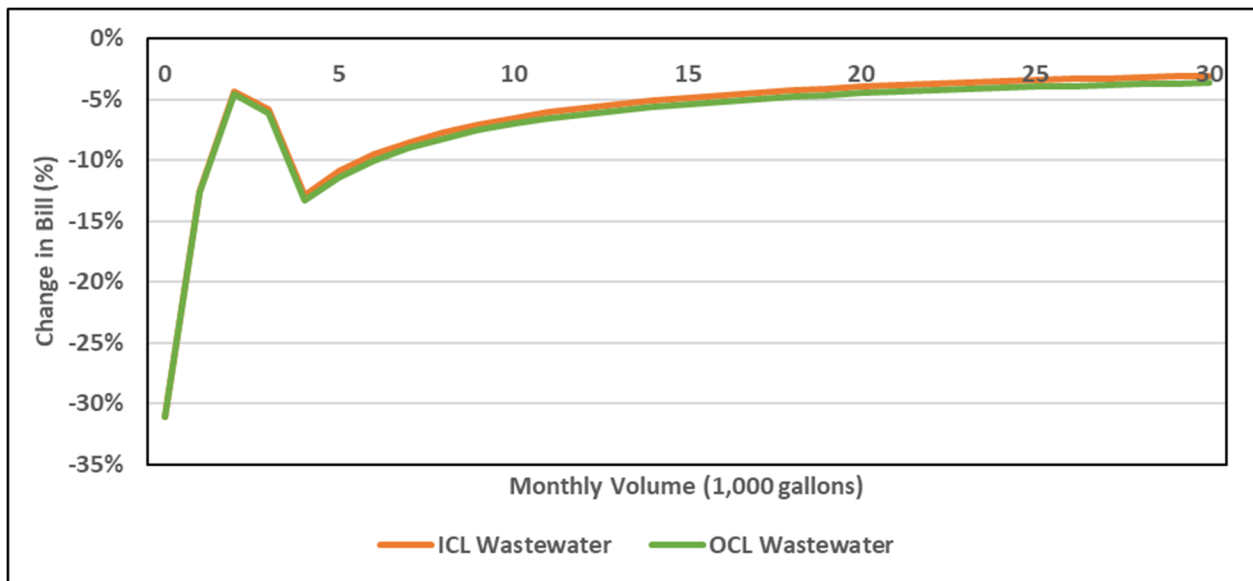


Figure 5.5 Monthly Bill Impact – Residential Wastewater

In addition to calculating the bill impacts, the recommended residential water and wastewater rates were evaluated against several selected affordability income levels to determine the percentage of household income that is required to pay the typical combined bill for essential use, which is defined as the residential average winter usage or 5,062 gallons per month. Table 5.23 summarizes the results, showing the combined bill without and with the stormwater fee of \$4.94 per month, which is the Tier 2 fee and includes 2,750 to 4,220 square feet of impervious cover. Then the percentage of the household income for each of the income level columns is provided for these combined bills. The recommended rates reduce the burden on these households for essential use to 3 percent or less. For the income levels shown that do not qualify for SAWS' affordability program (income greater than 125 percent of the federal poverty level), the recommended rates reduce that burden to 2 percent or less.

Table 5.23 Affordability Metrics – Residential

| Rates | Combined Bill without and with Storm | 100% Federal Poverty Level \$2,313 | 150% Federal Poverty Level \$3,470 | Median Household \$4,857 | ALICE ⁽¹⁾ \$5,376 |
|-----------------|--------------------------------------|---------------------------------------|---------------------------------------|-----------------------------|---------------------------------|
| Existing ICL | \$59.65 | 2.58% | 1.72% | 1.23% | 1.11% |
| | 64.59 | 2.79% | 1.86% | 1.33% | 1.20% |
| Recommended ICL | 54.62 | 2.36% | 1.57% | 1.12% | 1.02% |
| | 59.56 | 2.58% | 1.72% | 1.23% | 1.11% |
| Existing OCL | 70.80 | 3.06% | 2.04% | 1.46% | 1.32% |
| | 75.74 | 3.27% | 2.18% | 1.56% | 1.41% |
| Recommended OCL | 64.52 | 2.79% | 1.86% | 1.33% | 1.20% |
| | 69.46 | 3.00% | 2.00% | 1.43% | 1.29% |

Note:

(1) ALICE is Asset Limited, Income Constrained, Employed.

Chapter 6

AFFORDABILITY PROGRAM WATER AND WASTEWATER RATES

The RAC identified affordability as its highest priority pricing objective, as discussed in Chapter 3. Representatives from the United Way of San Antonio and Bexar County presented information about the magnitude of poverty in Bexar County, including residents who earn an income higher than the Federal Poverty Level but still struggle to afford a basic household budget (Asset Limited, Income Constrained, Employed or ALICE).

According to the United Way, 17 percent of Bexar County residents earn less than the Federal Poverty Level, and 35 percent earn more than the Federal Poverty Level but less than the ALICE threshold. This is higher than the Texas poverty rate of 14 percent and ALICE rate of 30 percent. With poverty affecting so many residents of San Antonio, the RAC believed it was critical that SAWS consider alternatives to address affordability in a meaningful way.

6.1 Existing Affordability Program

SAWS offers four levels of affordability discounts for residential customers through its current Uplift program based on household family size and income. Households with income at or below 125 percent of the Federal Poverty Level (FPL) are eligible to apply for a discount. The existing Uplift program discounts by household income level are shown in Table 6.1.

Table 6.1 Existing Uplift Program Discounts

| Billed Service | Annual Income at or below 50% FPL | Annual Income at or below 75% FPL | Annual Income at or below 100% FPL | Annual Income at or below 125% FPL |
|----------------------|-----------------------------------|-----------------------------------|------------------------------------|------------------------------------|
| Water and Wastewater | \$28.35 | \$19.40 | \$12.50 | \$9.80 |
| Water Only | 13.85 | 9.60 | 6.25 | 4.90 |
| Wastewater Only | 14.50 | 9.80 | 6.25 | 4.90 |

The cost of the current Uplift program is budgeted at \$4,190,503 for water and \$4,002,638 for wastewater. This cost is currently recovered through the water and wastewater rates.

6.2 Recommended Water Rates

SAWS staff and Carollo developed two alternative rate structures for qualified affordability program customers for consideration by the RAC, labeled Options A and B. The RAC came to a consensus to recommend Option B, which is summarized in this section.

It is important to note that the existing affordability program and the recommended affordability program rates are not available to multi-family customers due to the indirect link between multi-family residents and SAWS. Multi-family residents are not typically customers of SAWS; the landlords are the customers. As such, any discount provided to multi-family customers may not be passed to the residents. This challenge is not unique to SAWS. Utilities across the country are struggling to address affordability for multi-family customers.

Fixed Charges. The recommended fixed charge is \$3.00 for affordability program customers inside the city limits whose usage exceeds the Tier 1 allotment. Customers who remain within Tier 1 do not pay a fixed charge.

Table 6.2 shows the fixed charges for ICL and OCL, which are determined by applying the 1.3x multiplier to the ICL fixed charges.

Table 6.2 Recommended Fixed Charges – Affordability Water

| Meter Size | Usage Tier | ICL Monthly Fixed Charge | OCL Monthly Fixed Charge |
|------------|------------|--------------------------|--------------------------|
| All | Tier 1 | \$0.00 | \$0.00 |
| All | Tiers 2-5 | \$3.00 | \$3.90 |

Volumetric Rates. The recommended volumetric rate structure includes five tiers to incentivize conservation and send a price signal to customers that may have a leak. There is no charge for Tier 1 usage, which is up to 2,000 gallons per month, so that affordability program customers who use 2,000 gallons or less in a month will only owe the TCEQ and EAA pass-through fees. The current Uplift discount for customers with income at or below 50 percent of the Federal Poverty Level reduces the combined water and wastewater bill to \$0.00 before the TCEQ and EAA pass-through fees are applied. The goal of the recommended rate structure was to set rates so that every qualified Uplift program customer's bill would remain the same or decrease.

Table 6.3 provides the recommended volumetric rates for ICL affordability program customers. The recommended volumetric rate structure has five tiers. Customers pay a higher rate per 1,000 gallons as they enter each subsequent tier. For example, a customer with up to 2,000 gallons of usage in a month will pay \$0.000 for the volumetric portion of the water bill. However, a customer with 5,000 gallons of usage in a month will pay \$0.000 for the first 2,000 gallons and \$2.650 per 1,000 gallons for the next 3,000 gallons, or \$2.650 times 3, for the volumetric portion of the water bill.

Table 6.3 Recommended Volumetric Rates – Affordability Water Inside City Limits

| Tier Usage Range (kgals) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|--------------------------|--|-------------------|-----------------------------|-------------------------------|----------------------------|
| 0.000 – 2.000 | 32% | --- | \$0.000 | \$0.000 | \$0.000 |
| 2.001 – 6.000 | 43% | --- | 1.650 | 1.000 | 2.650 |
| 6.001 – 10.000 | 16% | 1.50x | 2.475 | 1.500 | 3.975 |
| 10.001 – 15.000 | 6% | 2.50x | 4.125 | 2.500 | 6.625 |
| 15.001+ | 3% | 3.50x | 5.775 | 3.500 | 9.275 |

Notes:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

Table 6.4 shows the detail of the recommended volumetric rates for OCL affordability customers. As with residential rates, the water supply rates are the same as for ICL customers, but the water delivery rates are 1.3x higher than the ICL water delivery rates.

Table 6.4 Recommended Volumetric Rates – Affordability Water Outside City Limits

| Tier Usage Range (kgals) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|--------------------------|--|-------------------|-----------------------------|-------------------------------|----------------------------|
| 0.000 – 2.000 | 30% | --- | \$0.000 | \$0.000 | \$0.000 |
| 2.001 – 6.000 | 43% | --- | 1.650 | 1.300 | 2.950 |
| 6.001 – 10.000 | 16% | 1.50x | 2.475 | 1.950 | 4.425 |
| 10.001 – 15.000 | 7% | 2.50x | 4.125 | 3.250 | 7.375 |
| 15.001+ | 4% | 3.50x | 5.775 | 4.550 | 10.325 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

Figure 6.1 compares the existing and recommended volumetric rate structure and rates for ICL and OCL non-affordability and affordability program water customers.



Figure 6.1 Existing and Recommended Affordability Water Volumetric Rate Structures and Rates

Proposed Affordability Program Cost Recovery. The cost of the proposed water affordability program is estimated to be \$10,277,331. This cost will be recovered from non-affordability residential, general class, and irrigation customers through an affordability program cost recovery rate of \$0.159 per 1,000 gallons, as discussed in Section 5.1.2.4, Section 7.1.2, and Section 8.1.2.

6.3 Recommended Wastewater Rates

The two alternative rate structures developed by SAWS staff and Carollo for qualified affordability program customers included both water and wastewater proposed rates. This section summarizes the recommended Option B wastewater rates.

Fixed Charges. The RAC recommended to eliminate the wastewater fixed charge for qualified affordability program customers.

Volumetric Rates. The recommended volumetric rate structure includes two tiers with no charge for Tier 1 volume, which is up to 2,000 gallons per month, so that affordability program customers whose estimated wastewater volume is 2,000 gallons or less in a month will only owe the TCEQ pass-through fee. The current Uplift discount for customers with income at or below 50 percent of the Federal Poverty Level reduces the combined water and wastewater bill to \$0.00 before the TCEQ and EAA pass-through fees are applied. The goal of the recommended rate structure was to set rates so that every qualified Uplift program customer's bill would remain the same or decrease. Table 6.5 provides the recommended volumetric rates for ICL and OCL affordability program customers.

Table 6.5 Recommended Volumetric Rates – Affordability Wastewater

| Tier Volume Range (kgals) | % of Volume Billed in Tier ⁽¹⁾ | Tier Differential | ICL Rate (\$/kgal) | OCL Rate (\$/kgal) |
|---------------------------|---|-------------------|--------------------|--------------------|
| 0.000 – 2.000 | 35%/32% | --- | \$0.000 | \$0.000 |
| 2.001+ | 65%/68% | --- | 2.700 | 3.240 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020. First percentage shown in each row is for inside city limits customers, and second percentage is for outside city limits customers.

Figure 6.2 compares the existing and recommended volumetric rate structure and rates for ICL and OCL non-affordability and affordability program wastewater customers.

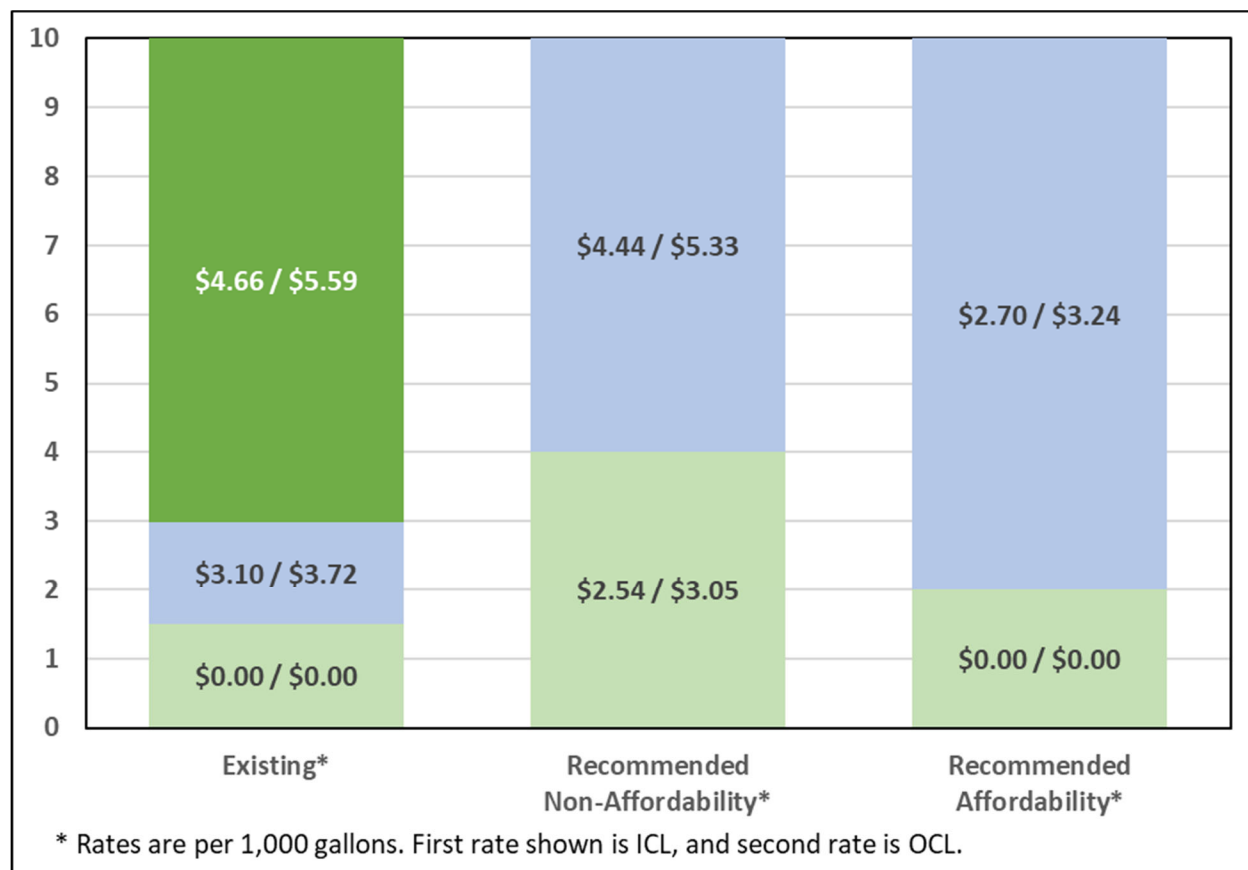


Figure 6.2 Existing and Recommended Affordability Wastewater Volumetric Rate Structures and Rates

Proposed Affordability Program Cost Recovery. The cost of the proposed wastewater affordability program is estimated to be \$7,496,785. This cost will be recovered from non-affordability residential and general class customers through an affordability program cost recovery rate of \$0.161 per 1,000 gallons, as discussed in Section 5.1.2.4 and Section 7.2.2.

6.4 Bill Impacts

Figure 6.3 shows the cumulative percentage of affordability program bills at each incremental usage level up to 30,000 gallons per month. From this chart, we see that the median for bills is a little higher than 5,000 gallons per month with 48.4 percent of the ICL affordability program bills and 42.8 percent of the OCL affordability program bills for 5,000 gallons or less. Figure 6.3 also shows the cumulative usage that is billed at each incremental usage level. The median for usage is between 3,000 and 4,000 gallons per month with 46.5 percent of the ICL affordability program usage and 43.3 percent of the OCL affordability program usage for 3,000 gallons or less. This means that almost half of the affordability customers are being billed for less than 2,000 gallons per month since the Tier 1 rate, which includes the first 2,000 gallons of usage per month, is \$0.00.

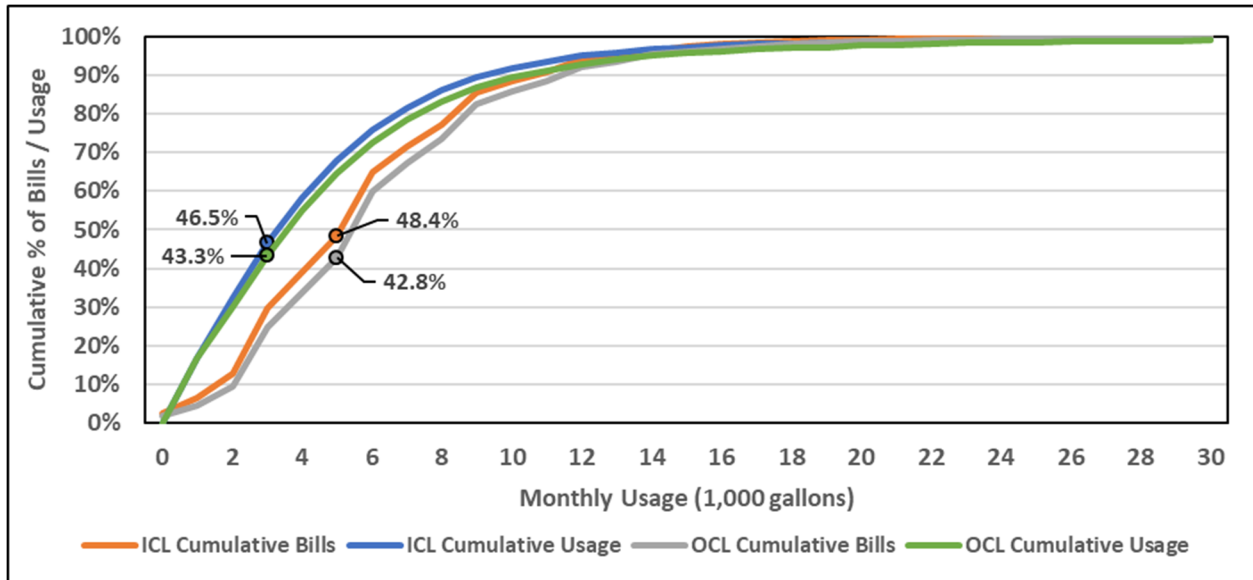


Figure 6.3 Bill Frequency Analysis – Affordability Water

Figure 6.4 illustrates the impact of the recommended rates on the combined water and wastewater bill for ICL affordability customers with a 5/8-inch meter and monthly water usage up to 20,000 gallons. The wastewater flow is assumed to be the same as the water usage although residential customers, including those who qualify for the affordability program, are billed for wastewater based on their average winter water consumption. The bill impacts include the EAA pass-through of \$0.3385 per 1,000 gallons and the TCEQ pass-throughs of \$0.21 per bill for water and \$0.06 per bill for wastewater.

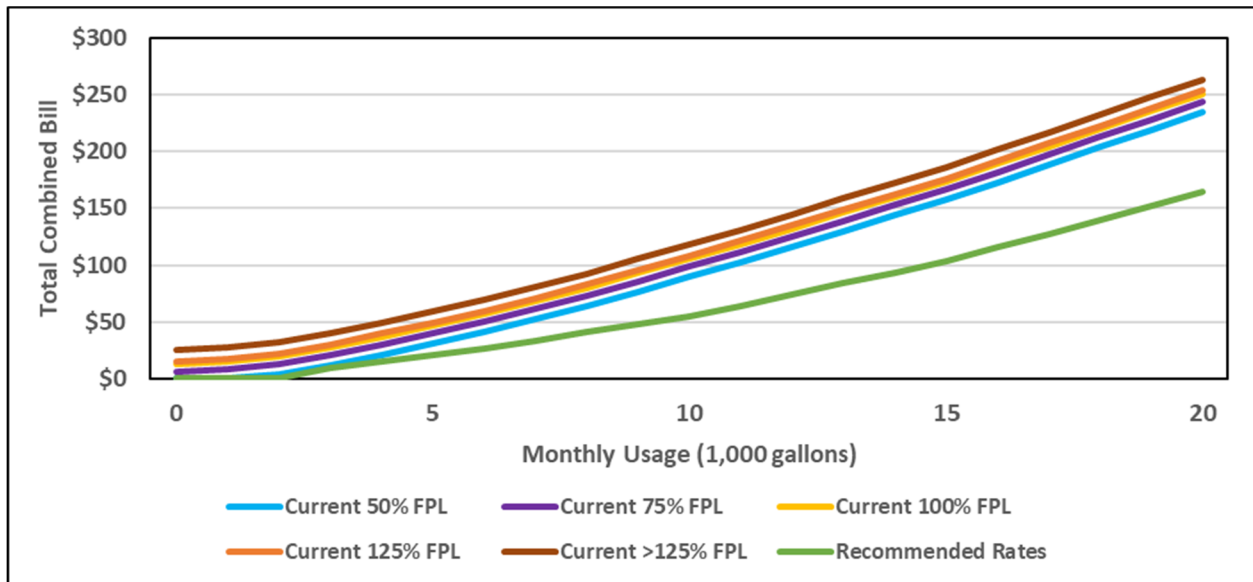


Figure 6.4 Combined Monthly Bill Impact – Affordability Inside City Limits

Figure 6.5 illustrates the impact of the recommended rates on the combined water and wastewater bill for OCL affordability customers with a 5/8-inch meter and monthly water usage up to 20,000 gallons.

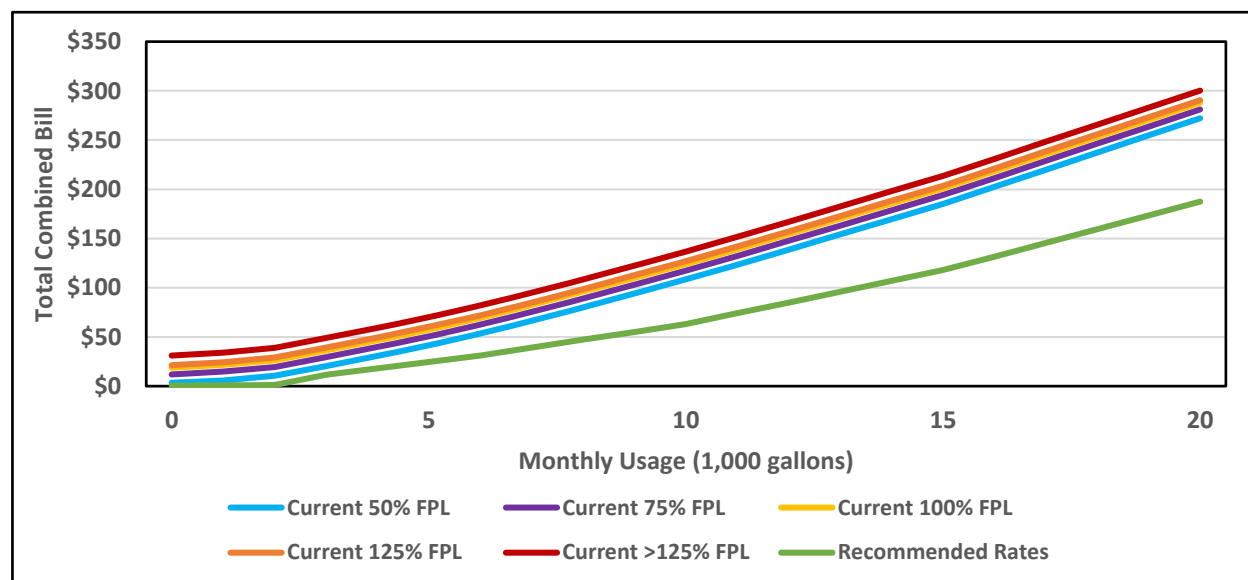


Figure 6.5 Combined Monthly Bill Impact – Affordability Outside City Limits

Figure 6.6 illustrates the percentage of ICL affordability customers with varying levels of monthly combined bill adjustments as a result of the recommended water and wastewater rates.

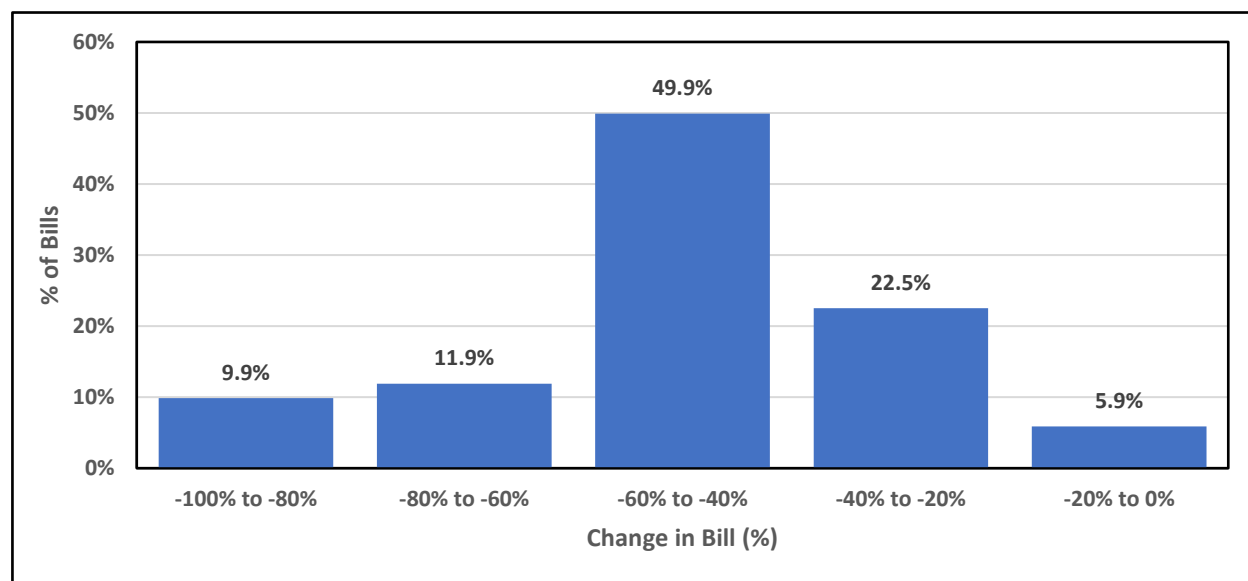


Figure 6.6 Distribution of Combined Monthly Bill Impacts – Affordability Inside City Limits

Figure 6.7 illustrates the percentage of OCL affordability customers with varying levels of monthly combined bill adjustments as a result of the recommended water and wastewater rates.

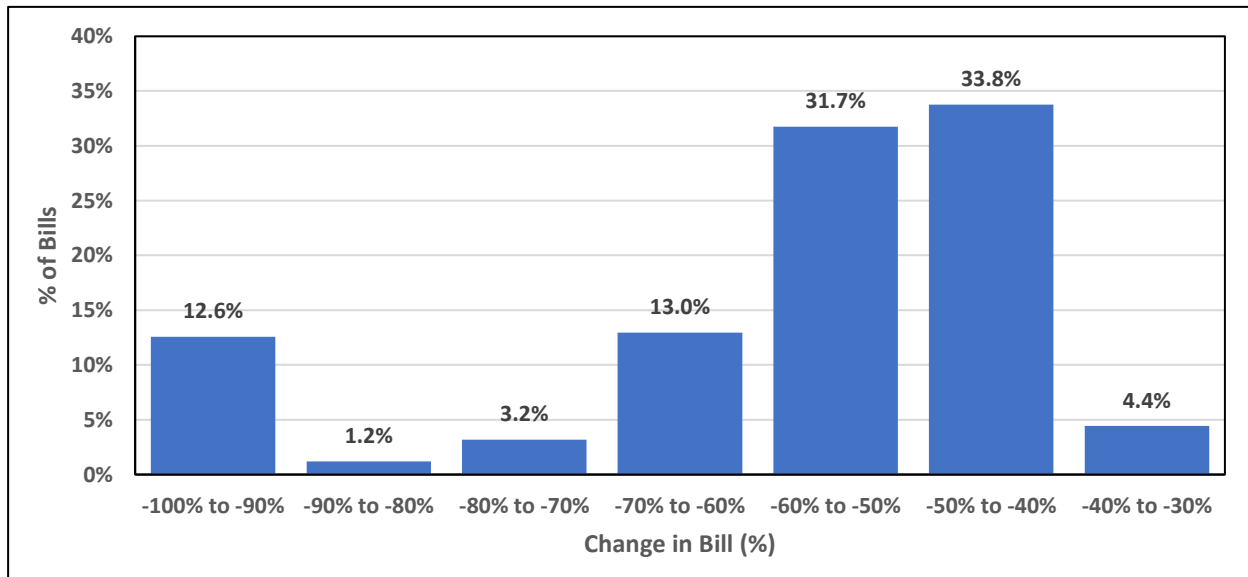


Figure 6.7 Distribution of Combined Monthly Bill Impacts – Affordability Outside City Limits

In addition to calculating the combined bill impacts, the recommended affordability water and wastewater rates were evaluated against the four affordability program income levels to determine the percentage of household income that is required to pay the typical combined bill for essential use, which is defined as the affordability program average winter usage or 5,277 gallons per month. Table 6.6 summarizes the results, showing the combined bill without and with the stormwater fee of \$4.94 per month, using the undiscounted residential rates and the current affordability program discounts and recommended rates. Then the percentage of the household income for each of the income level columns is provided for these combined bills.

Table 6.6 Affordability Metrics – Affordability Program

| Rates | Undiscounted Combined Bill without and with Storm | 50% Federal Poverty Level \$1,156 | 75% Federal Poverty Level \$1,734 | 100% Federal Poverty Level \$2,313 | 125% Federal Poverty Level \$2,891 |
|-----------------|---|--------------------------------------|--------------------------------------|---------------------------------------|---------------------------------------|
| | | DISCOUNTED BILL | | | |
| Existing ICL | \$61.85 | \$33.50 – 2.90% | \$42.45 – 2.45% | \$49.35 – 2.13% | \$52.05 – 1.80% |
| | 66.79 | 38.44 – 3.33% | 47.39 – 2.73% | 54.29 – 2.35% | 57.02 – 1.97% |
| Recommended ICL | 56.72 | 22.59 – 1.95% | 22.59 – 1.30% | 22.59 – 0.98% | 22.59 – 0.78% |
| | 61.66 | 27.52 – 2.38% | 27.52 – 1.59% | 27.52 – 1.19% | 27.52 – 0.95% |
| Existing OCL | 73.30 | 44.95 – 3.89% | 53.90 – 3.11% | 60.80 – 2.63% | 63.50 – 2.20% |
| | 78.24 | 49.89 – 4.32% | 58.84 – 3.39% | 65.74 – 2.84% | 68.44 – 2.40% |
| Recommended OCL | 66.93 | 26.24 – 2.27% | 26.24 – 1.51% | 26.24 – 1.13% | 26.24 – 0.91% |
| | 71.87 | 31.18 – 2.70% | 31.18 – 1.80% | 31.18 – 1.35% | 31.18 – 1.08% |

Chapter 7

GENERAL CLASS WATER AND WASTEWATER RATES

7.1 Water Rate Design

7.1.1 Existing Rates

SAWS general class includes commercial, industrial, and multi-family customers, and general class water rates apply to all indoor water usage. Outdoor usage for general class customers, measured by a separate irrigation meter or assumed for customers that have an automatic irrigation system in place but no separate irrigation meter, is charged at irrigation rates, which are discussed in the next chapter.

SAWS' existing general class water rates have been in place since January 1, 2020, and include monthly fixed charges based on meter size and tiered volumetric rates for water supply and water delivery based on the customer's prior year AAC or base usage. The volumetric rate structure consists of four tiers, increasing the rate per 1,000 gallons as a customer moves through the tiers.

Fixed Charges. The existing fixed charges for general class customers are shown below in Table 7.1. A multiplier of 1.3x is applied to the ICL fixed charges to determine the OCL fixed charges.

Table 7.1 Existing 2022 Fixed Charges – General Class Water

| Meter Size | Inside City Limits | Outside City Limits |
|------------|--------------------|---------------------|
| 5/8" | \$13.86 | \$16.94 |
| 3/4" | 19.79 | 24.12 |
| 1" | 31.66 | 38.45 |
| 1½" | 61.29 | 74.27 |
| 2" | 96.79 | 117.20 |
| 3" | 179.74 | 217.47 |
| 4" | 298.19 | 360.65 |
| 6" | 594.32 | 718.67 |
| 8" | 949.73 | 1,148.31 |
| 10" | 1,364.34 | 1,649.54 |
| 12" | 2,548.96 | 3,081.65 |

Volumetric Rates. Table 7.2 shows the existing water supply and water delivery volumetric rates for customers located inside the city limits.

Table 7.2 Existing 2022 Volumetric Rates – General Class Water Inside City Limits

| Tier Breakpoint (% of AAC) | % of Usage Billed in Tier (1) | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|-------------------------------|-------------------------------------|----------------------|--------------------------------|----------------------------------|-------------------------------|
| 100% | 83% | --- | \$2.989 | \$1.810 | \$4.799 |
| 125% | 7% | 1.15x | 3.438 | 2.084 | 5.522 |
| 175% | 4% | 1.50x | 4.482 | 2.717 | 7.199 |
| 175%+ | 6% | 1.75x | 5.232 | 3.171 | 8.403 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

Table 7.3 shows the existing water supply and water delivery volumetric rates for customers located outside the city limits. A multiplier of 1.3x is applied to the ICL water delivery volumetric rates to determine the OCL water delivery volumetric rates. No multiplier is applied to the water supply volumetric rates

Table 7.3 Existing 2022 Volumetric Rates – General Class Water Outside City Limits

| Tier Breakpoint (% of AAC) | % of Usage Billed in Tier (1) | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|-------------------------------|-------------------------------------|----------------------|--------------------------------|----------------------------------|-------------------------------|
| 100% | 80% | --- | \$2.989 | \$2.354 | \$5.343 |
| 125% | 7% | 1.15x | 3.438 | 2.710 | 6.148 |
| 175% | 5% | 1.50x | 4.482 | 3.533 | 8.015 |
| 175%+ | 8% | 1.75x | 5.232 | 4.121 | 9.353 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

7.1.2 Recommended Rates

SAWS staff and Carollo presented information to the RAC about extracting multi-family from the general class and developing a separate multi-family rate structure. The presentation included the impact of this change on multi-family cost of service and the remaining general class cost of service. Based on the data available, the analysis determined that the multi-family cost of service is significantly higher than the revenue recovered from multi-family customers under the existing general class rates. The RAC considered the findings of this analysis and determined that further analysis with more detailed data is needed before separating multi-family from the general class. As such, the RAC recommended maintaining the general class to include multi-family, commercial, and industrial customers. Additionally, the RAC recommended that SAWS conduct a study of multi-family usage in order to determine if a different type of rate structure might be appropriate for multi-family customers in the future. More information about the RAC members' discussion of separating multi-family from the general class is available in the minutes from the meeting on May 17, 2022, which are included in Appendix B to this report.

In addition to the information about separating out multi-family, SAWS staff and Carollo presented two general class rate options for consideration by the RAC – maintain the existing four-tier rate structure or change to a single-tier uniform rate structure. The RAC came to a consensus to maintain the existing rate structure with updated rates to reflect cost of service, which are summarized in this section.

The recommended option was developed using the 2022 budget with no overall revenue increase and using the final general class water cost of service.

Fixed Charges. Table 7.4 shows the detailed development of ICL fixed charges for the general class. General class fixed charges have been set at levels consistent with Tier 2 residential fixed charges, but an additional charge has been added to recover the general class's portion of conservation program costs. In total, the recommended fixed charges are less than those currently in place.

Table 7.4 Recommended Fixed Charges – General Class Water Inside City Limits

| Meter Size | Meter Equivalent Factor | Residential Tier 2 Fixed Charge | Conservation Charge | Total Monthly Fixed Charge |
|------------|-------------------------|---------------------------------|---------------------|----------------------------|
| 5/8" | 1.0 | \$11.00 | \$1.70 | \$12.70 |
| 3/4" | 1.5 | 13.93 | 2.55 | 16.48 |
| 1" | 2.5 | 19.79 | 4.25 | 24.04 |
| 1½" | 5.0 | 34.44 | 8.50 | 42.94 |
| 2" | 8.0 | 52.02 | 13.60 | 65.62 |
| 3" | 16.0 | 98.90 | 27.20 | 126.10 |
| 4" | 25.0 | 151.64 | 42.50 | 194.14 |
| 6" | 50.0 | 298.14 | 85.00 | 383.14 |
| 8" | 80.0 | 473.94 | 136.00 | 609.94 |
| 10" | 100.0 | 591.14 | 170.00 | 761.14 |
| 12" | 140.0 | 825.54 | 238.00 | 1,063.54 |

Table 7.5 shows the detailed development of OCL fixed charges for the general class.

Table 7.5 Recommended Fixed Charges – General Class Water Outside City Limits

| Meter Size | Meter Equivalent Factor | Residential Tier 2 Fixed Charge | Conservation Charge | Total Monthly Fixed Charge |
|------------|-------------------------|---------------------------------|---------------------|----------------------------|
| 5/8" | 1.0 | \$14.30 | \$1.70 | \$16.00 |
| 3/4" | 1.5 | 18.11 | 2.55 | 20.66 |
| 1" | 2.5 | 25.73 | 4.25 | 29.98 |
| 1½" | 5.0 | 44.78 | 8.50 | 53.28 |
| 2" | 8.0 | 67.63 | 13.60 | 81.23 |
| 3" | 16.0 | 128.57 | 27.20 | 155.77 |
| 4" | 25.0 | 197.14 | 42.50 | 239.64 |
| 6" | 50.0 | 387.59 | 85.00 | 472.59 |
| 8" | 80.0 | 616.13 | 136.00 | 752.13 |
| 10" | 100.0 | 768.49 | 170.00 | 938.49 |
| 12" | 140.0 | 1,073.21 | 238.00 | 1,311.21 |

Volumetric Rates. The RAC recommended to maintain the existing four-tier volumetric rate structure, which is based on a percentage of each customer's prior year AAC or base usage. The recommended rates were recalculated taking into account the reduced fixed charge and final cost of service, as shown in Table 7.6. The recommended affordability program cost recovery rate is also shown in Table 7.6. This rate recovers the cost associated with providing reduced rates to affordability program participants.

Table 7.6 Recommended Volumetric Rates – General Class Water Inside City Limits

| Tier Breakpoint (% of AAC) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Affordability Program Recovery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|----------------------------|--|-------------------|-----------------------------|-------------------------------|---|----------------------------|
| 100% | 83% | --- | \$3.079 | \$1.958 | \$0.159 | \$5.196 |
| 125% | 7% | 1.15x | 3.541 | 2.252 | 0.159 | 5.952 |
| 175% | 4% | 1.50x | 4.619 | 2.937 | 0.159 | 7.715 |
| 175%+ | 6% | 1.75x | 5.389 | 3.427 | 0.159 | 8.975 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

Table 7.7 shows the detail of the volumetric rates for OCL general class customers, including the proposed affordability program cost recovery rate. As with existing rates, the water supply rates are the same as for ICL customers, but the water delivery rates are 1.3x higher than the ICL water delivery rates.

Table 7.7 Recommended Volumetric Rates – General Class Water Outside City Limits

| Tier Breakpoint (% of AAC) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Affordability Program Recovery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|----------------------------|--|-------------------|-----------------------------|-------------------------------|---|----------------------------|
| 100% | 80% | --- | \$3.079 | \$2.546 | \$0.159 | \$5.784 |
| 125% | 7% | 1.15x | 3.541 | 2.928 | 0.159 | 6.628 |
| 175% | 5% | 1.50x | 4.619 | 3.819 | 0.159 | 8.597 |
| 175%+ | 8% | 1.75x | 5.389 | 4.456 | 0.159 | 10.004 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

7.2 Wastewater Rate Design

7.2.1 Existing Rates

SAWS' existing general class wastewater rates have been in place since January 1, 2019, and include monthly fixed charges based on water meter size and a two-tiered volumetric rate structure. In addition, general class customers with loadings that exceed the assumed levels for normal domestic wastewater pay high-strength surcharges.

Fixed Charges. The existing wastewater fixed charges are shown below in Table 7.8. A multiplier of 1.2x is applied to the ICL fixed charges to determine the OCL fixed charges.

Table 7.8 Existing 2022 Fixed Charges – General Class Wastewater

| Meter Size | Inside City Limits | Outside City Limits |
|------------|--------------------|---------------------|
| 5/8" | \$14.53 | \$17.43 |
| 3/4" | 15.97 | 19.18 |
| 1" | 18.14 | 21.78 |
| 1½" | 25.41 | 30.50 |
| 2" | 36.31 | 43.58 |
| 3" | 72.61 | 87.12 |
| 4" | 108.91 | 130.70 |
| 6" | 181.52 | 217.83 |
| 8" | 290.41 | 348.52 |
| 10" | 435.65 | 522.77 |
| 12" | 580.86 | 697.03 |

Volumetric Rates. Table 7.9 shows the existing wastewater volumetric rates for customers located inside the city limits and outside the city limits. A multiplier of 1.2x is applied to the ICL wastewater volumetric rates to determine the OCL wastewater volumetric rates.

Table 7.9 Existing 2022 Volumetric Rates – General Class Wastewater

| Tier Volume Range (kgals) | % of Volume Billed in Tier ⁽¹⁾ | Tier Differential | ICL Rate (\$/kgal) | OCL Rate (\$/kgal) |
|---------------------------|---|-------------------|--------------------|--------------------|
| 0.000 – 1.496 | 2%/1% | --- | \$0.000 | \$0.000 |
| 1.497+ | 98%/99% | --- | 4.159 | 4.992 |

Note:

(1) Percentage of volume billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020. First percentage shown in each row is for inside city limits customers, and second percentage is for outside city limits customers.

High-Strength Surcharges. SAWS currently charges commercial and industrial customers that discharge high-strength wastewater for the biochemical oxygen demand (BOD) and total suspended solids (TSS) in excess of 250 milligrams per liter (mg/L). Table 7.10 provides the current BOD and TSS surcharges.

Table 7.10 Existing 2022 High-Strength Surcharge – General Class Wastewater

| Surcharge Range | BOD Surcharge ⁽¹⁾ | TSS Surcharge ⁽¹⁾ |
|-----------------|------------------------------|------------------------------|
| > 250 mg/l | \$1.81 | \$1.68 |

Notes:

(1) Surcharge is per million gallons (MG) per mg/L over 250 mg/L.

7.2.2 Recommended Rates

SAWS staff and Carollo developed one alternative rate structure for general class customers for consideration by the RAC, which the RAC recommends. The details of the recommended general class wastewater rate structure are presented in this section. The recommended option was developed using the 2022 budget with no overall revenue increase and using the final general class wastewater cost of service.

Fixed Charges. Table 7.11 shows the recommended fixed charges for the general class, which are the same as for the residential class but with recommendations for the larger meter sizes.

Table 7.11 Recommended Fixed Charges – General Class Wastewater

| Meter Size | Inside City Limits | Outside City Limits |
|------------|--------------------|---------------------|
| 5/8" | \$10.00 | \$12.00 |
| 3/4" | 13.89 | 16.67 |
| 1" | 21.66 | 26.00 |
| 1½" | 41.08 | 49.30 |
| 2" | 64.39 | 77.27 |
| 3" | 126.55 | 151.86 |
| 4" | 196.48 | 235.78 |
| 6" | 390.73 | 468.88 |
| 8" | 623.83 | 748.60 |
| 10" | 779.23 | 935.08 |
| 12" | 1,090.03 | 1,308.04 |

Volumetric Rates. The recommended wastewater volumetric rate structure is a single-tier uniform rate, as shown in Table 7.12. The recommended affordability program cost recovery rate is also shown, which recovers the cost of the recommended affordability program rate structure discussed in the Chapter 6. A 1.2x multiplier is applied to ICL wastewater rates to calculate OCL wastewater rates. No multiplier is applied to the affordability program cost recovery rate.

Table 7.12 Recommended Volumetric Rates – General Class Wastewater

| Tier Volume Range (kgals) | Affordability Program Recovery Rate (\$/kgal) | ICL Wastewater Rate (\$/kgal) | Total ICL Wastewater Rate (\$/kgal) | OCL Wastewater Rate (\$/kgal) | Total OCL Wastewater Rate (\$/kgal) |
|---------------------------|---|-------------------------------|-------------------------------------|-------------------------------|-------------------------------------|
| All | \$0.161 | \$4.368 | \$4.529 | \$5.242 | \$5.403 |

High-Strength Surcharges. As part of the cost-of-service task outlined in the 2022 COS TM, the Carollo team calculated the unit cost to remove one pound of BOD and the unit cost to remove one pound of TSS. These unit costs are converted into a rate per MG per mg/l over 250 mg/l, as shown in Table 7.13. An additional fixed monthly charge is also recommended to recover the costs related to surcharge sampling from those customers who pay surcharges and are sampled regularly.

Table 7.13 Recommended High-Strength Surcharges – General Class Wastewater

| Description | Assessment Criteria | Unit Cost | Recommended Charge ⁽¹⁾ |
|-----------------|------------------------------|--------------------|-----------------------------------|
| BOD Surcharge | BOD > 250 mg/l | \$0.1580 per pound | \$1.32 |
| TSS Surcharge | TSS > 250 mg/l | \$0.3649 per pound | 3.05 |
| Sampling Charge | All surcharge customer bills | \$21.74 per bill | 21.74 |

Note:

(1) BOD and TSS Surcharges are assessed per million gallons per mg/L above 250 mg/L. Sampling Charge is assessed per month.

7.3 Bill Impacts

Figure 7.1 shows the cumulative percentage of general class bills at usage levels up to 250 percent of the customer's AAC or base usage. From this chart, we see that 69.0 percent of the ICL general class bills and 67.1 percent of the OCL general class bills are for 100 percent of AAC or less, which means two-thirds of the customer bills stay in Tier 1. Figure 7.1 also shows the cumulative usage that is billed at different usage levels.

For example, 82.2 percent of the ICL general class usage and 79.5 percent of the OCL general class usage is billed at the Tier 1 rate, which includes usage up to 100 percent of AAC. This means that only about 20 percent of usage is billed at the Tier 2 rate or higher.

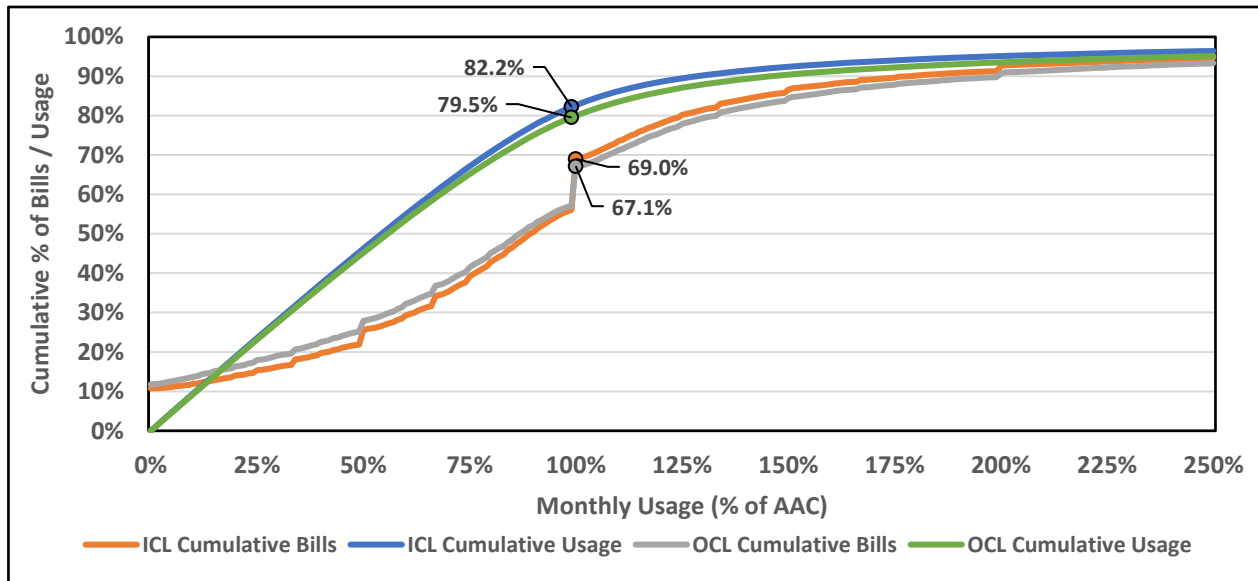


Figure 7.1 Bill Frequency Analysis – General Class Water

Figure 7.2 illustrates the impact of the recommended rates on water bills for ICL and OCL general class customers with a 1-inch meter, AAC of 25,000 gallons, and monthly usage up to 50,000 gallons. The bill impacts include the EAA pass-through of \$0.3385 per 1,000 gallons and the TCEQ pass-through of \$0.21 per bill.

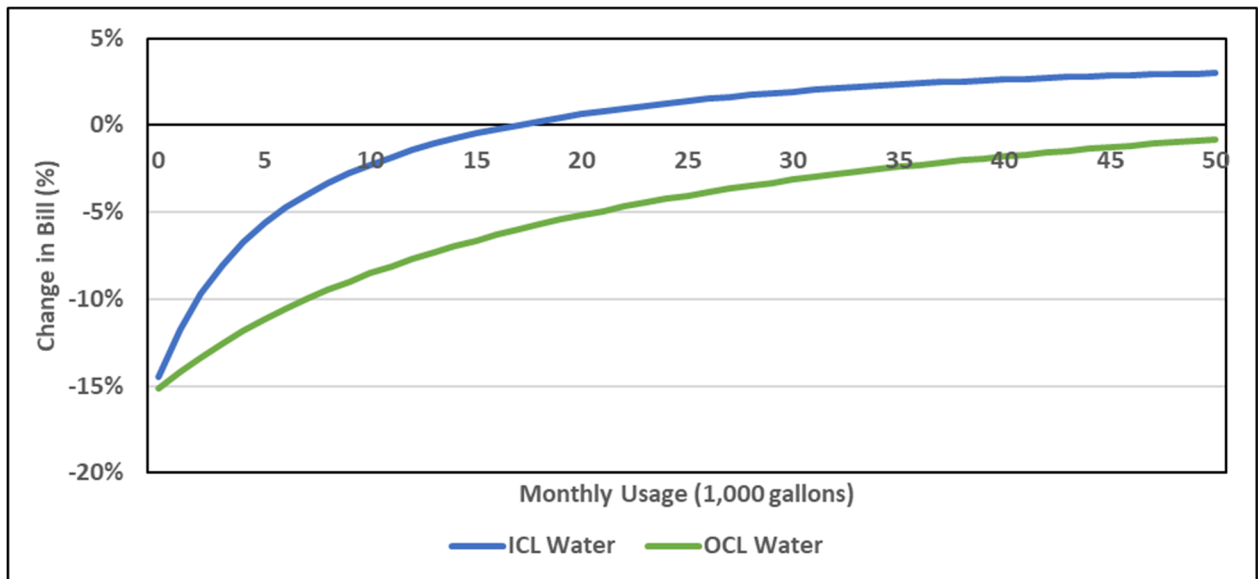


Figure 7.2 Monthly Bill Impact – General Class Water

The wastewater bill impacts are also shown in Figure 7.3 for ICL and OCL non-surcharge general class customers with a 1-inch water meter and monthly billable volume up to 50,000 gallons. The bill impacts include the TCEQ pass-through of \$0.06 per bill.

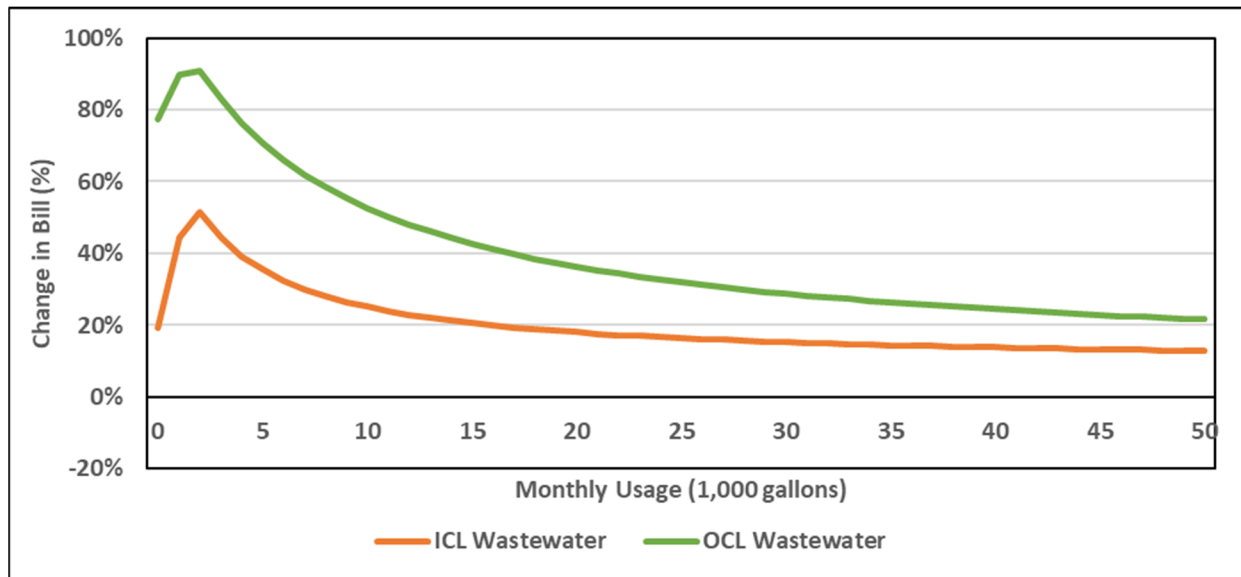


Figure 7.3 Monthly Bill Impact – General Class Wastewater

Table 7.14 provides the combined bill impacts for sample ICL non-surcharge general class customers with varying average annual consumption and monthly usage amounts.

Table 7.14 Combined Monthly Bill Impacts – General Class Inside City Limits Sample Customers

| Sample Customer | Meter Size | Monthly Usage (kgal) | Water Base Usage ⁽¹⁾ (kgal) | Current Bill | Proposed Bill | Difference (\$) | Difference (%) |
|-----------------|------------|----------------------|--|--------------|---------------|-----------------|----------------|
| Low | 5/8" | 1.0 | 1.0 | \$33.80 | \$33.03 | -\$0.76 | -2% |
| | | | 0.7 | 34.22 | 33.48 | -0.74 | -2% |
| | | | 0.5 | 34.94 | 34.23 | -0.71 | -2% |
| Medium | 3/4" | 8.0 | 8.0 | 104.18 | 107.26 | 3.08 | 3% |
| | | | 6.0 | 106.46 | 109.65 | 3.19 | 3% |
| | | | 4.0 | 113.31 | 116.83 | 3.52 | 3% |
| High | 2" | 200.0 | 200.0 | 1,986.45 | 2,088.59 | 102.14 | 5% |
| | | | 150.0 | 2,043.56 | 2,148.43 | 104.87 | 5% |
| | | | 100.0 | 2,214.62 | 2,327.92 | 113.29 | 5% |

Note:

(1) Water base usage is average annual consumption.

Table 7.15 provides the combined bill impacts for sample OCL non-surcharge general class customers with varying average annual consumption and monthly usage amounts.

Table 7.15 Combined Monthly Bill Impacts – General Class Outside City Limits Sample Customers

| Sample Customer | Meter Size | Monthly Usage (kgal) | Water Base Usage ⁽¹⁾ (kgal) | Current Bill | Proposed Bill | Difference (\$) | Difference (%) |
|-----------------|------------|----------------------|--|--------------|---------------|-----------------|----------------|
| Low | 5/8" | 1.0 | 1.0 | \$40.32 | \$39.80 | -\$0.53 | -1% |
| | | | 0.7 | 41.56 | 40.29 | -1.27 | -3% |
| | | | 0.5 | 43.90 | 41.13 | -2.77 | -6% |
| Medium | 3/4" | 8.0 | 8.0 | 121.49 | 125.13 | 3.64 | 3% |
| | | | 6.0 | 124.03 | 127.81 | 3.77 | 3% |
| | | | 4.0 | 131.65 | 135.82 | 4.18 | 3% |
| High | 2" | 200.0 | 200.0 | 2,288.28 | 2,398.60 | 110.32 | 5% |
| | | | 150.0 | 2,351.87 | 2,465.41 | 113.54 | 5% |
| | | | 100.0 | 2,542.26 | 2,665.85 | 123.59 | 5% |

Note:

(1) Water base usage is average annual consumption.

Chapter 8

IRRIGATION WATER RATES

8.1 Water Rate Design

8.1.1 Existing Rates

Irrigation rates apply to all water usage measured by separate irrigation meters as well as assumed irrigation usage for general class customers that have an automatic irrigation system in place but no separate irrigation meter. SAWS' existing irrigation water rates have been in place since January 1, 2020, and include monthly fixed charges based on meter size and tiered volumetric rates for water supply and water delivery. The volumetric rate structure consists of four tiers, increasing the rate per 1,000 gallons as a customer uses more water.

Fixed Charges. The existing fixed charges for irrigation customers are shown below in Table 8.1. A multiplier of 1.3x is applied to the ICL fixed charges to determine the OCL fixed charges.

Table 8.1 Existing 2022 Fixed Charges – Irrigation Water

| Meter Size | Inside City Limits | Outside City Limits |
|------------|--------------------|---------------------|
| 5/8" | \$13.86 | \$16.94 |
| 3/4" | 19.79 | 24.12 |
| 1" | 31.66 | 38.45 |
| 1½" | 61.29 | 74.27 |
| 2" | 96.79 | 117.20 |
| 3" | 179.74 | 217.47 |
| 4" | 298.19 | 360.65 |
| 6" | 594.32 | 718.67 |
| 8" | 949.73 | 1,148.31 |
| 10" | 1,364.34 | 1,649.54 |
| 12" | 2,548.96 | 3,081.65 |

Volumetric Rates. Table 8.2 shows the existing water supply and water delivery volumetric rates for customers located inside the city limits.

Table 8.2 Existing 2022 Volumetric Rates – Irrigation Water Inside City Limits

| Tier Usage Range (kgals) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|--------------------------|--|-------------------|-----------------------------|-------------------------------|----------------------------|
| 0.000 – 8.229 | 14% | --- | \$3.911 | \$3.292 | \$7.203 |
| 8.230 – 17.954 | 11% | 1.40x | 5.474 | 4.607 | 10.081 |
| 17.955 – 162.316 | 51% | 1.80x | 7.039 | 5.925 | 12.964 |
| 162.317+ | 24% | 2.30x | 8.996 | 7.570 | 16.566 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

Table 8.3 shows the existing water supply and water delivery volumetric rates for customers located outside the city limits. A multiplier of 1.3x is applied to the ICL water delivery volumetric rates to determine the OCL water delivery volumetric rates. No multiplier is applied to the water supply volumetric rates

Table 8.3 Existing 2022 Volumetric Rates – Irrigation Water Outside City Limits

| Tier Usage Range (kgals) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|--------------------------|--|-------------------|-----------------------------|-------------------------------|----------------------------|
| 0.000 – 8.229 | 11% | --- | \$3.911 | \$4.279 | \$8.190 |
| 8.230 – 17.954 | 10% | 1.40x | 5.474 | 5.991 | 11.465 |
| 17.955 – 162.316 | 46% | 1.80x | 7.039 | 7.702 | 14.741 |
| 162.317+ | 33% | 2.30x | 8.996 | 9.841 | 18.837 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

8.1.2 Recommended Rates

SAWS staff and Carollo developed one irrigation rate option for consideration by the RAC – maintain the existing four-tier rate structure. The RAC agreed to maintain the existing rate structure with updated rates to reflect cost of service, which are summarized in this section. The recommended option was developed using the 2022 budget with no overall revenue increase and using the final irrigation water cost of service.

Fixed Charges. Table 8.4 shows the detailed development of ICL fixed charges for irrigation. Similar to the general class, irrigation fixed charges have been set at levels consistent with Tier 2 residential fixed charges, but an additional charge has been added to recover the irrigation class's portion of conservation program costs. In total, the newly developed fixed charges are less than those currently in place.

Table 8.4 Recommended Fixed Charges – Irrigation Water Inside City Limits

| Meter Size | Meter Equivalent Factor | Residential Tier 2 Fixed Charge | Conservation Charge | Total Monthly Fixed Charge |
|------------|-------------------------|---------------------------------|---------------------|----------------------------|
| 5/8" | 1.0 | \$11.00 | \$1.70 | \$12.70 |
| 3/4" | 1.5 | 13.93 | 2.55 | 16.48 |
| 1" | 2.5 | 19.79 | 4.25 | 24.04 |
| 1½" | 5.0 | 34.44 | 8.50 | 42.94 |
| 2" | 8.0 | 52.02 | 13.60 | 65.62 |
| 3" | 16.0 | 98.90 | 27.20 | 126.10 |
| 4" | 25.0 | 151.64 | 42.50 | 194.14 |
| 6" | 50.0 | 298.14 | 85.00 | 383.14 |
| 8" | 80.0 | 473.94 | 136.00 | 609.94 |
| 10" | 100.0 | 591.14 | 170.00 | 761.14 |
| 12" | 140.0 | 825.54 | 238.00 | 1,063.54 |

Table 8.5 shows the detailed development of OCL fixed charges for irrigation.

Table 8.5 Recommended Fixed Charges – Irrigation Water Outside City Limits

| Meter Size | Meter Equivalent Factor | Residential Tier 2 Fixed Charge | Conservation Charge | Total Monthly Fixed Charge |
|------------|-------------------------|---------------------------------|---------------------|----------------------------|
| 5/8" | 1.0 | \$14.30 | \$1.70 | \$16.00 |
| 3/4" | 1.5 | 18.11 | 2.55 | 20.66 |
| 1" | 2.5 | 25.73 | 4.25 | 29.98 |
| 1½" | 5.0 | 44.78 | 8.50 | 53.28 |
| 2" | 8.0 | 67.63 | 13.60 | 81.23 |
| 3" | 16.0 | 128.57 | 27.20 | 155.77 |
| 4" | 25.0 | 197.14 | 42.50 | 239.64 |
| 6" | 50.0 | 387.59 | 85.00 | 472.59 |
| 8" | 80.0 | 616.13 | 136.00 | 752.13 |
| 10" | 100.0 | 768.49 | 170.00 | 938.49 |
| 12" | 140.0 | 1,073.21 | 238.00 | 1,311.21 |

Volumetric Rates. The RAC recommended to maintain the existing four-tier volumetric rate structure with minor adjustments to the tier breakpoints, so they are in 1,000-gallon increments rather than 100-cubic foot increments. The recommended rates were recalculated taking into account the reduced fixed charge and final cost of service, as shown in Table 8.6. The recommended affordability program cost recovery rate is also shown in Table 8.6. This rate recovers the cost associated with providing reduced rates to affordability program participants.

Table 8.6 Recommended Volumetric Rates – Irrigation Water Inside City Limits

| Tier Usage Range (kgals) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Affordability Program Recovery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|--------------------------|--|-------------------|-----------------------------|-------------------------------|---|----------------------------|
| 0.000 – 8.000 | 14% | --- | \$3.813 | \$3.475 | \$0.159 | \$7.447 |
| 8.001 – 18.000 | 11% | 1.40x | 5.339 | 4.865 | 0.159 | 10.363 |
| 18.001 – 160.000 | 51% | 1.80x | 6.864 | 6.255 | 0.159 | 13.278 |
| 160.001+ | 24% | 2.30x | 8.770 | 7.993 | 0.159 | 16.922 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

Table 8.7 shows the detail of the volumetric rates for OCL irrigation customers, including the proposed affordability program cost recovery rate. As with existing rates, the water supply rates are the same as for ICL customers, but the water delivery rates are 1.3x higher than the ICL water delivery rates.

Table 8.7 Recommended Volumetric Rates – Irrigation Water Outside City Limits

| Tier Usage Range (kgals) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Affordability Program Recovery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|--------------------------|--|-------------------|-----------------------------|-------------------------------|---|----------------------------|
| 0.000 – 8.000 | 11% | --- | \$3.813 | \$4.518 | \$0.159 | \$8.490 |
| 8.001 – 18.000 | 10% | 1.40x | 5.339 | 6.325 | 0.159 | 11.823 |
| 18.001 – 160.000 | 46% | 1.80x | 6.864 | 8.132 | 0.159 | 15.155 |
| 160.001+ | 33% | 2.30x | 8.77 | 10.391 | 0.159 | 19.320 |

Note:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020.

8.2 Bill Impacts

Figure 8.1 shows the cumulative percentage of irrigation bills at each incremental usage level up to 50,000 gallons per month. From this chart, we see that the median for bills is around 3,000 gallons, with 51.4 percent of the ICL irrigation bills and 49.6 percent of the OCL irrigation bills for 3,000 gallons or less. Figure 8.1 also shows the cumulative usage that is billed at each incremental usage level. While more than two-thirds of irrigation bills remain in Tier 1 or Tier 2, only 25.4 percent of the ICL irrigation usage and 21.2 percent of the OCL irrigation usage is billed at the Tier 1 or Tier 2 rate.

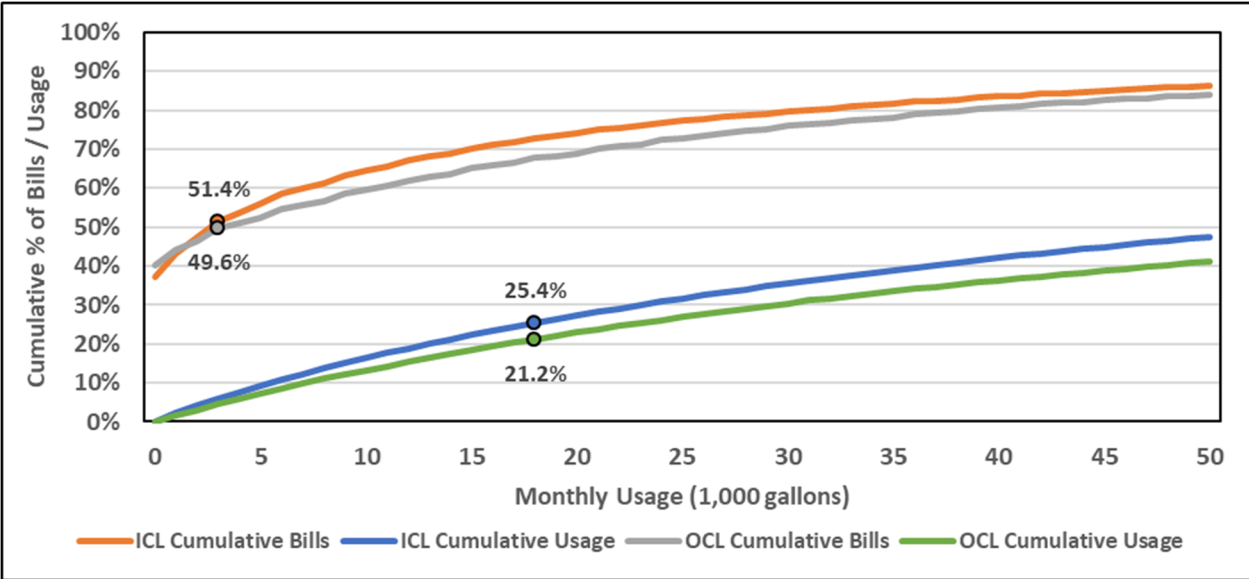


Figure 8.1 Bill Frequency Analysis – Irrigation

Figure 8.2 illustrates the impact of the recommended rates on the irrigation water bills for ICL and OCL customers with a 5/8-inch meter and monthly water usage up to 30,000 gallons. The bill impacts include the EAA pass-through of \$0.3385 per 1,000 gallons and the TCEQ pass-through of \$0.21 per bill.

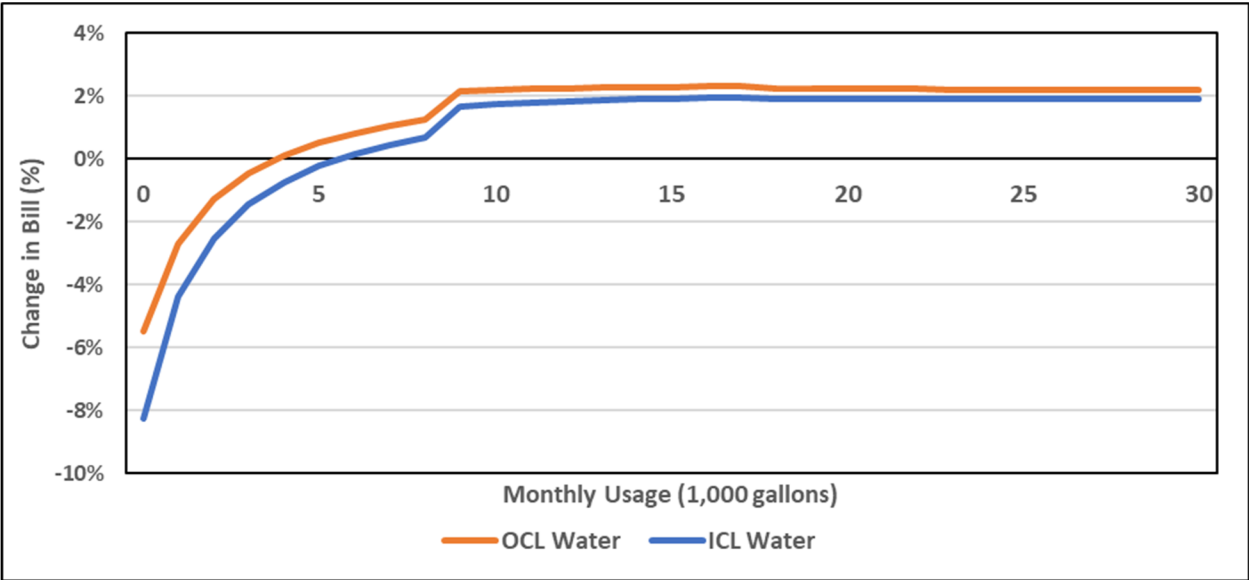


Figure 8.2 Monthly Bill Impact – Irrigation

Chapter 9

RECYCLED WATER RATES

9.1 Rate Design

SAWS' recycled water system distributes treated wastewater through a "purple pipe" looped system around San Antonio, including through the River Walk. Recycled water is used for several purposes, including landscaping/irrigation, golf courses, cooling towers, other industrial/manufacturing uses, and river flows.

9.1.1 Existing Rates

SAWS' existing recycled water rates have been in place since January 1, 2020, and include monthly fixed charges based on meter size and tiered volumetric rates for Edwards Exchange and Non-Edwards Exchange customers. The two separate volumetric rate structures each consists of two tiers and are seasonal.

Fixed Charges. The existing fixed charges for recycled water customers are shown below in Table 9.1.

Table 9.1 Existing 2022 Fixed Charges – Recycled Water

| Meter Size | Edwards Exchange | Non-Edwards Exchange |
|------------|------------------|----------------------|
| 5/8" | \$14.71 | \$14.71 |
| 3/4" | 19.13 | 19.13 |
| 1" | 24.94 | 24.94 |
| 1½" | 39.62 | 39.62 |
| 2" | 57.93 | 57.93 |
| 3" | 154.09 | 154.09 |
| 4" | 229.04 | 229.04 |
| 6" | 436.90 | 436.90 |
| 8" | 658.58 | 658.58 |
| 10" | 903.06 | 903.06 |
| 12" | 1,114.22 | 1,114.22 |

Volumetric Rates

Edwards Exchange. Edwards Exchange customers have transferred Edwards Aquifer water rights to SAWS in exchange for reduced recycled water rates for the term of their contract. Seasonal rates are 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. The excess usage rate is applied to all usage in excess of the amount of transferred Edwards Aquifer water rights. Table 9.2 shows the existing volumetric rates for Edwards Exchange customers.

Table 9.2 Existing 2022 Volumetric Rates – Edwards Exchange Recycled Water

| Tier Description | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential ⁽²⁾ | Standard Rate (\$/kgal) | Seasonal Rate (\$/kgal) |
|-----------------------|--|----------------------------------|-------------------------|-------------------------|
| Transferred Amount | 100% | --- | \$0.387 | \$0.387 |
| In Excess of Transfer | 0% | 3.75x/4.00x | 1.452 | \$1.542 |

Notes:

(1) Analysis assumes Edwards Exchange recycled water customers do not exceed transferred amount.

(2) First differential shown is for the standard rates, and second differential is for the seasonal rates.

Non-Edwards Exchange. Non-Edwards Exchange customers have not transferred Edwards Aquifer water rights to SAWS and therefore pay higher recycled water rates. These customers receive a set amount of recycled water at a lower rate, but when their usage exceeds that amount, a higher rate is applied. Seasonal rates are 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. New contract terms are take-or-pay, which applies to approximately 4 percent of existing customers. Table 9.2 shows the existing volumetric rates for Non-Edwards Exchange customers.

Table 9.3 Existing 2022 Volumetric Rates – Non-Edwards Exchange Recycled Water

| Tier Volume Range (kgals) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential ⁽²⁾ | Standard Rate (\$/kgal) | Seasonal Rate (\$/kgal) |
|---------------------------|--|----------------------------------|-------------------------|-------------------------|
| 0.000 – 748.000 | 29%/20% | --- | \$1.553 | \$1.670 |
| 748.001+ | 71%/80% | 1.02x/1.01x | 1.588 | 1.684 |

Notes:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020. First percentage shown is for the standard rates, and second percentage is for the seasonal rates.

(2) First differential shown is for the standard rates, and second differential is for the seasonal rates.

9.1.2 Recommended Rates

SAWS staff and Carollo presented the 2019 RAC recycled water rate recommendations for consideration by the RAC, which included a proposed 15 percent rate increase in Year 1 followed by proposed 10 percent annual rate increases in Years 2 through 5. The current RAC agreed with this recommendation. The recommended recycled water rates are presented in this section.

Fixed Charges. The fixed charges are the same for Edwards Exchange and Non-Edwards Exchange customers, as shown in Table 9.4.

Table 9.4 Recommended Fixed Charges – Recycled Water

| Meter Size | Edwards Exchange | Non-Edwards Exchange |
|------------|------------------|----------------------|
| 5/8" | \$16.92 | \$16.92 |
| 3/4" | 22.00 | 22.00 |
| 1" | 28.69 | 28.69 |
| 1½" | 45.57 | 45.57 |
| 2" | 66.62 | 66.62 |
| 3" | 177.21 | 177.21 |
| 4" | 263.40 | 263.40 |
| 6" | 502.44 | 502.44 |
| 8" | 757.37 | 757.37 |
| 10" | 1,038.52 | 1,038.52 |
| 12" | 1,281.36 | 1,281.36 |

Volumetric Rates

Edwards Exchange. The recommended volumetric rate structure for Edwards Exchange customers is unchanged, but the rates have been increased by the proposed 15 percent, as shown in Table 9.5.

Table 9.5 Recommended Volumetric Rates – Edwards Exchange Recycled Water

| Tier Description | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential ⁽²⁾ | Standard Rate (\$/kgal) | Seasonal Rate (\$/kgal) |
|-----------------------|--|----------------------------------|-------------------------|-------------------------|
| Transferred Amount | 100% | --- | \$0.446 | \$0.446 |
| In Excess of Transfer | 0% | 3.75x/4.00x | 1.670 | 1.774 |

Notes:

(1) Analysis assumes Edwards Exchange recycled water customers do not exceed transferred amount.

(2) First differential shown is for the standard rates, and second differential is for the seasonal rates.

Non-Edwards Exchange. The recommended volumetric rate structure for Non-Edwards Exchange customers is unchanged, but the rates have been increased by the proposed 15 percent, as shown in Table 9.6.

Table 9.6 Existing 2022 Volumetric Rates – Non-Edwards Exchange Recycled Water

| Tier Volume Range (kgals) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential ⁽²⁾ | Standard Rate (\$/kgal) | Seasonal Rate (\$/kgal) |
|---------------------------|--|----------------------------------|-------------------------|-------------------------|
| 0.000 – 748.000 | 29%/20% | --- | \$1.786 | \$1.921 |
| 748.001+ | 71%/80% | 1.02x/1.01x | 1.827 | 1.937 |

Notes:

(1) Percentage of usage billed in each tier is derived from a bill frequency analysis of actual customer billing data for 2018 through 2020. First percentage shown is for the standard rates, and second percentage is for the seasonal rates.

(2) First differential shown is for the standard rates, and second differential is for the seasonal rates.

9.2 Bill Impacts

Table 9.7 provides the bill impacts for sample recycled water customers with varying average annual usage amounts.

Table 9.7 Annual Bill Impacts – Recycled Water Sample Customers ⁽¹⁾

| Sample Customer | Assumed Meter Size | Average Annual Usage (MG) | Current Annual Charge | Current Unit Cost (\$/kgal) | Year 1 Proposed Annual Charge | Proposed Unit Cost (\$/kgal) |
|---------------------|--------------------|---------------------------|-----------------------|-----------------------------|-------------------------------|------------------------------|
| Low | 2" | 0.2 | \$1,005.76 | \$5.03 | \$1,156.64 | \$5.78 |
| Medium | 4" | 2.8 | 7,096.88 | 2.53 | 8,157.28 | 2.91 |
| High | 8" | 56.0 | 96,516.80 | 1.72 | 111,032.42 | 1.98 |
| CoSA ⁽²⁾ | 6", 12", 12" | 2,147.4 | 863,027.88 | 0.40 | 994,522.32 | 0.46 |

Notes:

(1) All bills are calculated using Non-Edwards Exchange standard rates except the CoSA bills, which are calculated using Edwards Exchange rates.

(2) In July 2022, SAWS entered into an agreement with the City of San Antonio (CoSA) for recycled water provided to the San Antonio River and Salado Creek. CoSA will pay for the water provided at Edwards Exchange rates.

Table 9.8 shows the projected average unit costs for sample recycled water customers for the next five years based on the recommended rate increases.

Table 9.8 Projected Average Unit Costs – Recycled Water Sample Customers ⁽¹⁾

| Sample Customer | Assumed Meter Size | Average Annual Usage (MG) | Current Unit Cost (\$/kgal) | Year 1 Unit Cost (\$/kgal) | Year 2 Unit Cost (\$/kgal) | Year 3 Unit Cost (\$/kgal) | Year 4 Unit Cost (\$/kgal) | Year 5 Unit Cost (\$/kgal) |
|---------------------|--------------------|---------------------------|-----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Low | 2" | 0.2 | \$5.03 | \$5.78 | \$6.36 | \$7.00 | \$7.70 | \$8.47 |
| Medium | 4" | 2.8 | 2.53 | 2.91 | 3.20 | 3.52 | 3.87 | 4.23 |
| High | 8" | 56.0 | 1.72 | 1.98 | 2.18 | 2.40 | 2.64 | 2.90 |
| CoSA ⁽²⁾ | 6", 12", 12" | 2,147.4 | 0.40 | 0.46 | 0.51 | 0.56 | 0.62 | 0.68 |

Note:

(1) All bills are calculated using Non-Edwards Exchange standard rates except the CoSA bills, which are calculated using Edwards Exchange rates.

Chapter 10

WHOLESALE WATER AND WASTEWATER RATES

10.1 Water Rate Design

10.1.1 Existing Rates

SAWS' existing wholesale water rates have been in place since January 1, 2020, and include monthly fixed charges based on meter size and tiered volumetric rates for water supply and water delivery based on contracted take or pay volumes. The volumetric rate structure consists of two tiers, increasing the rate per 1,000 gallons when a customer exceeds its negotiated contract amount.

Fixed Charges. The existing fixed charges for wholesale water customers are shown below in Table 10.1.

Table 10.1 Existing 2022 Fixed Charges – Wholesale Water

| Meter Size | Fixed Charge |
|------------|--------------|
| 6" | \$538.85 |
| 8" | 860.58 |
| 10" | 1,235.91 |
| 12" | 2,308.35 |

Volumetric Rates. Table 10.2 shows the existing water supply and water delivery volumetric rates for wholesale water customers.

Table 10.2 Existing 2022 Volumetric Rates – Wholesale Water

| Tier Breakpoint (% of AAC) | % of Usage Billed in Tier ⁽¹⁾ | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|-------------------------------|---|-------------------|--------------------------------|----------------------------------|-------------------------------|
| 100% | 100% | --- | \$3.892 | \$2.099 | \$5.991 |
| 100%+ | 0% | 3.00x | 11.681 | 6.299 | 17.980 |

Notes:

(1) Analysis assumes wholesale water customers do not exceed base or contracted amount.

10.1.2 Recommended Rates

SAWS staff and Carollo developed a recommendation for Wholesale class water rates that maintains the existing two-tier rate structure with a reduced tier differential. These recommended rates were developed using the 2022 budget with no overall revenue increase and using the final wholesale water cost of service. The recommendations were presented to the RAC, and no objections were expressed by RAC members.

Fixed Charges. Table 10.3 shows the recommended fixed charges for wholesale water. Wholesale water fixed charges are the same as Tier 2 residential fixed charges or general class fixed charges without the additional conservation charge. These newly developed fixed charges are less than the fixed charges currently in place.

Table 10.3 Recommended Fixed Charges – Wholesale Water

| Meter Size | Fixed Charge |
|------------|--------------|
| 6" | \$298.14 |
| 8" | 473.94 |
| 10" | 591.14 |
| 12" | 825.54 |

Volumetric Rates. SAWS staff and Carollo recommend maintaining the existing two-tier volumetric rate structure, which is based on each customer's contracted amount. The recommended rates were recalculated with the decreased fixed charge, reduced tier differential, and final cost of service, as shown in Table 10.4.

Table 10.4 Recommended Volumetric Rates – Wholesale Water

| Tier Breakpoint (% of Contact Amount) | % of Usage Billed in Tier (1) | Tier Differential | Water Supply Rate (\$/kgal) | Water Delivery Rate (\$/kgal) | Total Water Rate (\$/kgal) |
|---|-------------------------------------|----------------------|--------------------------------|----------------------------------|-------------------------------|
| 100% | 100% | --- | \$3.567 | \$2.723 | \$6.290 |
| 100%+ | 0% | 2.00x | \$7.134 | \$5.446 | 12.580 |

Notes:

(1) Analysis assumes wholesale water customers do not exceed base or contracted amount.

10.2 Wastewater Rate Design

10.2.1 Existing Rates

SAWS' existing wholesale wastewater rates have been in place since January 1, 2019 and include a monthly fixed charge and a uniform volumetric rate, which are shown below in Table 10.5.

Table 10.5 Existing 2022 Wholesale Wastewater Fixed Charge and Volumetric Rate

| Description | Charge |
|---------------------------|----------|
| Fixed Monthly Charge | \$340.07 |
| Volumetric Rate (\$/kgal) | \$4.438 |

10.2.2 Recommended Rates

SAWS staff and Carollo recommend maintaining the existing rate structure for wholesale wastewater. The existing rates were adjusted using the 2022 budget with no overall revenue increase, no change to the fixed charge, and using the final wholesale wastewater cost of service, as shown in Table 10.6.

Table 10.6 Recommended Wholesale Wastewater Fixed Charge and Volumetric Rate

| Description | Charge |
|---------------------------|----------|
| Fixed Monthly Charge | \$340.07 |
| Volumetric Rate (\$/kgal) | \$4.256 |

Chapter 11

REVENUE SUFFICIENCY ANALYSIS

11.1 Projected Water Revenue

Water revenue is projected for each customer class using the recommended rates and the budgeted 2022 consumption data to verify that the recommended rates will generate sufficient revenue with the assumed consumption. Table 11.1 summarizes the projected water revenue and compares to the 2022 budgeted revenue. The average unit cost is also calculated for each customer class with and without fixed charges.

Table 11.1 Water Revenue Adjustment

| Customer Class | 2022 Budgeted Revenue (\$000s) | Projected Revenue w/Proposed Rates (\$000s) | Revenue Adjustment | Total Unit Cost ⁽¹⁾ (\$/kgal) | Volumetric Unit Cost ⁽²⁾ (\$/kgal) |
|-----------------------------|--------------------------------|---|--------------------|--|---|
| Residential | \$285,071 | \$275,979 | (3.2%) | | |
| <i>Non-Affordability</i> | | 269,122 | | \$7.47 | \$5.62 |
| <i>Affordability</i> | | 6,857 | | 2.95 | 2.47 |
| General | 149,940 | 156,726 | 4.5% | 6.31 | 5.63 |
| Irrigation | 56,183 | 56,821 | 1.1% | 14.18 | 13.35 |
| Wholesale | 2,285 | 2,398 | 5.0% | 6.40 | 6.29 |
| Recycled Water | 2,985 | 4,615 | 54.6% | | |
| <i>Edwards Exchange</i> | | 1,177 | | 0.47 | 0.45 |
| <i>Non-Edwards Exchange</i> | | 3,438 | | 2.13 | 1.88 |
| TOTAL | \$496,464 | \$496,539 | 0.0% | | |

Notes:

(1) Total unit cost includes revenue from fixed charges.

(2) Volumetric unit cost excludes revenue from fixed charges.

11.2 Projected Wastewater Revenue

Wastewater revenue is projected for each customer class using the recommended rates and the budgeted 2022 consumption data to verify that the recommended rates will generate sufficient revenue with the assumed flows and loadings. Table 11.2 summarizes the projected wastewater revenue and compares to the 2022 budgeted revenue. The average unit cost is also calculated for each customer class with and without fixed charges.

Table 11.2 Wastewater Revenue Adjustment

| Customer Class | 2022 Budgeted Revenue (\$000s) | Projected Revenue w/Proposed Rates (\$000s) | Revenue Adjustment | Total Unit Cost (\$/kgal) | Volumetric Unit Cost (\$/kgal) |
|--------------------------|--------------------------------|---|--------------------|---------------------------|--------------------------------|
| Residential | \$164,480 | \$150,012 | (8.8%) | | |
| <i>Non-Affordability</i> | | 146,605 | | \$5.86 | \$3.56 |
| <i>Affordability</i> | | 3,407 | | 1.79 | 1.79 |
| General | 98,537 | 113,843 | 15.5% | 5.22 | 4.56 |
| Wholesale | 11,896 | 11,613 | (2.4%) | 4.27 | 4.26 |
| Surcharge ⁽³⁾ | 5,886 | 5,371 | (8.7%) | | |
| TOTAL | \$280,799 | \$280,838 | 0.0% | | |

Notes:

- (1) Total unit cost includes revenue from fixed charges.
- (2) Volumetric unit cost excludes revenue from fixed charges.
- (3) Projected surcharge revenue is based on charges outlined in Section 7.2.2.

Appendix A

2022 COST OF SERVICE TECHNICAL MEMORANDUM



San Antonio Water System
Rate Study

Technical Memorandum
WATER AND WASTEWATER COST OF
SERVICE

FINAL | February 2022



TBPELS No. F-882

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Section 1

INTRODUCTION

The San Antonio Water System (SAWS) provides 1.9 million people with water and wastewater services throughout portions of Bexar, Comal, Kendall, Medina, and Atascosa counties. SAWS funds its operations and capital requirements primarily from user charge revenues and impact fees, a revenue source designed to ensure new development “pays its own way” rather than being subsidized by existing customers. SAWS does not receive any tax revenue.

In September 2021, SAWS Board of Trustees (Board) engaged Carollo Engineers, Inc. (Carollo) to conduct a comprehensive study to update water supply, water delivery, recycled water, and wastewater rates charged by SAWS to support the utility. The study does not include the chilled water system. The last completed rate study was conducted in 2015 by an outside consultant company. In 2019, SAWS initiated a new rate study by an outside consultant, but that study was suspended in March 2020 due to the COVID-19 pandemic. The initial cost of service findings were reviewed by the SAWS Rate Advisory Committee (RAC), an advisory group appointed by the Board.

A new RAC will be convened in February 2022 to provide recommendations to the Board regarding changes to the existing rate structures. The Board will review and approve the cost-of-service results which will serve as the foundation for revenues to be collected from each customer class. This technical memo is intended to provide the Board with clarity and insight to Carollo’s process and calculations for the cost-of-service prior to taking further action on rate design.

The objectives of the rate study are to:

- Identify appropriate allocation methods for allocating costs.
- Determine cost-of-service by customer class compared to existing revenue generated by each class.
- Develop a rate structure to equitably recover costs from customers based on their use of the system.
- Consider alternative approaches to address affordability.

1.1 Background and System Overview

To meet the demands from steady population growth, SAWS has needed to expand its water supplies in recent years. Historically, the Edwards Aquifer was the primary source of water, but regulations and increased demand have led to the expansion of SAWS water portfolio and source diversification. To augment potable supplies, SAWS provides recycled water for landscaping, golf courses, cooling towers, and industrial processes, in addition to providing recycled water to maintain flows in the San Antonio River. In 2001, SAWS implemented a Water Supply Fee to cover the necessary funds for water supplies developed moving forward. For the purposes of Carollo’s cost-of-service analysis, recycled water was assessed separately from potable water in order to later establish rates tied directly to the services provided.

In June 2013, SAWS and the United States Environmental Protection Agency (EPA) agreed to a consent decree governing sewer overflows. The decree is forecasted to be in effect until 2025. The decree lays out remedial actions that SAWS must undertake with the goal of reducing the number of sanitary sewer overflows, with an estimated cost of \$1.3 billion dollars. The fiscal year ending (FYE) 2022 costs are provided for in the cost-of-service.

1.2 Cost-of-Service Approach

The cost-of-service analysis provides a quantitative and defensible basis for distributing the costs of SAWS' water and wastewater systems to each customer class, including wholesale, in proportion to the demands they place on the systems. Figure 1.1 provides an overview of the rate study process.

SAWS provided Carollo with its 2022 budgeted revenue requirements for each system. Carollo's revenue requirements analysis was primarily a quality control check to ensure accurate inputs for setting class rates. Carollo developed a detailed cost allocation for both the water and wastewater systems based on the unique attributes of each system to determine the portion of rate revenue requirements that should be recovered from each customer class. This calculated cost-of-service was then compared to the budgeted revenue and presented here as initial findings.

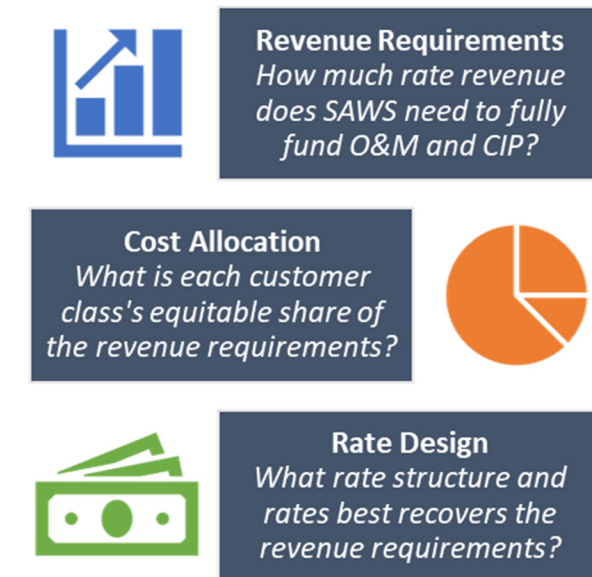


Figure 1.1 Rate Study Process

The methods presented within this report adhere to cost-of-service principles, as well as industry standards set by the American Water Works Association (AWWA) and the Water Environment Federation (WEF). SAWS should continue to perform a cost-of-service study at least every five years to ensure that revenues from rates adequately fund utility operations, maintenance, and ongoing capital needs, and equitably recover costs from system users.

1.3 Revenue Requirement Analysis

The purpose of the Revenue Requirement Analysis is to determine the adequate and appropriate funding for the Utility. Revenue requirements are the summation of expenses or costs for providing safe drinking water and handling wastewater to return clean water to the environment. They are determined on an annual basis, and they include:

- **Operations & Maintenance** – salaries and benefits, chemicals, power, equipment, supplies, etc. Some costs vary by the volume of water produced or wastewater treated such as chemicals and power, but other costs are fixed and independent of volume such as salaries.
- **Capital Improvements** – design and construction of new and replacement infrastructure, including labor for SAWS employees and fees for consultants and contractors that perform this work.
- **Financing** – debt service payments, bond issuance costs, commercial paper fees, etc.
- **Transfers to the City** – 4 percent of gross revenues are transferred to the City, as prescribed by City ordinance.

- **Transfers to R&R Fund** – supports debt service coverage metrics and provides cash funding for future repair and replacement capital projects.

For the purpose of this study, the revenue requirement analysis used SAWS' FYE 2022 budget.

1.4 Cost-of-Service Analysis

The cost-of-service analysis serves as a rational basis for distributing the full costs of SAWS' services to each customer class in proportion to the demands placed on the system. The analysis is typically completed in three steps:

1. Allocate costs to functional categories (e.g., water production, pumping, collection system).
2. Allocate functionalized costs to rate components:
 - a. Water – base, extra capacity, customer.
 - b. Wastewater – flow, loadings, customer.
3. Allocate costs to customer classes using rate component unit costs.

The study followed this approach to develop a detailed cost allocation that serves as the basis for any changes to the rates. This analysis yields an appropriate method for allocating costs, which could be sustained unless substantial changes in cost drivers or customer consumption patterns occur.

1.4.1 Water System

The cost-of-service analysis is consistent with the AWWA M1 Manual Principles of Water Rates, Fees and Charges, Seventh Edition (M1 Manual), standard methods to allocate the revenue requirements among the various customer classes based on their usage characteristics.

1.4.1.1 Water Supply

Table 1.1 summarizes the results of the water supply cost-of-service analysis.

Table 1.1 Water Supply Cost-of-Service by Customer Class

| Customer Class | Cost-of-Service ⁽³⁾ | Budgeted Revenue | Difference (\$) | Difference (%) |
|-----------------------------|--------------------------------|----------------------|-----------------|----------------|
| Residential | \$149,047,658 | \$149,519,614 | \$(471,956) | (0.3%) |
| General ⁽²⁾ | 87,838,263 | 84,156,240 | 3,682,023 | 4.4% |
| Irrigation | 28,008,472 | 31,124,898 | (3,116,426) | (10.0%) |
| Wholesale | 1,364,168 | 1,457,810 | (93,642) | (6.4%) |
| Recycled Water | 2,985,000 | 2,985,000 | 0 | 0.0% |
| TOTAL ⁽¹⁾ | \$269,243,562 | \$269,243,562 | \$0 | 0.0% |

Notes:

(1) Totals may not sum due to rounding.

(2) General includes Multi-family, Commercial, and Industrial.

(3) Cost-of-service shown includes beneficial reallocation, which is discussed in Section 3.4.

1.4.1.2 Water Delivery

Table 1.2 summarizes the results of the water delivery cost-of-service analysis.

Table 1.2 Water Delivery Cost-of-Service by Customer Class

| Customer Class | Cost-of-Service | Budgeted Revenue | Difference (\$) | Difference (%) |
|-----------------------------|----------------------|----------------------|-----------------|----------------|
| Residential | \$135,419,110 | \$137,929,509 | \$(2,510,399) | (1.8%) |
| General ⁽²⁾ | 66,510,256 | 67,324,487 | (814,231) | (1.2%) |
| Irrigation | 28,423,107 | 25,306,681 | 3,116,426 | 12.3% |
| Wholesale | 1,059,080 | 850,875 | 208,205 | 24.5% |
| TOTAL ⁽¹⁾ | \$231,411,552 | \$231,411,552 | \$0 | 0.0% |

Notes:

(1) Totals may not sum due to rounding.

(2) General includes Multi-family, Commercial, and Industrial.

1.4.1.3 Total Water System

Table 1.3 summarizes the results of the total water system cost-of-service analysis, combining water supply and water delivery.

Table 1.3 Total Water Cost-of-Service by Customer Class

| Customer Class | Cost-of-Service ⁽³⁾ | Budgeted Revenue | Difference (\$) | Difference (%) |
|-----------------------------|--------------------------------|----------------------|-----------------|----------------|
| Residential | \$284,466,768 | \$287,449,123 | \$(2,982,355) | (1.0%) |
| General ⁽²⁾ | 154,348,519 | 151,480,727 | 2,867,792 | 1.9% |
| Irrigation | 56,431,579 | 56,431,579 | - | 0.0% |
| Wholesale | 2,423,247 | 2,308,685 | 114,562 | 5.0% |
| Recycled Water | 2,985,000 | 2,985,000 | - | 0.0% |
| TOTAL ⁽¹⁾ | \$500,655,114 | \$500,655,114 | \$0 | 0.0% |

Notes:

(1) Totals may not sum due to rounding.

(2) General includes Multi-family, Commercial, and Industrial.

(3) Cost-of-service shown includes beneficial reallocation, as discussed in Section 3.4.

1.4.2 Wastewater System

The cost-of-service analysis is consistent with the WEF Manual of Practice No. 27, Financing and Charges for Wastewater Systems (MOP 27), standard methods to allocate the revenue requirements among the various customer classes based on their wastewater contributions. The results of the wastewater cost-of-service analysis are summarized in Table 1.4.

Table 1.4 Wastewater Cost-of-Service by Customer Class

| Customer Class | Cost-of-Service | Budgeted Revenue | Difference (\$) | Difference (%) |
|-----------------------------|----------------------|----------------------|-----------------|----------------|
| Residential | \$155,707,457 | \$166,575,425 | \$(10,867,968) | (6.5%) |
| General ⁽²⁾ | 111,840,459 | 100,233,298 | 11,607,162 | 11.6% |
| Wholesale | 11,777,843 | 12,107,016 | (329,173) | (2.7%) |
| Surcharge | 5,475,687 | 5,885,707 | (410,020) | (7.0%) |
| TOTAL ⁽¹⁾ | \$284,801,446 | \$284,801,446 | \$0 | 0.0% |

Notes:

(1) Totals may not sum due to rounding.

(2) General includes Multi-family, Commercial, and Industrial.

Section 2

REVENUE REQUIREMENTS

2.1 Overview

Carollo used the FYE 2022 budget prepared by SAWS staff to identify and organize the revenue requirements for allocation to customer classes. The FYE 2022 budget assumes no revenue increase is needed from rates.

2.2 Revenue Requirement Purpose and Components

The purpose of the Revenue Requirements Analysis is to determine the adequate and appropriate funding that should be recovered from water and wastewater rates. Revenue requirements are the summation of expenses or costs for providing safe drinking water and handling wastewater to return clean water to the environment. They are determined on an annual basis, and they include:

- **Operations & Maintenance** – salaries and benefits, chemicals, power, equipment, supplies, etc. Some costs vary by the volume of water provided and wastewater treated such as chemicals and power, but other costs are fixed and independent of volume such as salaries.
- **Capital Improvements** – design and construction of new and replacement infrastructure, including labor for SAWS employees and fees for consultants and contractors that perform this work.
- **Financing** – debt service payments, bond issuance costs, commercial paper fees, etc.
- **Transfers to the City** – 4 percent of gross revenues are transferred to the City, as prescribed by City ordinance.
- **Transfers to R&R Fund** – supports debt service coverage metrics and provides cash funding for future repair and replacement capital projects.

SAWS staff develop an annual budget that projects revenue from rates and fees and other sources, operating and maintenance expenses, debt service payments, and transfers to and from other funds. During the budget process, SAWS staff determines if a revenue increase is necessary to fully fund the projected expenses. For the budget year, fiscal year 2022, no revenue increase is required. As such, the recommendations resulting from this study are revenue neutral, utilizing the assumptions in the FYE 2022 budget.

2.3 Revenue Requirement Methodologies

There are three industry-accepted methodologies to determine the net revenue requirement from rates:

- **Cash Basis** – typically used by municipal utilities; determines the revenue that must be generated from rates to fully fund all cash requirements.
- **Utility Basis** – typically used by investor-owned utilities or by municipal utilities to allocate costs to outside city customers; provides the utility with a means to recover a reasonable return on its investment from non-owner customers.
- **Utility Basis with Cash Residual** – combines the two primary methodologies to determine the difference in revenue requirements for owners and non-owners of a system.

SAWS uses the cash basis to develop its annual budget. The revenue requirement analysis calculated the rate revenue requirements for each business unit using the cash basis and the utility basis. Then the analysis used the utility basis revenue requirements to allocate costs among customer classes, as detailed in Section 3.

Carollo also used the utility basis with cash residual method to confirm that the current differential charged by SAWS to outside city customers is within a reasonable range that can be supported by the analysis. The calculated differential can increase or decrease from year to year based on the projected contributions to the Renewal and Replacement (R&R) Fund.

2.4 Water System

SAWS' total revenue requirements are comprised of operating expenses and capital expenses, which are described in detail in this section.

2.4.1 Water Supply

SAWS' FYE 2022 O&M budget for the water supply business unit is organized into cost centers. The water supply budget includes costs associated with recycled water, stormwater, and conservation. Appendix A summarizes the O&M budget by cost center for water supply.

Capital expenses include debt service payments, transfers to the R&R Fund, and capital outlay. Debt service consists of annual payments on outstanding and proposed debt. Transfers to the R&R Fund will cash-fund a portion of the capital improvement program. Additional details about the capital expenses for FYE 2022 are included in Appendix A.

Operating revenues for SAWS' water supply business unit are primarily derived from water supply fees and recycled water rates. Other operating revenues include special services fees and customer penalties, EAA fee revenue, and stormwater revenues. Non-operating revenues include capital recovery fees (impact fees) and interest income.

Table 2.1 summarizes the revenue requirements for the water supply business unit, excluding recycled water, under both the cash basis and the utility basis methodologies.

Table 2.1 Water Supply Revenue Requirements

| Description | Operating | Capital | Total |
|--|----------------------|---------------------|----------------------|
| Cash Basis Methodology | | | |
| O&M Expenses | \$237,244,935 | \$0 | \$237,244,935 |
| Debt Service | 0 | 38,792,939 | 38,792,939 |
| Other Expenses: | | | |
| Other Debt | 0 | 445,471 | 445,471 |
| Operating Reserve | 660,730 | 0 | 660,730 |
| Transfers | 10,775,595 | 41,294,594 | 52,070,189 |
| Capital Outlay | 0 | 1,491,769 | 1,491,769 |
| Total Revenue Requirements ⁽¹⁾ | \$248,681,260 | \$82,024,773 | \$330,706,033 |
| Adjustments: | | | |
| Capital Recovery Fees | 0 | (38,362,962) | (38,362,962) |
| Interest Earned | 0 | (2,075,303) | (2,075,303) |
| Other Revenue | (30,264,121) | 72,000 | (30,192,121) |
| Rate Revenue Requirements ⁽¹⁾ | \$218,417,139 | \$41,658,508 | \$260,075,647 |
| Utility Basis Methodology | | | |
| O&M Expenses | \$218,417,139 | \$0 | \$218,417,139 |
| Depreciation Expense | 0 | 28,162,166 | 28,162,166 |
| Return on Investment | 0 | 13,496,342 | 13,496,342 |
| Rate Revenue Requirements ⁽¹⁾ | \$218,417,139 | \$41,658,508 | \$260,075,647 |

Note:

(1) Totals may not sum due to rounding.

Table 2.2 summarizes the revenue requirements for the recycled water component of the water supply business unit under both the cash basis and the utility basis methodologies.

Table 2.2 Recycled Water Revenue Requirements

| Description | Operating | Capital | Total |
|--|--------------------|--------------------|--------------------|
| Cash Basis Methodology | | | |
| O&M Expenses | \$2,562,071 | \$0 | \$2,562,071 |
| Debt Service | 0 | 6,173,209 | 6,173,209 |
| Other Expenses: | | | |
| Other Debt | 0 | 17,432 | 17,432 |
| Operating Reserve | 4,805 | 0 | 4,805 |
| Transfers | 119,400 | 256,678 | 376,078 |
| Capital Outlay | 0 | 34,320 | 34,320 |
| Total Revenue Requirements ⁽¹⁾ | \$2,686,276 | \$6,481,639 | \$9,167,915 |
| Adjustments: | | | |
| Capital Recovery Fees | 0 | 0 | 0 |
| Interest Earned | 0 | 0 | 0 |
| Other Revenue | 0 | 0 | 0 |
| Rate Revenue Requirements ⁽¹⁾ | \$2,686,276 | \$6,481,639 | \$9,167,915 |
| Utility Basis Methodology | | | |
| O&M Expenses | \$2,686,276 | \$0 | \$2,686,276 |
| Depreciation Expense | 0 | 3,360,033 | 3,360,033 |
| Return on Investment | 0 | 3,121,606 | 3,121,606 |
| Rate Revenue Requirements ⁽¹⁾ | \$2,686,276 | \$6,481,639 | \$9,167,915 |

Note:

(1) Totals may not sum due to rounding.

2.4.2 Water Delivery

SAWS' FYE 2022 O&M budget for the water delivery business unit is also organized into cost centers. The detailed water delivery O&M budget by cost center is provided in Appendix A.

Capital expenses include debt service payments, transfers to the R&R Fund, and capital outlay. Debt service consists of annual payments on outstanding and proposed debt. Transfers to the R&R Fund will cash-fund a portion of the capital improvement program. Additional details about the capital expenses for FYE 2022 are included in Appendix A.

Operating revenues for SAWS' water delivery business unit are primarily derived from metered water sales. Other operating revenues include special services fees and customer penalties and TCEQ fees. Non-operating revenues include capital recovery fees (impact fees) and interest income.

Table 2.3 summarizes the revenue requirements for the water delivery business unit under both the cash basis and the utility basis methodologies.

Table 2.3 Water Delivery Revenue Requirements

| Description | Operating | Capital | Total |
|--|----------------------|----------------------|----------------------|
| Cash Basis Methodology | | | |
| O&M Expenses | \$99,577,703 | \$0 | \$99,577,703 |
| Debt Service | 0 | 79,769,428 | 79,769,428 |
| Other Expenses: | | | |
| Other Debt | 0 | 1,348,146 | 1,348,146 |
| Operating Reserve | 401,215 | 0 | 401,215 |
| Transfers | 9,424,799 | 71,123,036 | 80,547,835 |
| Capital Outlay | 0 | 4,654,051 | 4,654,051 |
| Total Revenue Requirements ⁽¹⁾ | \$109,403,717 | \$156,894,661 | \$266,298,378 |
| Adjustments: | | | |
| Capital Recovery Fees | 0 | (30,099,817) | (30,099,817) |
| Interest Earned | 0 | (2,018,578) | (2,018,578) |
| Other Revenue | (2,840,431) | 72,000 | (2,768,431) |
| Rate Revenue Requirements ⁽¹⁾ | \$106,563,286 | \$124,848,266 | \$231,411,552 |
| Utility Basis Methodology | | | |
| O&M Expenses | \$106,563,286 | \$0 | \$106,563,286 |
| Depreciation Expense | 0 | 55,050,679 | 55,050,679 |
| Return on Investment | 0 | 69,797,587 | 69,797,587 |
| Rate Revenue Requirements ⁽¹⁾ | \$106,563,286 | \$124,848,266 | \$231,411,552 |

Note:

(1) Totals may not sum due to rounding.

2.5 Wastewater System

SAWS' total revenue requirements are comprised of operating expenses and capital expenses, which are described in detail in this section.

SAWS' FYE 2022 O&M budget for the wastewater business unit is organized into cost centers. Appendix B summarizes the O&M budget by cost center for wastewater.

Capital expenses include debt service payments, transfers to the R&R Fund, and capital outlay. Debt service consists of annual payments on outstanding and proposed debt. Transfers to the R&R Fund will cash-fund a portion of the capital improvement program. Additional details about the capital expenses for FYE 2022 are included in Appendix B.

Operating revenues for SAWS' wastewater business unit are primarily derived from sewer service charges and industrial waste surcharges. Other operating revenues include special services fees and customer penalties and TCEQ fees. Non-operating revenues include capital recovery fees (impact fees) and interest income.

Table 2.4 summarizes the revenue requirements for the wastewater business unit under both the cash basis and the utility basis methodologies.

Table 2.4 Wastewater Revenue Requirements

| Description | Operating | Capital | Total |
|--|----------------------|----------------------|----------------------|
| Cash Basis Methodology | | | |
| O&M Expenses | \$124,464,394 | \$0 | \$124,464,394 |
| Debt Service | 0 | 95,706,627 | 95,706,627 |
| Other Expenses: | | | |
| Other Debt | 0 | 1,511,253 | 1,511,253 |
| Operating Reserve | 87,898 | 0 | 87,898 |
| Transfers | 11,466,381 | 80,224,167 | 91,690,548 |
| Capital Outlay | 0 | 5,619,098 | 5,619,098 |
| Total Revenue Requirements ⁽¹⁾ | \$136,018,673 | \$183,061,145 | \$319,079,818 |
| Adjustments: | | | |
| Capital Recovery Fees | 0 | (31,611,446) | (31,611,446) |
| Interest Earned | 0 | (2,728,860) | (2,728,860) |
| Other Revenue | (34,066) | 96,000 | 61,934 |
| Rate Revenue Requirements ⁽¹⁾ | \$135,984,607 | \$148,816,839 | \$284,801,446 |
| Utility Basis Methodology | | | |
| O&M Expenses | \$135,984,607 | \$0 | \$135,984,607 |
| Depreciation Expense | 0 | 53,456,289 | 53,456,289 |
| Return on Investment | 0 | 95,360,550 | 95,360,550 |
| Rate Revenue Requirements ⁽¹⁾ | \$135,984,607 | \$148,816,839 | \$284,801,446 |

Note:

(1) Totals may not sum due to rounding.

Section 3

COST OF SERVICE ANALYSIS

3.1 Cost-of-Service Approach

The cost-of-service analysis employs a tailored allocation of costs with a three-step approach, shown in Figure 3.1. Based on the revenue requirement analysis outlined in Section 2, the functional allocation designates each budget item to a set of functional categories specific to SAWS, which are then translated into the appropriate rate components based on the operation and/or design of each function. The functional categories and their associated costs are allocated to the customer classes based on each customer class's unique account, meter, and water demand or wastewater discharge characteristics. A customer class consists of users that commonly create or share responsibility for certain costs incurred by the utility, which is determined by customer data to combine similar groups of customers.

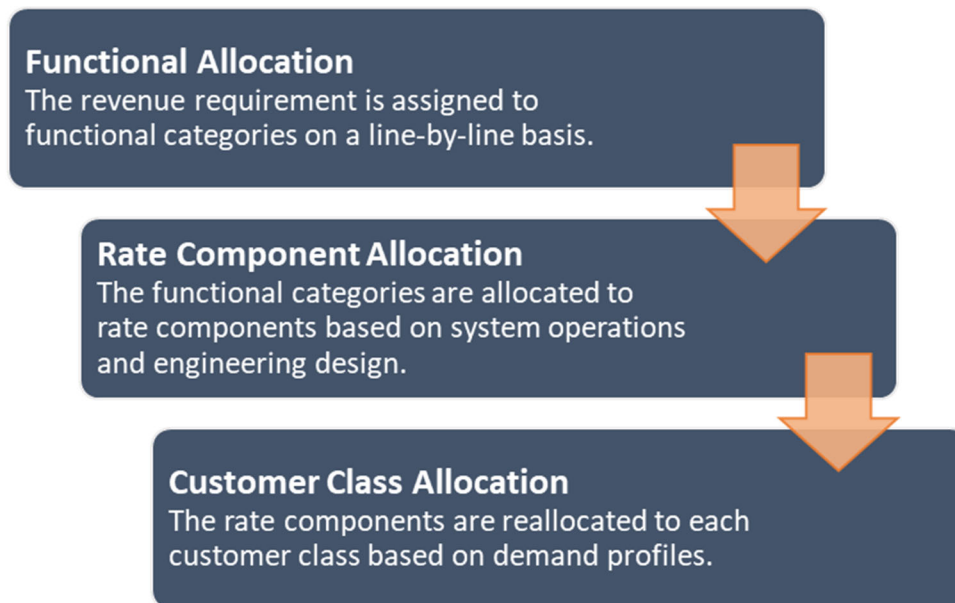


Figure 3.1 Three-step Cost Allocation Approach

The study evaluated the existing customer classes for SAWS and determined them to be appropriate based upon customer demand and discharge characteristics. The rate design process establishes a rate structure that equitably recovers costs from customer classes and customers within each customer class. The final rate structure and rate recommendations are designed to (1) fund the utility's projected costs of providing service, (2) consider affordability of customers' bills, and (3) provide a reasonable balance of revenue stability while encouraging conservation.

3.2 Water System

The water system cost-of-service analysis is consistent with the AWWA M1 Manual standard methods to allocate the revenue requirements among the various customer classes based on their usage characteristics.

The M1 Manual outlines the most widely used method for allocation of functionalized costs to rate components, the Base-Extra Capacity Method. The Base-Extra Capacity Method allocates costs among: (1) a base category to provide baseline water service or average day demand; (2) an extra capacity category to provide peak demand service, often split into maximum day and maximum hour components; and (3) a customer category to provide services that do not vary with water usage, such as customer service and billing.

The Base-Extra Capacity Method recognizes that cost-of-service “depends not only on the total volume of water used, but also on the rate of use, or peak demand requirements.” Costs incurred by SAWS are not incurred uniformly, or simply based on the total volume of water used. The cost-of-service changes based on when water is used. The Base-Extra Capacity Method accounts for this by including an extra capacity category to recover costs associated with capacity that is not used consistently and that impacts operating costs and capital asset related costs to accommodate peak demands.

The following subsections discuss how costs are allocated to the water system’s functional categories, rate components, and customer classes using the Base-Extra Capacity Method.

3.2.1 Functional Cost Allocation

The functional cost allocation assigns the revenue requirement for the test year by major function. The study developed a list of functions specific to the water system. Each functional category is allocated to specific rate components, which can easily be assigned to rates. The water functional categories listed below are used to allocate water supply and water delivery costs unless otherwise noted:

Source of Supply: Costs associated with raw water to be used for non-potable or potable purposes.

Production: Costs associated with production of treated water.

Transmission and Distribution: Costs associated with conveyance of treated water.

Customer Service and Billing: Costs associated with calculating, preparing, and sending a customer’s bill, as well as costs associated with customer service.

Meters: Costs associated with water meters, including routine maintenance and regular replacement.

Stormwater (Water Supply only): Costs associated with City stormwater drainage. These costs are offset with stormwater fee revenue.

Conservation (Water Supply only): Costs associated with conservation efforts and City requirements.

General (Water Delivery only): Costs associated with other treatment and administrative services that do not fit any of the other categories. Examples include GIS services, IT, finance, electrical and mechanical equipment, lands not associated with a specific asset, etc.

SAWS’ budget was analyzed line by line to allocate each line item to one or more functional categories. This detailed allocation is provided in Appendix A.

3.2.2 Rate Component Allocation

Water system costs consist of both volumetric components and non-volumetric components. The volumetric components include source of supply, base, and extra capacity (maximum day and maximum hour). The non-volumetric components include costs associated with meters and customer service and billing costs. These non-volumetric components will be considered for development of the monthly service availability fee.

The following describes each of the water rate components for SAWS:

Source of Supply: Operating and capital costs associated with acquiring raw water.

Base: Operating and capital costs incurred by the water system to provide a basic level of service to each customer. These costs include portions of treatment, distribution, pumping, and storage, up to a level that meets the water system's baseline (average day) demands throughout the year.

Extra Capacity: Costs incurred to meet maximum day and maximum hour demands for water in excess of base, or average day, demand. This cost includes capital costs related to oversizing the system to meet excess demand.

System peaking factors are used to determine the appropriate allocations to the Extra Capacity rate components. For this study, the maximum day peaking factor is 1.74, and the maximum hour

peaking factor is 3.23. This means that the maximum day demand is assumed to be 1.74 times the average day demand, and the maximum hour demand is assumed to be 3.23 times the average day demand (or 1.86 times the maximum day demand based on data provided by SAWS planning staff from the most recent master plan).

Customer Service and Billing: Costs related to administrative support activities, including accounting, billing, and customer service. These costs are common to all customers and are reasonably uniform across the different customer classes.

Meters and Services: Costs associated with customer meters and the associated capacity that is required to meet the demand put on the system by each meter based on the meter's hydraulic capacity.

Carollo reviewed the operating budget and fixed asset registry for the water system and allocated each line item and asset to the appropriate functional category based on direction from SAWS staff. The functionalized asset value, depreciation expense, and O&M are then allocated to the appropriate rate components according to the Base Extra Capacity methodology. This multi-step allocation process provides a reasonable, appropriate basis for proportionately distributing costs to customer classes based on their usage patterns and is grounded in cost-of-service principles and standards.

3.2.2.1 O&M Allocation

Carollo collaborated with SAWS staff to allocate the water system operating expenses to functional categories and then to rate components. The allocation percentages used to functionalize the operating budget are estimates based on discussions with and data provided by SAWS staff. Appendix A provides the allocation of the O&M budget to functional categories. Table 3.1 summarizes the allocation of the functionalized water supply O&M expenses to the rate components for FYE 2022. Similarly, Table 3.2 summarizes the allocation of the functionalized water delivery O&M expenses to the rate components for FYE 2022.

Table 3.1 Allocation of Water Supply O&M Budget to Rate Components (\$ millions)

| Functional Category | Total Value | Source of Supply | Base | Extra Capacity | | Customer | | Stormwater |
|------------------------------------|----------------|------------------|---------------|----------------|--------------|----------------------|-------------------|--------------|
| | | | | Max Day | Max Hour | Cust. Svc. & Billing | Meters & Services | |
| Source of Supply | \$188.7 | 100% | | | | | | |
| Production ⁽²⁾ | 24.4 | | 58% | 42% | | | | |
| Customer Svc. & Billing | 9.2 | | | | | 100% | | |
| Meter Costs | 0.4 | | | | | | 100% | |
| Stormwater | 4.5 | | | | | | | 100% |
| Conservation ⁽³⁾ | 10.1 | | 31% | 23% | 46% | | | |
| TOTAL (\$) ⁽¹⁾ | \$237.2 | \$188.7 | \$17.2 | \$12.6 | \$4.7 | \$9.2 | \$0.4 | \$4.5 |
| TOTAL (%) | | 79.5% | 7.2% | 5.3% | 2.0% | 3.9% | 0.2% | 1.9% |
| ADJUSTED (%) ⁽⁴⁾ | | 81.1% | 7.4% | 5.4% | 2.0% | 3.9% | 0.2% | N/A |

Notes:

- (1) Totals may not sum due to rounding.
 (2) Costs associated with production are allocated between Base and Maximum Day Extra Capacity based on the system maximum day peaking factor of 1.74.
 (3) Costs associated with conservation are allocated between Base, Maximum Day Extra Capacity, and Maximum Hour Extra Capacity based on the system maximum hour peaking factor of 3.23.
 (4) Allocation percentages are adjusted to exclude Stormwater because stormwater costs are offset by stormwater fee revenues.

Table 3.2 Allocation of Water Delivery O&M Budget to Rate Components (\$ millions)

| Functional Category | Total Value | Source of Supply | Base | Extra Capacity | | Customer | |
|------------------------------------|---------------|------------------|---------------|----------------|---------------|----------------------|-------------------|
| | | | | Max Day | Max Hour | Cust. Svc. & Billing | Meters & Services |
| Source of Supply | \$9.9 | 100% | | | | | |
| Production ⁽²⁾ | 41.6 | | 58% | 42% | | | |
| Distribution System ⁽³⁾ | 32.3 | | 31% | 23% | 46% | | |
| Customer Svc. & Billing | 12.5 | | | | | 100% | |
| Meter Costs | 3.2 | | | | | | 100% |
| TOTAL (\$) ⁽¹⁾ | \$99.6 | \$9.9 | \$34.0 | \$25.0 | \$14.9 | \$12.5 | \$3.2 |
| TOTAL (%) | | 10.0% | 34.1% | 25.1% | 15.0% | 12.6% | 3.2% |

Notes:

- (1) Totals may not sum due to rounding.
 (2) Costs associated with production are allocated between Base and Maximum Day Extra Capacity based on the system maximum day peaking factor of 1.74.
 (3) Costs associated with the distribution system are allocated between Base, Maximum Day Extra Capacity, and Maximum Hour Extra Capacity based on the system maximum hour peaking factor of 3.23.

3.2.2.2 Fixed Asset Allocation

Carollo reviewed the fixed asset registry provided by SAWS staff and collaborated to allocate each asset to a specific functional category. The analysis then allocated the functionalized assets to rate components. The overall results of this allocation are used as a proxy to allocate capital-related costs. This minimizes large shifts in the allocation of capital costs, which can vary significantly from year to year.

Table 3.3 summarizes the allocation of the functionalized water supply assets to the rate components to determine the allocation factors applied to the water supply capital costs. Similarly, Table 3.4 summarizes the allocation of the functionalized water delivery assets to the rate components to determine the allocation factors applied to the water delivery capital costs.

Table 3.3 Allocation of Water Supply Fixed Assets to Rate Components (\$ millions)

| Functional Category | Total Value | Source of Supply | Base | Extra Capacity | | Customer | |
|----------------------------------|------------------|------------------|----------------|----------------|--------------|----------------------|-------------------|
| | | | | Max Day | Max Hour | Cust. Svc. & Billing | Meters & Services |
| Source of Supply | \$648.6 | 100% | | | | | |
| Transmission Mains | 449.0 | | 100% | | | | |
| TOTAL (\$) ⁽¹⁾ | \$1,097.6 | \$648.6 | \$449.0 | \$0.0 | \$0.0 | \$0.0 | \$0.0 |
| TOTAL (%) | | 59.1% | 40.9% | 0.0% | 0.0% | 0.0% | 0.0% |

Note:

(1) Totals may not sum due to rounding.

Table 3.4 Allocation of Water Delivery Fixed Assets to Rate Components (\$ millions)

| Functional Category | Total Value | Source of Supply | Base | Extra Capacity | | Customer | |
|------------------------------------|------------------|------------------|----------------|----------------|----------------|----------------------|-------------------|
| | | | | Max Day | Max Hour | Cust. Svc. & Billing | Meters & Services |
| Source of Supply | \$34.8 | | 100% | | | | |
| Production ⁽²⁾ | 77.2 | | 58% | 42% | | | |
| Pumping ⁽²⁾ | 128.4 | | 58% | 42% | | | |
| Distribution System ⁽³⁾ | 1,115.9 | | 31% | 23% | 46% | | |
| Storage Tanks ⁽³⁾ | 64.4 | | 31% | 23% | 46% | | |
| Meters & Services | 35.1 | | | | | | 100% |
| General Plant ⁽⁴⁾ | 115.4 | | 36% | 24% | 38% | | 2% |
| TOTAL (\$) ⁽¹⁾ | \$1,571.3 | \$0.0 | \$559.6 | \$384.7 | \$589.0 | \$0.0 | \$37.9 |
| TOTAL (%) | | 0.0% | 35.6% | 24.5% | 37.5% | 0.0% | 2.4% |

Notes:

(1) Totals may not sum due to rounding.

(2) Costs associated with production and pumping are allocated between Base and Maximum Day Extra Capacity based on the system maximum day peaking factor of 1.74.

(3) Costs associated with the distribution system and storage tanks are allocated among Base, Maximum Day Extra Capacity, and Maximum Hour Extra Capacity based on the system maximum hour peaking factor of 3.23.

(4) General Plant is allocated to rate components based on direct allocation of other functional categories.

3.2.2.3 Depreciation Expense Allocation

The water supply fixed assets' 2020 depreciation expense is allocated in this analysis using the same approach as for the fixed assets, as shown in Table 3.5. The water delivery fixed assets' 2020 depreciation expense is similarly allocated, as shown in Table 3.6.

Table 3.5 Allocation of 2020 Water Supply Depreciation Expense to Rate Components (\$ millions)

| Functional Category | Total Value | Source of Supply | Base | Extra Capacity | | Customer | |
|----------------------------------|---------------|------------------|---------------|----------------|--------------|----------------------|-------------------|
| | | | | Max Day | Max Hour | Cust. Svc. & Billing | Meters & Services |
| Source of Supply | \$10.2 | 100% | | | | | |
| Transmission Mains | 13.0 | | 100% | | | | |
| TOTAL (\$) ⁽¹⁾ | \$23.1 | \$10.2 | \$13.0 | \$0.0 | \$0.0 | \$0.0 | \$0.0 |
| TOTAL (%) | | 44.0% | 56.0% | 0.0% | 0.0% | 0.0% | 0.0% |

Note:

(1) Totals may not sum due to rounding.

Table 3.6 Allocation of 2020 Water Delivery Depreciation Expense to Rate Components (\$ millions)

| Functional Category | Total Value | Source of Supply | Base | Extra Capacity | | Customer | |
|------------------------------------|---------------|------------------|---------------|----------------|---------------|----------------------|-------------------|
| | | | | Max Day | Max Hour | Cust. Svc. & Billing | Meters & Services |
| Source of Supply | \$0.8 | | 100% | | | | |
| Production ⁽²⁾ | 4.1 | | 58% | 42% | | | |
| Pumping ⁽²⁾ | 6.7 | | 58% | 42% | | | |
| Distribution System ⁽³⁾ | 21.3 | | 31% | 23% | 46% | | |
| Storage Tanks ⁽³⁾ | 2.4 | | 31% | 23% | 46% | | |
| Meters & Services | 3.8 | | | | | | 100% |
| General Plant ⁽⁴⁾ | 11.3 | | 37% | 26% | 28% | | 10% |
| TOTAL (\$) ⁽¹⁾ | \$50.3 | \$0.0 | \$18.5 | \$12.9 | \$14.1 | \$0.0 | \$4.9 |
| TOTAL (%) | | 0.0% | 36.7% | 25.6% | 28.0% | 0.0% | 9.7% |

Notes:

(1) Totals may not sum due to rounding.

(2) Costs associated with production and pumping are allocated between Base and Maximum Day Extra Capacity based on the system maximum day peaking factor of 1.74.

(3) Costs associated with the distribution system and storage tanks are allocated among Base, Maximum Day Extra Capacity, and Maximum Hour Extra Capacity based on the system maximum hour peaking factor of 3.23.

(4) General Plant is allocated to rate components based on direct allocation of other functional categories.

3.2.2.4 Adjustments to Revenue Requirements

Special services fees and customer penalties, capital recovery fees (impact fees), interest income, and other non-rate revenue sources are used to offset and reduce the rate revenue requirements. These offsetting revenues are allocated to the rate components based on the direct allocation of the total rate revenue requirements. The exception to this is the allocation of Edwards Aquifer Authority fee and stormwater fee revenues directly to Source of Supply (after allocating a portion of stormwater fee revenue to offset stormwater costs). A second exception is to allocate capital recovery fees based on the allocation of the fixed assets.

Additional adjustments are made for the affordability program discount, bill adjustments and uncollectible accounts, and project fund interest, all of which result in an increase to the rate revenue requirements. The affordability program discount is allocated entirely to Source of Supply. Bill adjustments and uncollectible accounts and project fund interest are allocated to the rate components based on the direct allocation of the total rate revenue requirements. These adjustments are illustrated in Appendix A.

3.2.2.5 Allocation of Utility Basis Revenue Requirements

The utility basis revenue requirements are comprised of operating expenses, annual depreciation expense, and return on investment, as discussed in Section 2. These revenue requirements are allocated using the allocation percentages determined previously in this section to calculate the rate revenue requirements for each rate component, as shown in Table 3.7 for water supply and Table 3.8 for water delivery.

Table 3.7 Allocation of Water Supply Rate Revenue Requirements to Rate Components (\$ millions)

| Description | Total Value | Source of Supply | Base | Extra Capacity | | Customer | |
|-------------------------------------|----------------|------------------|---------------|----------------|--------------|----------------------|-------------------|
| | | | | Max Day | Max Hour | Cust. Svc. & Billing | Meters & Services |
| O&M Expenses ⁽²⁾ | \$218.4 | \$177.1 | \$16.1 | \$11.9 | \$4.4 | \$8.6 | \$0.4 |
| Depreciation ⁽³⁾ | 28.2 | 12.4 | 15.8 | | | | |
| Return on Investment ⁽⁴⁾ | 13.5 | 8.0 | 5.5 | | | | |
| TOTAL (\$) ⁽¹⁾ | \$260.1 | \$197.4 | \$37.4 | \$11.9 | \$4.4 | \$8.6 | \$0.4 |
| TOTAL (%) | | 75.9% | 14.4% | 4.6% | 1.7% | 3.3% | 0.1% |

Notes:

- (1) Totals may not sum due to rounding.
- (2) O&M expenses shown are from the utility basis revenue requirements in Table 2.1 and are allocated based on the allocation of the cash basis O&M Expenses developed in Table 3.1.
- (3) FYE 2022 depreciation expense is allocated based on the allocation of the 2020 depreciation expense developed in Table 3.5.
- (4) Return on investment is allocated based on the allocation of water supply fixed assets developed in Table 3.3.

Table 3.8 Allocation of Water Delivery Rate Revenue Requirements to Rate Components (\$ millions)

| Description | Total Value | Source of Supply | Base | Extra Capacity | | Customer | |
|-------------------------------------|----------------|------------------|---------------|----------------|---------------|----------------------|-------------------|
| | | | | Max Day | Max Hour | Cust. Svc. & Billing | Meters & Services |
| O&M Expenses ⁽²⁾ | \$106.6 | \$10.6 | \$36.4 | \$26.8 | \$16.0 | \$13.4 | \$3.4 |
| Depreciation ⁽³⁾ | 55.1 | | 20.2 | 14.1 | 15.4 | | 5.3 |
| Return on Investment ⁽⁴⁾ | 69.8 | | 24.9 | 17.1 | 26.2 | | 1.7 |
| TOTAL (\$) ⁽¹⁾ | \$231.4 | \$10.6 | \$81.4 | \$58.0 | \$57.6 | \$13.4 | \$10.4 |
| TOTAL (%) | | 4.6% | 35.2% | 25.0% | 24.9% | 5.8% | 4.5% |

Notes:

(1) Totals may not sum due to rounding.

(2) O&M expenses shown are from the utility basis revenue requirements in Table 2.3 and are allocated based on the allocation of the cash basis O&M Expenses developed in Table 3.2.

(3) FYE 2022 depreciation expense is allocated based on the allocation of the 2020 depreciation expense developed in Table 3.6.

(4) Return on investment is allocated based on the allocation of water supply fixed assets developed in Table 3.4.

3.2.3 Allocation to Customer Classes

3.2.3.1 Customer Characteristics Analysis

Carollo analyzed customer billing data for the three-year period 2018 through 2020 to understand how different types of customers use the water and wastewater systems, including how COVID-19 has impacted customer usage patterns. This analysis drives the allocation of costs to improve equity among customers. Figure 3.2 illustrates the findings of this analysis for residential, general, irrigation, and wholesale customers. General class customers include multi-family, commercial, and industrial customers.

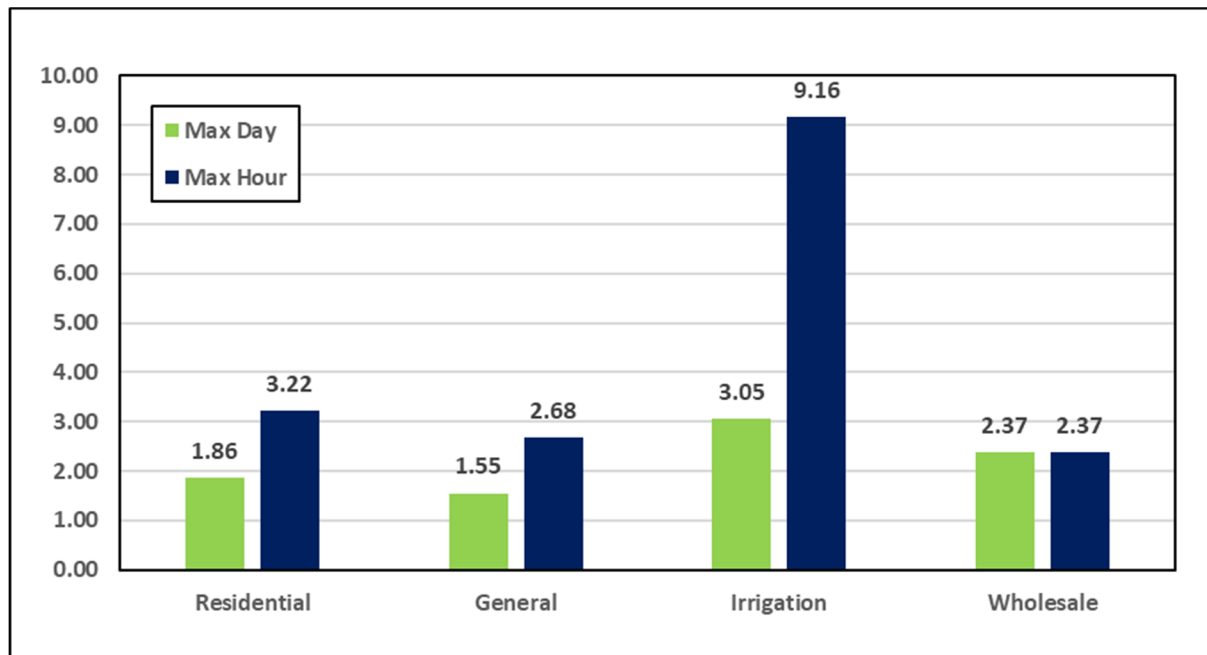


Figure 3.2 Peaking Factors by Customer Class

The results of the customer usage analysis were applied to the FYE 2022 projected water consumption, which is the basis for the budgeted rate revenue, to develop the service units by customer class.

3.2.3.2 Unit Costs

The unit costs of service are developed by dividing the total annual costs allocated to each of the rate components by the total annual service units of the respective component.

Units of Service

Based on the rate components for the water system, the units of service are annual potable water consumption, incremental demand (max day and max hour extra capacity), annual bills, and meter equivalents.

The following describes the quantifiable analysis of the units of service:

Source of Supply: Allocated by total annual potable water consumption in gallons.

Base Costs: Allocated by total annual potable water consumption in gallons.

Extra Capacity Costs: Allocated based on each customer class's extra capacity demand developed from the incremental amounts between max day demand and average day demand and between max hour demand and max day demand. Extra capacity units are based on the incremental capacity, in gallons per day, needed to serve demands in excess of the baseline or average day demand.

Customer Service and Billing: Allocated based on the annual number of bills.

Meters and Services: Allocated based on meter equivalent units (MEU). Larger meters are assigned more meter equivalents than smaller meters.

The service units for the extra capacity rate components are developed using the peaking factors from the customer characteristics analysis. SAWS designs and constructs its water system infrastructure to provide sufficient capacity to meet customer demands. If all customers used water consistently throughout the day, the system would only require capacity to meet the average day demand. However, most customers do not use water consistently. Their usage peaks on hot days when they are irrigating their lawns. Usage can also peak at specific times of day, such as a weekday morning when most households are showering before school and work. These peaking behaviors drive the maximum day and maximum hour demands, as demonstrated by the peaking factors shown in Figure 3.2.

Some of SAWS' costs are driven by the customer peaking characteristics. The water system would be much smaller if it was only required to meet the average day demand (Base). However, some of the water infrastructure must be sized to meet the maximum day or maximum hour demand, which increases the operating and capital costs. Figure 3.3 illustrates the extra capacity required in a pipe to meet the maximum day and maximum hour demands.

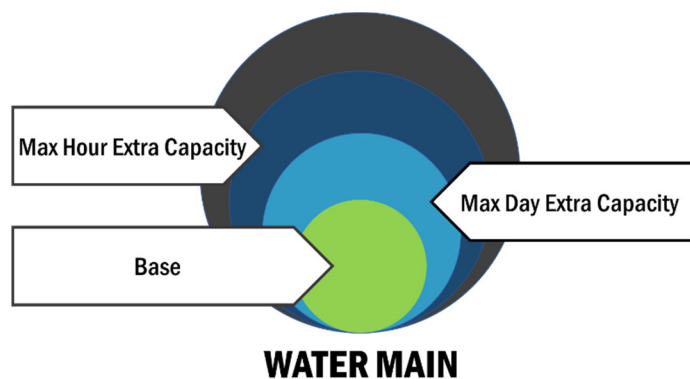


Figure 3.3 Base-Extra Capacity Method

The costs associated with providing additional capacity to meet these peak demands are allocated to the extra capacity rate components. Table 3.9 calculates the maximum day and maximum hour extra capacity service units for each customer class using the peaking factors from Figure 3.2.

Table 3.9 Development of Maximum Day and Maximum Hour Extra Capacity Units of Service

| Customer Class | Average Day Demand ⁽²⁾ | Max Day Peaking Factor | Max Day Demand ⁽³⁾ | Max Day Extra Capacity ⁽⁴⁾ | Max Hour Peaking Factor | Max Hour Demand ⁽³⁾ | Max Hour Extra Capacity ⁽⁴⁾ |
|------------------------|-----------------------------------|------------------------|-------------------------------|---------------------------------------|-------------------------|--------------------------------|--|
| <i>Units</i> | <i>1,000 gpd</i> | | <i>1,000 gpd</i> | <i>1,000 gpd</i> | | <i>1,000 gpd</i> | <i>1,000 gpd</i> |
| Residential | 105,051 | 1.86 | 194,981 | 89,929 | 3.22 | 338,412 | 143,432 |
| General ⁽¹⁾ | 68,030 | 1.55 | 105,184 | 37,154 | 2.68 | 182,560 | 77,376 |
| Irrigation | 10,976 | 3.05 | 33,531 | 22,555 | 9.16 | 100,593 | 67,062 |
| Wholesale | 1,026 | 2.37 | 2,435 | 1,409 | 2.37 | 2,435 | 0 |

Notes:

(1) General includes Multi-family, Commercial, and Industrial.

(2) Average day demand is calculated by dividing the annual consumption by 365 days.

(3) Max day demand is calculated by multiplying the average day demand by the max day peaking factor. Max hour demand is calculated by multiplying the average day demand by the max hour peaking factor.

(4) Max day extra capacity is the difference between the max day demand and the average day demand. Max hour extra capacity is the difference between the max hour demand and the max day demand.

For the meters and services rate component, equivalent meters are used, as opposed to accounts or bills, to recognize the fact that larger meters have a higher water flow potential and utilize greater system capacity. Additionally, it is more expensive to install, maintain, and replace larger meters. Meter equivalents are derived based on the hydraulic capacity (gallons per minute) respective to the size of the meter. Meter equivalents are set relative to the hydraulic flow of a 5/8-inch meter.

The units of service for each customer class are shown in Table 3.10.

Table 3.10 Water Units of Service by Customer Class

| Description | Source of Supply | Base | Max Day Extra Capacity | Max Hour Extra Capacity | Cust. Svc. & Billing | Meters & Services |
|-----------------------------|-------------------|-------------------|------------------------|-------------------------|----------------------|-------------------|
| <i>Units</i> | <i>1,000 gal</i> | <i>1,000 gal</i> | <i>1,000 gpd</i> | <i>1,000 gpd</i> | <i>Bills</i> | <i>MEUs</i> |
| Residential | 38,343,652 | 38,343,652 | 89,929 | 143,432 | 6,213,672 | 552,269 |
| General ⁽²⁾ | 24,831,049 | 24,831,049 | 37,154 | 77,376 | 358,656 | 163,938 |
| Irrigation | 4,006,218 | 4,006,218 | 22,555 | 67,062 | 117,576 | 48,420 |
| Wholesale | 374,566 | 374,566 | 1,409 | 0 | 120 | 590 |
| TOTAL ⁽¹⁾ | 67,555,485 | 67,555,485 | 151,047 | 287,869 | 6,690,024 | 765,217 |

Notes:

(1) Totals may not sum due to rounding.

(2) General includes Multi-family, Commercial, and Industrial.

Unit Cost Development

In order to allocate the cost-of-service to various customer classes, unit costs of service are developed for each rate component. As shown in Table 3.7 and Table 3.8, the total rate revenue requirements for water supply and water delivery, respectively, are allocated to each rate component. The total cost for each rate component is then divided by the total number of associated units of service to determine appropriate unit costs for the water system. Table 3.11 shows the calculation of the unit costs for each rate component, which are then applied to the units of service for each customer class from Table 3.10 to derive customer class allocations. Projected FYE 2022 units of service are based on customer usage characteristics for the three-year period 2018 through 2020. As such, costs are allocated to each customer class based on their respective units of service to reflect their proportionate use of the overall system.

Table 3.11 Development of Water Unit Costs

| Description | Source of Supply | Base | Max Day Extra Capacity | Max Hour Extra Capacity | Cust. Svc. & Billing | Meters & Services |
|---|------------------|------------------|------------------------|-------------------------|----------------------|-------------------|
| <i>Units</i> | <i>1,000 gal</i> | <i>1,000 gal</i> | <i>1,000 gpd</i> | <i>1,000 gpd</i> | <i>Bills</i> | <i>MEUs</i> |
| Water Supply: | | | | | | |
| Allocated Revenue Requirements ⁽¹⁾ | \$197.4 | \$37.4 | \$11.9 | \$4.4 | \$8.6 | \$0.4 |
| Total Units ⁽²⁾ | 67,555,485 | 67,555,485 | 151,047 | 287,869 | 6,690,024 | 765,217 |
| UNIT COST | \$2.92 | \$0.55 | \$78.53 | \$15.20 | \$1.29 | \$0.52 |
| Water Delivery: | | | | | | |
| Allocated Revenue Requirements ⁽³⁾ | \$10.6 | \$81.4 | \$58.0 | \$57.6 | \$13.4 | \$10.4 |
| Total Units ⁽²⁾ | 67,555,485 | 67,555,485 | 151,047 | 287,869 | 6,690,024 | 765,217 |
| UNIT COST | \$0.16 | \$1.21 | \$383.73 | \$200.06 | \$2.01 | \$13.61 |

Notes:

(1) From Table 3.7. Values are in millions of dollars and are rounded.

(2) From Table 3.10.

(3) From Table 3.8. Values are in millions of dollars and are rounded.

Customer Class Allocation

Carollo multiplied the units of service in Table 3.10 by the unit costs developed in Table 3.11 to allocate the rate revenue requirements among the customer classes. Table 3.12 details the allocated water supply revenue requirements for each customer class and rate component, which are then summed to determine the rate revenue requirements by customer class.

Table 3.12 Allocation of Water Supply Rate Revenue Requirements to Customer Classes (\$ millions)

| Customer Class | Total Value | Source of Supply | Base | Extra Capacity | | Customer | |
|-----------------------------|----------------|------------------|---------------|----------------|--------------|----------------------|-------------------|
| | | | | Max Day | Max Hour | Cust. Svc. & Billing | Meters & Services |
| Residential | \$150.8 | \$112.1 | \$21.2 | \$7.1 | \$2.2 | \$8.0 | \$0.3 |
| General ⁽²⁾ | 91.0 | 72.6 | 13.7 | 2.9 | 1.2 | 0.5 | 0.1 |
| Irrigation | 16.9 | 11.7 | 2.2 | 1.8 | 1.0 | 0.2 | 0.0 |
| Wholesale | 1.4 | 1.1 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 |
| TOTAL ⁽¹⁾ | \$260.1 | \$197.4 | \$37.4 | \$11.9 | \$4.4 | \$8.6 | \$0.4 |

Notes:

(1) Totals may not sum due to rounding.

(2) General includes Multi-family, Commercial, and Industrial.

Table 3.13 details the allocated water delivery revenue requirements for each customer class and rate component, which are then summed to determine the rate revenue requirements by customer class.

Table 3.13 Allocation of Water Delivery Rate Revenue Requirements to Customer Classes (\$ millions)

| Customer Class | Total Value | Source of Supply | Base | Extra Capacity | | Customer | |
|-----------------------------|----------------|------------------|---------------|----------------|---------------|----------------------|-------------------|
| | | | | Max Day | Max Hour | Cust. Svc. & Billing | Meters & Services |
| Residential | \$135.4 | \$6.0 | \$46.2 | \$34.5 | \$28.7 | \$12.5 | \$7.5 |
| General ⁽²⁾ | 66.5 | 3.9 | 29.9 | 14.3 | 15.5 | 0.7 | 2.2 |
| Irrigation | 28.4 | 0.6 | 4.8 | 8.7 | 13.4 | 0.2 | 0.7 |
| Wholesale | 1.1 | 0.1 | 0.5 | 0.5 | 0.0 | 0.0 | 0.0 |
| TOTAL ⁽¹⁾ | \$231.4 | \$10.6 | \$81.4 | \$58.0 | \$57.6 | \$13.4 | \$10.4 |

Notes:

(1) Totals may not sum due to rounding.

(2) General includes Multi-family, Commercial, and Industrial.

3.3 Wastewater System

The wastewater system cost-of-service analysis is consistent with the WEF MOP 27 standard methods to allocate the revenue requirements among the various customer classes based on their discharge characteristics. The following sections discuss how costs are allocated to the system's functions, rate components, and customer classes using the methodology outlined in MOP 27.

3.3.1 Functional Cost Allocation

The functional cost allocation assigns the revenue requirements for the test year by major function. The study developed a list of functions specific to the wastewater system. Each functional category is allocated to specific rate components, which can easily be assigned to rates. The wastewater functional categories used for SAWS are listed below. Note that the functional categories include wastewater treatment processes for allocating fixed assets and depreciation. However, the treatment-related O&M expenses are not allocated by process. There are also some functional categories that are only used to allocate O&M expenses.

Preliminary Treatment: Costs associated with pumping wastewater influent through the headworks facility where it is screened to remove grit, rags, and solids.

Primary Treatment: Costs associated with the primary clarifiers used to remove suspended solids from the wastewater.

Secondary Treatment: Costs associated with the aeration process, where air is added to the wastewater to remove contaminants, and the secondary clarifiers.

Tertiary Treatment: Costs associated with nutrient removal.

Digesters: Costs associated with breaking down organic matter and producing energy from methane gas.

Dewatering: Costs associated with increasing the solids concentration by separating wastewater solids from liquid.

Odor Control: Costs associated with managing and controlling odors associated with wastewater throughout the treatment process.

Chlorination/Dechlorination: Costs associated with the introduction of chlorine as a disinfectant and its subsequent removal.

Laboratory: Costs associated with the laboratory and testing of wastewater samples at various

points in the treatment process for reporting purposes.

Treatment: Costs associated with treating wastewater that cannot be directly allocated to specific processes.

Lift Stations: Costs associated with pumping wastewater within the system.

Collection System: Costs associated with collection system infrastructure that carries all wastewater generated by customers to the treatment plant.

Collection System – Retail Only: Costs associated with small diameter pipes within the collection system that carry wastewater from retail customers to larger trunk sewer mains.

Surcharge Sampling: Costs associated with the collecting and testing wastewater samples from surcharge customers.

Customer Service & Billing: Costs associated with calculating, preparing, and sending a customer's bill, as well as costs associated with customer service.

General: Costs associated with other treatment and administrative services that do not fit any of the other categories. Examples include GIS services, IT, finance, electrical and mechanical equipment, lands not associated with a specific asset, etc.

SAWS' budget was analyzed line by line to allocate each line item to one or more functional categories. This detailed allocation is provided in Appendix B.

3.3.2 Rate Component Allocation

Wastewater costs consist of both volumetric components and non-volumetric components. The volumetric components include flow and strength – biochemical oxygen demand (BOD) and total suspended solids (TSS). Another volumetric rate component allocates a portion of the collection system costs directly to retail customers. The non-volumetric components include costs associated with meters and services and customer service and billing. These non-volumetric rate components will be considered for development of the monthly service availability fee. Finally, the surcharge sampling rate component allocates the costs of sampling directly to the surcharge customers.

The following describes each of the wastewater rate components for SAWS:

Flow: Operating and capital costs incurred by the wastewater system to handle the quantity of flows discharged to or collected by the system.

Biochemical Oxygen Demand (BOD): During treatment, microbial organisms consume dissolved oxygen while oxidizing the organic matter present in wastewater. BOD measures the quantity of oxygen required for that process. Expenses include costs incurred to remove and dispose of organic compounds.

Total Suspended Solids (TSS): TSS measures the quantity of suspended solids or non-filterable residue in the wastewater. Costs include those associated with removing and disposing of small particles in the wastewater.

Collection System – Retail Only: Costs associated with small diameter pipes within the collection

system that carry wastewater from retail customers to larger trunk sewer mains. This rate component separates these costs so they are not allocated to wholesale customers.

Surcharge Sampling: Costs associated with managing the program that issues and oversees wastewater permits for industrial customers.

Customer Service and Billing: Costs related to administrative support activities, including accounting, billing, and customer service. These costs are common to all customers and are reasonably uniform across the different customer classes.

Meters and Services: Costs associated with the customer's connection to the sewer main and the capacity that is required by each customer based on their water meter size.

Carollo reviewed the operating budget and fixed asset registry for the wastewater system and allocated each line item and asset to the appropriate functional category based on direction from SAWS staff. The functionalized asset value, depreciation expense, and O&M are then allocated to the appropriate rate components. This multi-step allocation process provides a reasonable, appropriate basis for proportionately distributing costs to customer classes based on their wastewater discharge and is grounded in cost-of-service principles and standards.

3.3.2.1 O&M Allocation

Carollo collaborated with SAWS staff to allocate the wastewater system operating expenses to functional categories and then to rate components. The allocation percentages used to functionalize the operating budget are estimates based on discussions with and data provided by SAWS staff. Appendix B provides the allocation of the O&M budget to functional categories. Table 3.14 summarizes the allocation of the functionalized O&M expenses to the rate components for FYE 2022.

Table 3.14 Allocation of Wastewater System O&M Budget to Rate Components (\$ millions)

| Functional Category | Total Value | Flow | BOD | TSS | Collection – Retail Only | Customer | |
|----------------------------------|----------------|---------------|--------------|---------------|--------------------------|--------------------|----------------------|
| | | | | | | Surcharge Sampling | Cust. Svc. & Billing |
| Treatment ⁽²⁾ | \$64.5 | 37% | 14% | 49% | | | |
| Collection System | \$36.0 | 100% | | | | | |
| Collection System – Retail Only | 10.2 | | | | 100% | | |
| Surcharge Sampling | 0.9 | | | | | 100% | |
| Customer Service | 10.2 | | | | | | 100% |
| Billing | 2.6 | | | | | | 100% |
| TOTAL (\$) ⁽¹⁾ | \$124.5 | \$59.6 | \$9.0 | \$31.9 | \$10.2 | \$0.9 | \$12.8 |
| TOTAL (%) | | 47.9% | 7.3% | 25.6% | 8.2% | 0.7% | 10.3% |

Notes:

(1) Totals may not sum due to rounding.

(2) Treatment costs are allocated based on the allocation of treatment assets to preliminary, primary, secondary, and tertiary treatment, as developed in Table 3.15.

3.3.2.2 Fixed Asset Allocation

Carollo reviewed the fixed asset registry provided by SAWS staff and collaborated to allocate each asset to a specific functional category. The analysis then allocated the functionalized assets to rate components. The overall results of this allocation are used as a proxy to allocate capital-related costs. This minimizes large shifts in the allocation of capital costs, which can vary significantly from year to year.

Table 3.15 summarizes the allocation of the functionalized assets to the rate components to determine the allocation factors applied to the capital-related costs.

Table 3.15 Allocation of Wastewater System Fixed Assets to Rate Components (\$ millions)

| Functional Category | Total Value | Flow | BOD | TSS | Collection – Retail Only | Customer | |
|---------------------------------|-------------|-----------|--------|---------|-----------------------------|-------------------------|----------------------|
| | | | | | | Cust. Svc. & Billing | Meters & Services |
| Treatment: | | | | | | | |
| Preliminary | \$23.6 | 70% | | 30% | | | |
| Primary | 8.4 | 70% | 10% | 20% | | | |
| Secondary | 7.7 | | 100% | | | | |
| Tertiary | 21.5 | | | 100% | | | |
| Digesters ⁽²⁾ | 4.4 | | 42% | 58% | | | |
| Dewatering ⁽²⁾ | 1.7 | | 42% | 58% | | | |
| Odor Control ⁽²⁾ | 0.9 | | 21% | 29% | | 50% | |
| Chlorination/ Dechlorination | 2.6 | 100% | | | | | |
| Laboratory ⁽²⁾ | 0.5 | | 42% | 58% | | | |
| Treatment ⁽³⁾ | 222.8 | 37% | 14% | 49% | | | |
| Lift Stations | 65.8 | 100% | | | | | |
| Collection System | 1,353.8 | 70% | | | 20% | | 10% |
| General Plant ⁽⁴⁾ | 53.9 | 65% | 2% | 8% | 16% | | 8% |
| TOTAL (\$) ⁽¹⁾ | \$1,767.7 | \$1,155.2 | \$44.0 | \$149.0 | \$279.3 | \$0.5 | \$139.6 |
| TOTAL (%) | | 65.4% | 2.5% | 8.4% | 15.8% | 0.0% | 7.9% |

Notes:

- (1) Totals may not sum due to rounding.
- (2) Assets associated with digesters, dewatering, and laboratory are allocated between BOD and TSS based on the mass of BOD and TSS within the treatment plant influent for the three-year period 2018 through 2020. Odor control assets are allocated 50 percent to Customer Service and Billing, since they help address customer complaints associated with odors, and 50 percent to BOD and TSS based on the influent into the treatment plants.
- (3) Treatment assets not directly linked to a specific process are allocated based on the allocation of assets to preliminary, primary, secondary, and tertiary treatment.
- (4) General Plant assets are allocated to rate components based on direct allocation of other functional categories.

3.3.2.3 Depreciation Expense Allocation

The fixed assets' 2020 depreciation expense is allocated in this analysis using the same approach as for the fixed assets, as shown in Table 3.16.

Table 3.16 Allocation of 2020 Wastewater Depreciation Expense to Rate Components (\$ millions)

| Functional Category | Total Value | Flow | BOD | TSS | Collection – Retail Only | Customer | |
|---------------------------------|-------------|--------|-------|-------|-----------------------------|-------------------------|----------------------|
| | | | | | | Cust. Svc. & Billing | Meters & Services |
| Treatment: | | | | | | | |
| Preliminary | \$2.9 | 70% | | 30% | | | |
| Primary | 0.9 | 70% | 10% | 20% | | | |
| Secondary | 1.5 | | 100% | | | | |
| Tertiary | 1.5 | | | 100% | | | |
| Digesters ⁽²⁾ | 0.9 | | 42% | 58% | | | |
| Dewatering ⁽²⁾ | 0.5 | | 42% | 58% | | | |
| Odor Control ⁽²⁾ | 0.1 | | 21% | 29% | | 50% | |
| Chlorination/ Dechlorination | 0.5 | 100% | | | | | |
| Laboratory ⁽²⁾ | 0.1 | | 42% | 58% | | | |
| Treatment ⁽³⁾ | 10.1 | 37% | 14% | 49% | | | |
| Lift Station | 2.6 | 100% | | | | | |
| Collection System | 22.5 | 70% | | | 20% | | 10% |
| General Plant ⁽⁴⁾ | 5.4 | 65% | 2% | 8% | 16% | | 8% |
| TOTAL (\$) ⁽¹⁾ | \$49.5 | \$28.6 | \$3.8 | \$9.0 | \$5.3 | \$0.0 | \$2.7 |
| TOTAL (%) | | 57.9% | 7.7% | 18.1% | 10.8% | 0.1% | 5.4% |

Notes:

- (1) Totals may not sum due to rounding.
- (2) Assets associated with digesters, dewatering, and laboratory are allocated between BOD and TSS based on the mass of BOD and TSS within the treatment plant influent for the three-year period 2018 through 2020. Odor control assets are allocated 50 percent to Customer Service and Billing and 50 percent to BOD and TSS based on the influent into the treatment plants.
- (3) Treatment assets not directly linked to a specific process are allocated based on the allocation of assets to preliminary, primary, secondary, and tertiary treatment.
- (4) General Plant assets are allocated to rate components based on direct allocation of other functional categories.

3.3.2.4 Adjustments to Revenue Requirements

Special services fees and customer penalties, capital recovery fees (impact fees), interest, and other non-rate revenue sources are used to offset and reduce the rate revenue requirements. These offsetting revenues are allocated to the rate components based on the direct allocation of the total rate revenue requirements. The exception to this is the allocation of the recovery of the TCEQ fee directly to Flow. A second exception is to allocate capital recovery fees based on the allocation of the fixed assets.

Additional adjustments are made for the affordability program discount, bill adjustments and uncollectible accounts, and project fund interest, all of which result in an increase to the rate revenue requirements. The affordability program discount is allocated entirely to Flow. Bill adjustments and uncollectible accounts and project fund interest are allocated to the rate components based on the direct allocation of the total rate revenue requirements. These adjustments are illustrated in Appendix B.

3.3.2.5 Allocation of Utility Basis Revenue Requirements

The utility basis revenue requirements are comprised of operating expenses, annual depreciation expense, and return on investment, as discussed in Section 2. These revenue requirements are allocated using the allocation percentages determined previously in this section to calculate the rate revenue requirements for each rate component, as shown in Table 3.17.

Table 3.17 Allocation of Wastewater Rate Revenue Requirements to Rate Components (\$ millions)

| Description | Total Value | Flow | BOD | TSS | Collection – Retail Only | Customer | | |
|-------------------------------------|----------------|----------------|---------------|---------------|--------------------------|--------------------|----------------------|-------------------|
| | | | | | | Surcharge Sampling | Cust. Svc. & Billing | Meters & Services |
| O&M Expenses ⁽²⁾ | \$136.0 | \$65.1 | \$9.8 | \$34.9 | \$11.2 | \$1.0 | \$14.0 | \$0.0 |
| Depreciation ⁽³⁾ | 53.5 | 31.0 | 4.1 | 9.7 | 5.8 | 0.0 | 0.0 | 2.9 |
| Return on Investment ⁽⁴⁾ | 95.4 | 62.3 | 2.4 | 8.0 | 15.1 | 0.0 | 0.0 | 7.5 |
| TOTAL (\$) ⁽¹⁾ | \$284.8 | \$158.4 | \$16.3 | \$52.6 | \$32.0 | \$1.0 | \$14.1 | \$10.4 |
| TOTAL (%) | | 55.6% | 5.7% | 18.5% | 11.2% | 0.4% | 4.9% | 3.7% |

Notes:

(1) Totals may not sum due to rounding.

(2) O&M expenses shown are from the utility basis revenue requirements in Table 2.4 and are allocated based on the allocation of the cash basis O&M Expenses developed in Table 3.14.

(3) FYE 2022 depreciation expense is allocated based on the allocation of the 2020 depreciation expense developed in Table 3.16.

(4) Return on investment is allocated based on the allocation of wastewater fixed assets developed in Table 3.15.

3.3.3 Allocation to Customer Classes

3.3.3.1 Customer Characteristics Analysis

Carollo analyzed wastewater treatment plant influent data and surcharge customer billing data for the three-year period 2018 through 2020 to estimate the wastewater flows and loadings by customer class. This analysis drives the allocation of costs to improve equity among customers.

3.3.3.2 Unit Costs

The unit costs of service are developed by dividing the total annual costs allocated to each of the rate components by the total annual service units of the respective component.

Units of Service

Based on the rate components for the wastewater system, the units of service are annual wastewater flow, loadings (BOD and TSS), meter equivalents, and annual bills.

The following describes the quantifiable analysis of the units of service:

Flow: Allocated based on the estimated wastewater flow for each customer class.

BOD: Allocated based on estimated pounds of BOD returned to the system.

TSS: Allocated based on estimated pounds of TSS returned to the system.

Collection System – Retail Only: Allocated based on the estimated wastewater flow for each retail customer class.

Surcharge Sampling: Allocated to surcharge customers based on the number of bills.

Customer Service and Billing: Allocated based on the annual number of bills.

Meters and Services: Allocated based on MEUs, which are based on water meter size. Larger meters are assigned more meter equivalents than smaller meters.

Unit Cost Development

In order to allocate the cost-of-service to various customer classes, unit costs of service are developed for each rate component. As shown in Table 3.17, the total rate revenue requirements for wastewater are allocated to each rate component. The total cost for each rate component is then divided by the total number of associated units of service to determine appropriate unit costs for the wastewater system. The units of service for each customer class are shown in Table 3.18.

Table 3.18 Wastewater Units of Service by Customer Class

| Customer Class | Flow | BOD | TSS | Collection – Retail | Surcharge Sampling | Cust Svc & Billing | Meters & Services |
|-----------------------------|-------------------|--------------------|--------------------|---------------------|--------------------|--------------------|-------------------|
| <i>Units</i> | <i>1,000 gal</i> | <i>lbs</i> | <i>lbs</i> | <i>1,000 gal</i> | <i>Bills</i> | <i>Bills</i> | <i>MEUs</i> |
| Residential | 26,932,557 | 42,083,735 | 72,419,440 | 26,932,557 | | 5,549,518 | 500,495 |
| General ⁽²⁾ | 21,802,435 | 34,067,612 | 58,624,962 | 21,802,435 | | 314,489 | 145,018 |
| Wholesale | 2,717,000 | 4,245,475 | 7,305,791 | | | 12 | 600 |
| Surcharge | | 21,027,937 | 2,925,999 | | 44,868 | | |
| TOTAL ⁽¹⁾ | 51,451,991 | 101,424,759 | 141,276,191 | 48,734,991 | 44,868 | 5,864,019 | 646,112 |

Note:

(1) Totals may not sum due to rounding.

(2) General includes Multi-family, Commercial, and Industrial.

Table 3.19 shows the calculation of the unit costs for each rate component, which are then applied to the units of service for each customer class from Table 3.18 to derive customer class allocations. Projected FYE 2022 units of service are based on customer usage characteristics for the three-year period 2018 through 2020. As such, costs are allocated to each customer class based on their respective units of service to reflect their proportionate use of the overall system.

Table 3.19 Development of Wastewater Unit Costs

| Description | Flow | BOD | TSS | Collection – Retail | Surcharge Sampling | Cust Svc & Billing | Meters & Services |
|---|------------------|-----------------|-----------------|------------------------|-----------------------|-----------------------|----------------------|
| <i>Units</i> | <i>1,000 gal</i> | <i>lbs</i> | <i>lbs</i> | <i>1,000 gal</i> | <i>Bills</i> | <i>Bills</i> | <i>MEUs</i> |
| Allocated Revenue Requirements ⁽¹⁾ | \$158.4 | \$16.3 | \$52.6 | \$32.0 | \$1.0 | \$14.1 | \$10.4 |
| Total Units ⁽²⁾ | 51,451,991 | 101,424,759 | 141,276,191 | 48,734,991 | 44,868 | 5,864,019 | 646,112 |
| UNIT COST | \$3.08 | \$0.1608 | \$0.3722 | \$0.66 | \$22.40 | \$2.40 | \$16.13 |

Notes:

(1) From Table 3.17. Values are in millions of dollars and are rounded.

(2) From Table 3.18.

Customer Class Allocation

Carollo multiplied the units of service in Table 3.18 by the unit costs developed in Table 3.19 to allocate the rate revenue requirements among the customer classes. Table 3.20 details the allocated wastewater revenue requirements for each customer class and rate component, which are then summed to determine the rate revenue requirements by customer class.

Table 3.20 Allocation of Wastewater Rate Revenue Requirements to Customer Classes (\$ millions)

| Customer Class | Total Value | Flow | BOD | TSS | Collection – Retail Only | Customer | | |
|-----------------------------|----------------|----------------|---------------|---------------|-----------------------------|-----------------------|-------------------------|----------------------|
| | | | | | | Surcharge Sampling | Cust. Svc. & Billing | Meters & Services |
| Residential | \$155.7 | \$82.9 | \$6.8 | \$27.0 | \$17.7 | \$0.0 | \$13.3 | \$8.1 |
| General ⁽²⁾ | 111.8 | 67.1 | 5.5 | 21.8 | 14.3 | 0.0 | 0.8 | 2.3 |
| Wholesale | 11.8 | 8.4 | 0.7 | 2.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| Surcharge | 5.5 | 0.0 | 3.4 | 1.1 | 0.0 | 1.0 | 0.0 | 0.0 |
| TOTAL ⁽¹⁾ | \$284.8 | \$158.4 | \$16.3 | \$52.6 | \$32.0 | \$1.0 | \$14.1 | \$10.4 |

Notes:

(1) Totals may not sum due to rounding.

(2) General includes Multi-family, Commercial, and Industrial.

3.4 Findings

3.4.1 Water System

3.4.1.1 Water Supply

Table 3.21 summarizes the cost-of-service findings for the water supply business unit. The cost-of-service by customer class calculated in Table 3.12 and recycled water costs from Table 2.2 are compared to the projected revenue under existing rates to determine the level of over- or underpayment.

Table 3.21 Water Supply Cost-of-Service Findings

| Customer Class | 2022 Cost of Service | 2022 Budgeted Revenue | Difference (\$) | Difference (%) |
|-----------------------------|----------------------|-----------------------|-----------------|----------------|
| Residential | \$150,820,016 | \$149,519,614 | \$1,300,402 | 0.9% |
| General ⁽²⁾ | 90,950,290 | 84,156,240 | 6,794,050 | 8.1% |
| Irrigation | 16,892,316 | 31,124,898 | (14,232,582) | (45.7%) |
| Wholesale | 1,413,026 | 1,457,810 | (44,784) | (3.1%) |
| Recycled Water | 9,167,915 | 2,985,000 | 6,182,915 | 207.1% |
| TOTAL ⁽¹⁾ | \$269,243,562 | \$269,243,562 | \$0 | 0.0% |

Notes:

(1) Totals may not sum due to rounding.

(2) General includes Multi-family, Commercial, and Industrial.

Beneficial Reallocation of Recycled Water Costs

The recycled water system is a water supply source for SAWS, providing an alternative water supply for non-potable uses. This frees up potable water in the system, offsetting the need to identify new water supply sources that are costly to produce and transport into the service area. The calculated cost of service is significantly higher than the budgeted revenue from the current recycled water rates, indicating that the rates should more than triple to fully recover the costs related to recycled water. However, SAWS has historically set recycled water rates below cost of service to provide an incentive to customers to use recycled water for non-potable uses. SAWS will solicit input from the 2022 RAC regarding an appropriate level of cost recovery for recycled water. As such, Carollo recommends adjusting the recycled water cost of service to match the FYE 2022 budgeted revenue.

Before the 2019 rate study was suspended, the 2019 RAC recommended reallocating the recycled water revenue shortfall to the residential and irrigation customer classes based on the estimated irrigation usage since the development of the recycled water system was intended to augment existing potable water sources and prevent or delay the need to acquire more expensive potable water sources. Table 3.22 shows the beneficial reallocation of recycled water costs.

Beneficial Reallocation of Costs to Irrigation Customer Class

The current water supply fee is based on the methodology utilized during the 2015 rate study, which allocated water supply costs to Base, Max Day Extra Capacity, and Max Hour Extra Capacity. However, because water supply sources are typically acquired to meet annual demand, not peak demand, SAWS staff recommended a change during the 2019 rate study to allocate water supply costs entirely to Base, which was supported by the 2019 RAC. Carollo also agrees with this recommendation, and our cost-of-service analysis reflects this change.

The result of the recommended change is to shift water supply costs away from customer classes with higher peaking factors. The irrigation customer class is most impacted by this shift, which greatly reduced its cost of service. The 2019 RAC identified Conservation as a high-priority pricing objective, and because outdoor irrigation is a discretionary use of water, the 2019 RAC recommended a beneficial reallocation of costs from the Residential, General, and Wholesale customer classes to the Irrigation customer class such that revenue from irrigation rates for water supply and water delivery combined would be unchanged. This beneficial reallocation is shown in Table 3.22.

Table 3.22 Water Supply Beneficial Reallocation

| Customer Class | 2022 Calculated Cost of Service | Recycled Water Reallocation | Irrigation Reallocation | 2022 Adjusted Cost of Service |
|-----------------------------|---------------------------------|-----------------------------|-------------------------|-------------------------------|
| Residential | \$150,820,016 | \$3,884,831 | (\$5,657,187) | \$149,047,659 |
| General ⁽²⁾ | 90,950,290 | 0 | (3,112,027) | 87,838,263 |
| Irrigation | 16,892,316 | 2,298,084 | 8,818,072 | 28,008,472 |
| Wholesale | 1,413,026 | 0 | (48,858) | 1,364,168 |
| Recycled Water | 9,167,915 | (6,182,915) | | 2,985,000 |
| TOTAL ⁽¹⁾ | \$269,243,562 | \$0 | \$0 | \$269,243,562 |

Notes:

(1) Totals may not sum due to rounding.

(2) General includes Multi-family, Commercial, and Industrial.

3.4.1.2 Water Delivery

Table 3.23 summarizes the cost-of-service findings for the water delivery business unit. The cost-of-service by customer class calculated in Table 3.13 is compared to the projected revenue under existing rates to determine the level of over- or underpayment.

Table 3.23 Water Delivery Cost-of-Service Findings

| Customer Class | 2022 Cost of Service | 2022 Budgeted Revenue | Difference (\$) | Difference (%) |
|-----------------------------|----------------------|-----------------------|-----------------|----------------|
| Residential | \$135,419,110 | \$137,929,509 | (\$2,510,399) | (1.8%) |
| General ⁽²⁾ | 66,510,256 | \$67,324,487 | (814,231) | (1.2%) |
| Irrigation | 28,423,107 | \$25,306,681 | 3,116,426 | 12.3% |
| Wholesale | 1,059,080 | \$850,875 | 208,205 | 24.5% |
| TOTAL ⁽¹⁾ | \$231,411,552 | \$231,411,552 | \$0 | 0.0% |

Notes:

(1) Totals may not sum due to rounding.

(2) General includes Multi-family, Commercial, and Industrial.

Table 3.24 combines water supply and water delivery and summarizes the cost-of-service findings for the total water system.

Table 3.24 Water System Cost-of-Service Findings

| Customer Class | 2022 Adjusted Cost of Service | 2022 Budgeted Revenue | Difference (\$) | Difference (%) | Unit Cost (\$/kgal) ⁽³⁾ |
|-----------------------------|-------------------------------|-----------------------|-----------------|----------------|------------------------------------|
| Residential | \$284,466,769 | \$287,449,123 | (\$2,982,354) | (1.0%) | \$7.42 |
| General ⁽²⁾ | 154,348,519 | 151,480,727 | 2,867,792 | 1.9% | 6.22 |
| Irrigation | 56,431,579 | 56,431,579 | 0 | 0.0% | 14.09 |
| Wholesale | 2,423,247 | 2,308,685 | 114,562 | 5.0% | 6.47 |
| Recycled Water | 2,985,000 | 2,985,000 | 0 | 207.1% | 1.57 |
| TOTAL ⁽¹⁾ | \$500,655,114 | \$500,655,114 | \$0 | 0.0% | \$7.21 |

Notes:

(1) Totals may not sum due to rounding.

(2) General includes Multi-family, Commercial, and Industrial.

(3) Unit Cost is the 2022 Adjusted Cost of Service divided by the annual sales (Base) from Table 3.10.

3.4.2 Wastewater System

Table 3.25 summarizes the cost-of-service findings for the wastewater system. The cost-of-service by customer class calculated in Table 3.20 is compared to the projected revenue under existing rates to determine the level of over- or underpayment.

Table 3.25 Wastewater Cost-of-Service Findings

| Customer Class | 2022 Cost of Service | 2022 Budgeted Revenue | Difference (\$) | Difference (%) | Unit Cost (\$/kgal) ⁽³⁾ |
|-----------------------------|----------------------|-----------------------|-----------------|----------------|------------------------------------|
| Residential | \$155,707,457 | \$166,575,425 | (\$10,867,968) | (6.5%) | \$5.78 |
| General ⁽²⁾ | 111,840,459 | 100,233,298 | 11,607,162 | 11.6% | 5.13 |
| Wholesale | 11,777,843 | 12,107,016 | (329,173) | (2.7%) | 4.33 |
| Surcharge | 5,475,687 | 5,885,707 | (410,020) | (7.0%) | 0.25 |
| TOTAL ⁽¹⁾ | \$284,801,446 | \$284,801,446 | \$0 | 0.0% | \$5.54 |

Notes:

(1) Totals may not sum due to rounding.

(2) General includes Multi-family, Commercial, and Industrial.

(3) Unit Cost is the 2022 Cost of Service divided by the annual flow (Flow) from Table 3.18.

Appendix A

WATER SYSTEM ANALYSIS

SAN ANTONIO WATER SYSTEM

2022 Water and Wastewater Rate Study

Table A.1 - Water Supply Revenue Requirements

| Description | Operating Expense | Capital Cost | FY 2022 |
|---|------------------------|------------------------|------------------------|
| (+) O&M | | | |
| TOTAL O&M | \$ 237,244,935 | \$ - | \$ 237,244,935 |
| (+) Capital | | | |
| TOTAL CAPITAL | \$ 11,436,325 | \$ 82,024,773 | \$ 93,461,098 |
| EXISTING DEBT | | | |
| Senior Lien | | \$ 2,262,967 | \$ 2,262,967 |
| Junior Lien | | \$ 24,435,737 | \$ 24,435,737 |
| Subordinate Lien - Fixed Rate | | \$ 3,765,048 | \$ 3,765,048 |
| TOTAL Existing Debt | \$ - | \$ 30,463,752 | \$ 30,463,752 |
| FUTURE DEBT | | | |
| Senior Lien - Fixed (2022) | | \$ 8,329,188 | \$ 8,329,188 |
| TOTAL Future Debt | \$ - | \$ 8,329,188 | \$ 8,329,188 |
| OTHER EXPENDITURES AND TRANSFERS | | | |
| Other Debt and Debt Expenses | | \$ 445,471 | \$ 445,471 |
| Operating Reserve | \$ 660,730 | | \$ 660,730 |
| Transfer to City | \$ 10,775,595 | | \$ 10,775,595 |
| Transfer to R&R | | \$ 2,931,632 | \$ 2,931,632 |
| Transfer to R&R - Capital Recovery Fees | | \$ 38,362,962 | \$ 38,362,962 |
| Capital Outlay | | \$ 1,491,769 | \$ 1,491,769 |
| TOTAL Other Expenditures and Transfers | \$ 11,436,325 | \$ 43,231,834 | \$ 54,668,159 |
| (-) Adjustments | | | |
| TOTAL ADJUSTMENTS | \$ (30,264,121) | \$ (40,366,265) | \$ (70,630,386) |
| (-) Impact Fee Revenue | | | |
| Capital Recovery Fees | | \$ (38,362,962) | \$ (38,362,962) |
| (-) Investment Income | | | |
| Interest Earned & Misc. | | \$ (2,075,303) | \$ (2,075,303) |
| (-) Other Revenue | | | |

| Description | Operating Expense | Capital Cost | FY 2022 |
|--|------------------------|------------------|------------------------|
| Recovery Of EAA Fee | \$ (22,773,072) | | \$ (22,773,072) |
| Special Services Fees and Customer Penalties | \$ (3,685,551) | | \$ (3,685,551) |
| Stormwater Revenues | \$ (5,727,739) | | \$ (5,727,739) |
| Affordability Program | \$ 2,602,382 | | \$ 2,602,382 |
| Bill Adjustments & Uncollected Accounts | \$ 5,325,171 | | \$ 5,325,171 |
| Intercompany Revenue Reallocation | \$ (5,630,000) | | \$ (5,630,000) |
| Incremental AMI Revenue | \$ (375,312) | | \$ (375,312) |
| Project Fund Interest | | \$ 72,000 | \$ 72,000 |
| TOTAL Other Revenue | \$ (30,264,121) | \$ 72,000 | \$ (30,192,121) |

(-) Total Rate Revenue Requirement

| | | | |
|---------------------------------------|-----------------------|----------------------|-----------------------|
| TOTAL RATE REVENUE REQUIREMENT | \$ 218,417,139 | \$ 41,658,508 | \$ 260,075,647 |
| Projected Rate Revenue | | | \$ 266,258,562 |
| Transfer from/(to) Recycled Water | | | \$ (6,182,915) |

Utility Basis

| | | | |
|---------------------------------|-----------------------|----------------------|-----------------------|
| RATE REVENUE REQUIREMENT | \$ 218,417,139 | \$ 41,658,508 | \$ 260,075,647 |
| O&M Expenses | \$ 218,417,139 | | \$ 218,417,139 |
| Depreciation Expense | | \$ 28,162,166 | \$ 28,162,166 |
| Return (Cash Residual) | | \$ 13,496,342 | \$ 13,496,342 |

SAN ANTONIO WATER SYSTEM

2022 Water and Wastewater Rate Study

Table A.2 - Recycled Water Revenue Requirements

| Description | Operating Expense | Capital Cost | FY 2022 |
|---|---------------------|---------------------|---------------------|
| (+) O&M | | | |
| TOTAL O&M | \$ 2,562,071 | \$ - | \$ 2,562,071 |
| (+) Capital | | | |
| TOTAL CAPITAL | \$ 124,205 | \$ 6,481,639 | \$ 6,605,844 |
| EXISTING DEBT | | | |
| Junior Lien | | \$ 5,594,715 | \$ 5,594,715 |
| Subordinate Lien - Fixed Rate | | \$ 395,456 | \$ 395,456 |
| TOTAL Existing Debt | \$ - | \$ 5,990,171 | \$ 5,990,171 |
| FUTURE DEBT | | | |
| Senior Lien - Fixed (2022) | | \$ 183,038 | \$ 183,038 |
| TOTAL Future Debt | \$ - | \$ 183,038 | \$ 183,038 |
| OTHER EXPENDITURES AND TRANSFERS | | | |
| Other Debt and Debt Expenses | | \$ 17,432 | \$ 17,432 |
| Operating Reserve | \$ 4,805 | | \$ 4,805 |
| Transfer to City | \$ 119,400 | | \$ 119,400 |
| Transfer to R&R | | \$ 256,678 | \$ 256,678 |
| Transfer to R&R - Capital Recovery Fees | | \$ - | \$ - |
| Capital Outlay | | \$ 34,320 | \$ 34,320 |
| TOTAL Other Expenditures and Transfers | \$ 124,205 | \$ 308,430 | \$ 432,635 |
| (-) Adjustments | | | |
| TOTAL ADJUSTMENTS | \$ - | \$ - | \$ - |
| (-) Impact Fee Revenue | | | |
| Capital Recovery Fees | | \$ - | \$ - |
| (-) Investment Income | | | |
| Interest Earned & Misc. | | \$ - | \$ - |
| (-) Other Revenue | | | |
| Special Services Fees and Customer Penalties | \$ - | | \$ - |

| Description | Operating Expense | | Capital Cost | | FY 2022 | |
|---|-------------------|----------|--------------|----------|-----------|----------|
| Affordability Program | \$ | - | | \$ | - | |
| Bill Adjustments & Uncollected Accounts | \$ | - | | \$ | - | |
| Intercompany Revenue Reallocation | \$ | - | | \$ | - | |
| Project Fund Interest | | | \$ | - | \$ | - |
| TOTAL Other Revenue | \$ | - | \$ | - | \$ | - |
| (+/-) Reserves | | | | | | |
| Cash Flow (Surplus)/Shortfall | | | \$ | - | \$ | - |

(-) Total Rate Revenue Requirement

| | | | | | | |
|---------------------------------------|-----------|------------------|-----------|------------------|-----------|------------------|
| TOTAL RATE REVENUE REQUIREMENT | \$ | 2,686,276 | \$ | 6,481,639 | \$ | 9,167,915 |
|---------------------------------------|-----------|------------------|-----------|------------------|-----------|------------------|

| | | | | | | |
|---------------------------------|--|--|--|--|----|-----------|
| Projected Rate Revenue | | | | | \$ | 2,985,000 |
| Transfer from/(to) Water Supply | | | | | \$ | 6,182,915 |

Utility Basis

| | | | | | | |
|---------------------------------|-----------|------------------|-----------|------------------|-----------|------------------|
| RATE REVENUE REQUIREMENT | \$ | 2,686,276 | \$ | 6,481,639 | \$ | 9,167,915 |
|---------------------------------|-----------|------------------|-----------|------------------|-----------|------------------|

| | | | | | | |
|------------------------|----|-----------|----|-----------|----|-----------|
| O&M Expenses | \$ | 2,686,276 | | | \$ | 2,686,276 |
| Depreciation Expense | | | \$ | 3,360,033 | \$ | 3,360,033 |
| Return (Cash Residual) | | | \$ | 3,121,606 | \$ | 3,121,606 |

SAN ANTONIO WATER SYSTEM

2022 Water and Wastewater Rate Study

Table A.3 - Water Delivery Revenue Requirements

| Description | Operating Expense | Capital Cost | FY 2022 |
|---|-----------------------|------------------------|------------------------|
| (+) O&M | | | |
| TOTAL O&M | \$ 99,577,703 | \$ - | \$ 99,577,703 |
| (+) Capital | | | |
| TOTAL CAPITAL | \$ 9,826,014 | \$ 156,894,661 | \$ 166,720,675 |
| EXISTING DEBT | | | |
| Senior Lien | | \$ 14,218,794 | \$ 14,218,794 |
| Junior Lien | | \$ 59,365,637 | \$ 59,365,637 |
| Subordinate Lien - Fixed Rate | | \$ 653,397 | \$ 653,397 |
| TOTAL Existing Debt | \$ - | \$ 74,237,828 | \$ 74,237,828 |
| FUTURE DEBT | | | |
| Senior Lien - Fixed (2022) | | \$ 5,531,600 | \$ 5,531,600 |
| TOTAL Future Debt | \$ - | \$ 5,531,600 | \$ 5,531,600 |
| OTHER EXPENDITURES AND TRANSFERS | | | |
| Other Debt and Debt Expenses | | \$ 1,348,146 | \$ 1,348,146 |
| Operating Reserve | \$ 401,215 | | \$ 401,215 |
| Transfer to City | \$ 9,424,799 | | \$ 9,424,799 |
| Transfer to R&R | | \$ 41,023,219 | \$ 41,023,219 |
| Transfer to R&R - Capital Recovery Fees | | \$ 30,099,817 | \$ 30,099,817 |
| Capital Outlay | | \$ 4,654,051 | \$ 4,654,051 |
| TOTAL Other Expenditures and Transfers | \$ 9,826,014 | \$ 77,125,233 | \$ 86,951,247 |
| (-) Adjustments | | | |
| TOTAL ADJUSTMENTS | \$ (2,840,431) | \$ (32,046,395) | \$ (34,886,826) |
| (-) Impact Fee Revenue | | | |
| Capital Recovery Fees | | \$ (30,099,817) | \$ (30,099,817) |
| (-) Investment Income | | | |
| Interest Earned & Misc. | | \$ (2,018,578) | \$ (2,018,578) |
| (-) Other Revenue | | | |
| Recovery of TCEQ Fee | \$ (1,986,790) | | \$ (1,986,790) |

| Description | Operating Expense | Capital Cost | FY 2022 |
|--|-----------------------|------------------|-----------------------|
| Special Services Fees and Customer Penalties | \$ (12,361,826) | \$ | (12,361,826) |
| Affordability Program | \$ 1,588,121 | \$ | 1,588,121 |
| Bill Adjustments & Uncollected Accounts | \$ 4,628,231 | \$ | 4,628,231 |
| Intercompany Revenue Reallocation | \$ 5,630,000 | \$ | 5,630,000 |
| Incremental AMI Revenue | \$ (338,167) | \$ | (338,167) |
| Project Fund Interest | | \$ 72,000 | \$ 72,000 |
| TOTAL Other Revenue | \$ (2,840,431) | \$ 72,000 | \$ (2,768,431) |

(-) Total Rate Revenue Requirement

| | | | |
|---------------------------------------|-----------------------|-----------------------|-----------------------|
| TOTAL RATE REVENUE REQUIREMENT | \$ 106,563,286 | \$ 124,848,266 | \$ 231,411,552 |
|---------------------------------------|-----------------------|-----------------------|-----------------------|

Utility Basis

| | | | |
|---------------------------------|-----------------------|-----------------------|-----------------------|
| RATE REVENUE REQUIREMENT | \$ 106,563,286 | \$ 124,848,266 | \$ 231,411,552 |
|---------------------------------|-----------------------|-----------------------|-----------------------|

| | | | |
|------------------------|----------------|---------------|---------------|
| O&M Expenses | \$ 106,563,286 | \$ | 106,563,286 |
| Depreciation Expense | | \$ 55,050,679 | \$ 55,050,679 |
| Return (Cash Residual) | | \$ 69,797,587 | \$ 69,797,587 |

Table A.4 - Allocation of Water Supply O&M Budget to Functional Categories

| Cost Centers | | | 2022 Total | Water Supply | Source of Supply | Production | Cust. Svc. & Billing | Meter Costs | Recycled | Stormwater | Conservation | Fire Protection | As All Others |
|----------------------------|---|--------------|---------------|--------------|------------------|------------|----------------------|-------------|----------|------------|--------------|-----------------|---------------|
| Allocation of Cost Centers | | | | | | | | | | | | | |
| 2 | 5000000-Board of Trustees | \$41,371 | \$ 23,532 | | | | | | 2% | 2% | 4% | | 92% |
| 3 | 5000100-Office of the President-CEO | \$813,167 | \$ 462,537 | | | | | | 2% | 2% | 4% | | 92% |
| 4 | 5000200-Office of Energy Management | \$462,025 | \$ 266,171 | | | | | | 5% | 0% | 0% | | 95% |
| 5 | 5000300-Board of Trustees Support | \$220,762 | \$ 125,571 | | | | | | 2% | 2% | 4% | | 92% |
| 6 | 5000400-Legal | \$1,852,785 | \$ 1,011,584 | | | | | | 2% | 1% | 4% | | 93% |
| 7 | 5000500-Water Law | \$664,227 | \$ 664,226 | 75% | | | | | 2% | 7% | 16% | | 0% |
| 8 | 5002300-Communications Administration | \$372,748 | \$ 212,022 | | | | | | 2% | 2% | 4% | | 92% |
| 9 | 5002400-Creative Services | \$470,283 | \$ 267,501 | | | | | | 2% | 2% | 4% | | 92% |
| 10 | 5002500-Communications | \$607,438 | \$ 345,516 | | | | | | 2% | 2% | 4% | | 92% |
| 11 | 5002600-Regional and Federal Outreach | \$232,806 | \$ 132,422 | | | | | | 2% | 2% | 4% | | 92% |
| 12 | 5002700-Community Outreach | \$414,718 | \$ 235,895 | | | | | | 2% | 2% | 4% | | 92% |
| 13 | 5002800-Education Outreach | \$264,393 | \$ 150,389 | | | | | | 2% | 2% | 4% | | 92% |
| 14 | 5002900-Internal Audit | \$461,422 | \$ 262,461 | | | | | | 2% | 2% | 4% | | 92% |
| 15 | 5003100-Purchasing | \$456,727 | \$ 165,834 | | | | | | 2% | 6% | 15% | | 77% |
| 16 | 5003200-Contract Administration | \$269,793 | \$ 117,614 | | | | | | 2% | 7% | 16% | | 75% |
| 17 | 5003300-Office of the VP - Engineering and Construction | \$291,415 | \$ 132,742 | 79% | | | | | 3% | 6% | 12% | | 0% |
| 18 | 5003400-Laboratory - Wastewater | \$1,124,016 | \$ 59,900 | | | | | | | 100% | | | 0% |
| 19 | 5003500-Laboratory - Water | \$150,036 | \$ - | 100% | | | | | | | | | 0% |
| 20 | 5003800-Safety and Environmental Health | \$539,089 | \$ 243,103 | | | | | | 13% | 6% | 3% | | 79% |
| 21 | 5004100-Desalination | \$4,843,628 | \$ 4,843,627 | 36% | 64% | | | | | | | | 0% |
| 22 | 5004400-Conservation - Office of the Director | \$754,175 | \$ 754,174 | | | | | | | | 100% | | 0% |
| 23 | 5004600-Outdoor Conservation Administration | \$1,415,110 | \$ 1,415,109 | | | | | | | | 100% | | 0% |
| 24 | 5004700-Resource Protection and Compliance | \$359,238 | \$ 359,237 | 94% | | | | | | 6% | | | 0% |
| 25 | 5004800-Water Quality and Environmental Ed. (WQEE) | \$36,001 | \$ 36,000 | 100% | | | | | | | | | 0% |
| 26 | 5004900-PGA Monitoring | \$101,281 | \$ 101,280 | 100% | | | | | | | | | 0% |
| 27 | 5005000-Aquifer Protection and Evaluation | \$580,835 | \$ 580,834 | 100% | | | | | | | | | 0% |
| 28 | 5005100-Groundwater Resource Protection | \$1,122,984 | \$ 1,122,983 | 100% | | | | | | | | | 0% |
| 29 | 5005600-Industrial Compliance | \$376,770 | \$ 376,769 | | | | | | | 100% | | | 0% |
| 30 | 5005700-Construction Monitoring | \$395,157 | \$ 395,156 | | | | | | | 100% | | | 0% |
| 31 | 5005800-Wastewater Compliance | \$158,251 | \$ 158,250 | | | | | | | 100% | | | 0% |
| 32 | 5005900-Industrial Waste | \$33,388 | \$ 33,387 | | | | | | | 100% | | | 0% |
| 33 | 5006000-Water Resources | \$1,341,078 | \$ 1,341,077 | 100% | | | | | | | | | 0% |
| 34 | 5006600-Oliver Ranch | \$1,572,064 | \$ 1,572,063 | 100% | | | | | | | | | 0% |
| 35 | 5006800-Western Canyon Proj w GBRA | \$7,429,465 | \$ 7,429,464 | 100% | | | | | | | | | 0% |
| 36 | 5007000-Regional Carrizo Program | \$7,820,607 | \$ 7,820,606 | 100% | | | | | | | | | 0% |
| 37 | 5007500-WECO | \$12,662,044 | \$ 12,662,043 | 100% | | | | | | | | | 0% |
| 38 | 5008100-Edwards Aquifer | \$26,225,271 | \$ 26,225,270 | 100% | | | | | | | | | 0% |
| 39 | 5008300-Critical Period | \$122,856 | \$ 122,855 | | | | | | | | 100% | | 0% |
| 40 | 5009200-Plumbers to People | \$500,001 | \$ 500,000 | | | | | | | | 100% | | 0% |
| 41 | 5009500-Watersaver | \$2,005,582 | \$ 2,005,581 | | | | | | | | 100% | | 0% |
| 42 | 5010000-Public Education | \$1,136,573 | \$ 1,136,572 | | | | | | | | 100% | | 0% |
| 43 | 5013400-Pipelines | \$226,703 | \$ 130,473 | 95% | | | | | 5% | | | | 0% |
| 44 | 5014000-Plants and Major Projects | \$222,432 | \$ 128,015 | 95% | | | | | 5% | | | | 0% |
| 45 | 5014100-Treatment Engineering | \$1,174 | \$ 1,173 | | | | | | 100% | | | | 0% |
| 46 | 5014200-Production Engineering | (\$102,259) | \$ - | 100% | | | | | | | | | 0% |

| Cost Centers | | | 2022 Total | Water Supply | Source of Supply | Production | Cust. Svc. & Billing | Meter Costs | Recycled | Stormwater | Conservation | Fire Protection | As All Others |
|--------------|--|--|-------------|--------------|------------------|------------|----------------------|-------------|----------|------------|--------------|-----------------|---------------|
| 47 | 5014600-Governmental | | (\$116,368) | \$ - | 100% | | | | | | | | 0% |
| 48 | 5014900-Sewer and Water Pipeline | | (\$170,795) | \$ - | 100% | | | | | | | | 0% |
| 49 | 5015100-Development | | \$156,099 | \$ 62,118 | 100% | | | | | | | | 0% |
| 50 | 5015200-Master Planning | | \$1,166,120 | \$ 671,135 | 95% | | | | 5% | | | | 0% |
| 51 | 5015500-Development Engineering | | \$96,764 | \$ 38,506 | 100% | | | | | | | | 0% |
| 52 | 5015700-Geographic Information Systems | | \$828,002 | \$ 485,524 | | | | | 4% | 4% | | | 91% |
| 53 | 5015800-Office of the CFO | | \$294,778 | \$ 167,672 | | | | | 2% | 2% | 4% | | 92% |
| 54 | 5015900-Accounting | | \$1,462,699 | \$ 831,997 | | | | | 2% | 2% | 4% | | 92% |
| 55 | 5016000-Business Planning | | \$554,405 | \$ 315,350 | | | | | 2% | 2% | 4% | | 92% |
| 56 | 5016100-Treasury | | \$348,038 | \$ 197,967 | | | | | 2% | 2% | 4% | | 92% |
| 57 | 5016200-Remittance Processing | | \$490,463 | \$ 315,040 | | | 56% | | 0% | 40% | 4% | | 0% |
| 58 | 5016400-Data and Platform Services | | \$514,423 | \$ 224,258 | | | | | 2% | 7% | 16% | | 75% |
| 59 | 5016800-Specialized Billing | | \$172,909 | \$ 95,557 | | | 81% | | 0% | 13% | 6% | | 0% |
| 60 | 5016900-Telephone Collections | | \$41,725 | \$ 23,059 | | | 81% | | 0% | 13% | 6% | | 0% |
| 61 | 5017100-Account Review | | \$430,108 | \$ 237,696 | | | 81% | | 0% | 13% | 6% | | 0% |
| 62 | 5017200-Service Centers - ESSC | | \$275,476 | \$ 152,240 | | | 81% | | 0% | 13% | 6% | | 0% |
| 63 | 5017400-Service Centers - WSSC | | \$381,080 | \$ 210,601 | | | 81% | | 0% | 13% | 6% | | 0% |
| 64 | 5017500-Field Operations | | \$89,801 | \$ 49,628 | | | 81% | | 0% | 13% | 6% | | 0% |
| 65 | 5017600-Meter Reading A | | \$3,536,008 | \$ 1,768,004 | | | 100% | | | | | | 0% |
| 66 | 5017700-Field Services | | \$945,472 | \$ 522,509 | | | 81% | | 0% | 13% | 6% | | 0% |
| 67 | 5017800-Investigators | | \$356,214 | \$ 196,859 | | | 81% | | 0% | 13% | 6% | | 0% |
| 68 | 5018000-Customer Service Training | | \$199,880 | \$ 110,462 | | | 81% | | 0% | 13% | 6% | | 0% |
| 69 | 5018200-Stormwater | | \$124,587 | \$ 99,975 | | | 25% | | 0% | 73% | 2% | | 0% |
| 70 | 5018500-Affordability | | \$802,983 | \$ 416,721 | | | 93% | | 0% | | 7% | | 0% |
| 71 | 5018700-Call Center | | \$3,080,424 | \$ 1,702,377 | | | 81% | | 0% | 13% | 6% | | 0% |
| 72 | 5018800-Emergency Operations Center | | \$877,178 | \$ 399,563 | | | 79% | | 3% | 6% | 12% | | 0% |
| 73 | 5019300-Supply | | \$693,321 | \$ 302,247 | | | | | 2% | 7% | 16% | | 75% |
| 74 | 5019500-Equipment Maintenance | | \$4,085,560 | \$ 592,437 | | | | | 5% | 8% | 9% | | 78% |
| 75 | 5019600-Enterprise Resource Planning | | \$2,632,682 | \$ 1,199,215 | | | | | 3% | 6% | 12% | | 79% |
| 76 | 5019700-Human Resources | | \$2,695,062 | \$ 1,174,889 | | | | | 2% | 7% | 16% | | 75% |
| 77 | 5020000-Corporate Real Estate | | \$93,006 | \$ 40,545 | | | | | 2% | 7% | 16% | | 75% |
| 78 | 5020100-Risk Management | | \$1,685,598 | \$ 760,123 | | | | | 13% | 6% | 3% | | 79% |
| 79 | 5020200-Facility Maintenance | | \$2,425,795 | \$ 1,104,975 | | | | | 3% | 6% | 12% | | 79% |
| 80 | 5020400-Asset Management | | \$1,140,581 | \$ 1,140,580 | | 100% | | | | | | | 0% |
| 81 | 5020600-Headquarters | | \$1,829,614 | \$ 797,605 | | | | | 2% | 7% | 16% | | 75% |
| 82 | 5020700-Security | | \$2,123,778 | \$ 925,843 | | | | | 2% | 7% | 16% | | 75% |
| 83 | 5020800-Office of the CIO | | \$1,012,241 | \$ 388,539 | | | | | 2% | 9% | 13% | | 75% |
| 84 | 5020900-Shared Services | | \$1,540,197 | \$ 701,576 | | | | | 3% | 6% | 12% | | 79% |
| 85 | 5021000-Innovative Systems | | \$1,073,387 | \$ 689,471 | | | | | 0% | 40% | 4% | | 56% |
| 86 | 5021100-Information Security | | \$834,195 | \$ 320,197 | | | | | 2% | 9% | 13% | | 75% |
| 87 | 5021300-Billing and Print Shop | | \$2,747,559 | \$ 1,764,846 | | | 56% | | 0% | 40% | 4% | | 0% |
| 88 | 5021500-Infrastructure | | \$1,906,444 | \$ 731,770 | | | | | 2% | 9% | 13% | | 75% |
| 89 | 5021600-Client Services | | \$560,025 | \$ 214,960 | | | | | 2% | 9% | 13% | | 75% |
| 90 | 5021700-Engineering | | \$1,128,931 | \$ 433,329 | | | | | 2% | 9% | 13% | | 75% |
| 91 | 5021800-Operations | | \$1,560,333 | \$ 598,918 | | | | | 2% | 9% | 13% | | 75% |
| 92 | 5021900-Records Management | | \$215,983 | \$ 82,902 | | | | | 2% | 9% | 13% | | 75% |
| 93 | 5022000-VP - Water Resources | | \$9,086 | \$ 9,085 | 93% | | | | | | 7% | | 0% |
| 94 | 5022200-State Legislative Affairs | | \$279,860 | \$ 159,187 | | | | | 2% | 2% | 4% | | 92% |
| 95 | 5022400-Mail Room | | \$83,268 | \$ 53,485 | | | | | 0% | 40% | 4% | | 56% |
| 96 | 5022500-Manager Call Center | | \$272,701 | \$ 150,706 | | | 81% | | 0% | 13% | 6% | | 0% |
| 97 | 5022600-Manager Field Data Services | | \$70,093 | \$ 38,736 | | | 81% | | 0% | 13% | 6% | | 0% |
| 98 | 5022700-Revenue Protection | | \$241,774 | \$ 133,614 | | | 81% | | 0% | 13% | 6% | | 0% |
| 99 | 5022900-Field Meter Repair | | \$453,801 | \$ 226,900 | | | | 100% | | | | | 0% |
| 100 | 5023100-Reading Review | | \$543,433 | \$ 300,324 | | | 81% | | 0% | 13% | 6% | | 0% |

| Cost Centers | | | 2022 Total | Water Supply | Source of Supply | Production | Cust. Svc. & Billing | Meter Costs | Recycled | Stormwater | Conservation | Fire Protection | As All Others |
|--------------|--|---------------|----------------|--------------|------------------|------------|----------------------|-------------|----------|------------|--------------|-----------------|---------------|
| 101 | 5023200-Field Administration | | \$160,873 | \$ 88,905 | | | 81% | | 0% | 13% | 6% | | 0% |
| 102 | 5023300-Key Accounts | | \$152,434 | \$ 84,241 | | | 81% | | 0% | 13% | 6% | | 0% |
| 103 | 5023500-Billing Review | | \$250,584 | \$ 138,483 | | | 81% | | 0% | 13% | 6% | | 0% |
| 104 | 5023800-Manager Customer Support | | \$2,991 | \$ 1,652 | | | 81% | | 0% | 13% | 6% | | 0% |
| 105 | 5024300-Distr and Collection Support | \$4,800,394 | \$ - | | 100% | | | | | | | | 0% |
| 106 | 5024400-Customer Service Administration | | \$369,499 | \$ 204,201 | | | 81% | | 0% | 13% | 6% | | 0% |
| 107 | 5024700-Business Process Analysis | | \$204,131 | \$ 112,811 | | | 81% | | 0% | 13% | 6% | | 0% |
| 108 | 5025100-Office of the VP - Distribution and Collection | | \$752,294 | \$ - | 100% | | | | | | | | 0% |
| 109 | 5025200-Production Administration | | \$523,897 | \$ - | 100% | | | | | | | | 0% |
| 110 | 5025400-Instrumentation and Controls | \$1,246,002 | \$ 506,590 | | | 96% | | | 4% | | | | 0% |
| 111 | 5025500-Control Center | | \$966,941 | \$ 556,502 | | 95% | | | 5% | | | | 0% |
| 112 | 5025700-Meter Shop | | \$313,217 | \$ 156,608 | | | | 100% | | | | | 0% |
| 113 | 5025900-ESSC Water Maintenance | \$4,006,402 | \$ - | | 100% | | | | | | | | 0% |
| 114 | 5026500-NESC Water Maintenance | | \$3,554,891 | \$ - | 100% | | | | | | | | 0% |
| 115 | 5026800-North Side DC Maintenance | | \$2,795,959 | \$ - | 100% | | | | | | | | 0% |
| 116 | 5027100-West Side DC Maintenance | | \$3,794,366 | \$ - | 100% | | | | | | | | 0% |
| 117 | 5027500-Tank Maintenance Section | | \$4,286,058 | \$ - | 100% | | | | | | | | 0% |
| 118 | 5027900-Mechanical Maintenance Section | | \$4,991,332 | \$ - | 100% | | | | | | | | 0% |
| 119 | 5028000-Production Recycle Maintenance | \$1,187,798 | \$ 1,187,797 | | | | | | 100% | | | | 0% |
| 120 | 5028200-Water Supply - Oliver Ranch | | \$369,838 | \$ 369,837 | | 86% | | | | | | | 0% |
| 121 | 5028600-Water Supply - Artesia, Seale, Randolph | | \$1,759,622 | \$ 1,759,621 | | 80% | | | | | | | 0% |
| 122 | 5028900-Construction Inspection | (\$350,275) | \$ (201,594) | | 95% | | | | 5% | | | | 0% |
| 123 | 5029000-Concrete and Asphalt Svcs - Water | | \$1,734,527 | \$ - | 100% | | | | | | | | 0% |
| 124 | 5029400-Leak Detection Program | | \$1,233,921 | \$ 854,201 | | | | | | | 100% | | 0% |
| 125 | 5030400-Office of the VP - Production and Treatment | | \$499,054 | \$ 287,219 | | 95% | | | 5% | | | | 0% |
| 126 | 5031100-Operations - ASR | \$3,763,447 | \$ 3,763,446 | | 30% | 70% | | | | | | | 0% |
| 127 | 5036700-Recycle Operations | | \$381,189 | \$ 381,188 | | | | | 100% | | | | 0% |
| 128 | 5038000-Predictive Maintenance | | \$362,586 | \$ 147,417 | | 96% | | | 4% | | | | 0% |
| 129 | 5038900-Small Minority Women Business | | \$6,993 | \$ 3,048 | | | | | 2% | 7% | 16% | | 75% |
| 130 | 5039000-Growdon Rd Pump Station | | \$1,473 | \$ - | 100% | | | | | | | | 0% |
| 131 | 5039100-Ofc of Chief Operating Officer | | \$443,185 | \$ 201,875 | | 79% | | | 3% | 6% | 12% | | 0% |
| 132 | 5039500-System Control | | \$134,805 | \$ 74,499 | | | 81% | | 0% | 13% | 6% | | 0% |
| 133 | 5039700-Quality | | \$160,451 | \$ 88,672 | | | 81% | | 0% | 13% | 6% | | 0% |
| 134 | 5039900-Desalination and Integration | (\$46,891) | \$ (46,892) | | 100% | | | | | | | | 0% |
| 135 | 5041000-Surface Water Permits | | \$9,522 | \$ 9,521 | | 100% | | | | | | | 0% |
| 136 | 5041200-TCEQ Fees - Water | | \$1,910,376 | \$ - | 100% | | | | | | | | 0% |
| 137 | 5041700-Public Works and SSO Reduction | (\$69,600) | \$ - | | 100% | | | | | | | | 0% |
| 138 | 5042400-Ofc of Director - Production and Treatment Operation | | \$69,289 | \$ 39,877 | | 95% | | | 5% | | | | 0% |
| 139 | 5042500-Centralized Electrical Maintenance | | \$4,791,335 | \$ 2,757,550 | | 95% | | | 5% | | | | 0% |
| 140 | 5043000-Data Processes | | \$91,577 | \$ 91,576 | | | | | | 100% | | | 0% |
| 141 | 5043100-Potable Water Quality | | \$840,538 | \$ 840,537 | | 100% | | | | | | | 0% |
| 142 | 5043200-Edwards Aquifer and Watershed Protection | | \$212,886 | \$ 212,885 | | 74% | | | | 26% | | | 0% |
| 143 | 5043400-Control System Programming | | \$642,772 | \$ 362,394 | | 100% | | | | | | | 0% |
| 144 | 5043500-Backflow Prevention | | \$822,761 | \$ - | 100% | | | | | | | | 0% |
| 145 | 5045800-Continuous Improvement and Innovation | | \$243,394 | \$ 106,105 | | | | | 2% | 7% | 16% | | 75% |
| 146 | 5046200-Fire Hydrant Maintenance | | \$375,605 | \$ - | 100% | | | | | | | | 0% |
| 147 | 5046300-Meter Maintenance | | \$1,772,033 | \$ - | 100% | | | | | | | | 0% |
| 148 | 5046500-Vista Ridge Regional Supply Proj | \$100,240,139 | \$ 100,240,138 | | 92% | 8% | | | | | | | 0% |
| 149 | 5046800-Governmental Relations Administration | | \$215,842 | \$ 122,772 | | | | | 2% | 2% | 4% | | 92% |
| 150 | 5046900-Primary Pumping Station - Operations | | \$14,922,514 | \$ - | | 100% | | | | | | | 0% |
| 151 | 5047000-Construction | | \$173,852 | \$ 100,056 | | 95% | | | 5% | | | | 0% |
| 152 | 5047100-Construction Management | (\$141,583) | \$ (81,486) | | 95% | | | | 5% | | | | 0% |
| 153 | 5047200-Developer Inspections | (\$127,444) | \$ (50,716) | | 100% | | | | | | | | 0% |
| 154 | 5047300-Operations Support | | \$417,484 | \$ 166,134 | | 100% | | | | | | | 0% |

| Cost Centers | | 2022 Total | Water Supply | Source of Supply | Production | Cust. Svc. & Billing | Meter Costs | Recycled | Stormwater | Conservation | Fire Protection | As All Others |
|--------------|---|----------------------|-----------------------|-----------------------|----------------------|----------------------|-------------------|---------------------|---------------------|----------------------|-----------------|---------------------|
| 155 | 5047400-Dead-End Main Flushing | \$990,131 | \$ - | 100% | | | | | | | | 0% |
| 156 | 5047600-Water Point Repair | \$415,445 | \$ - | 100% | | | | | | | | 0% |
| 157 | 5047800-Advanced Metering Infra. (AMI) | \$1,803,301 | \$ 901,650 | | | 100% | | | | | | 0% |
| 158 | 5048000-Regional Carrizo Utilities | \$940,188 | \$ 940,187 | | 100% | | | | | | | 0% |
| 159 | 5048100-Agua Vista Station | \$3,333,028 | \$ 3,333,027 | 80% | 20% | | | | | | | 0% |
| 160 | 5048500-Project Controls | \$54,822 | \$ 24,972 | | | | | 3% | 6% | 12% | | 79% |
| 161 | 8111100-Other Requirements Center | \$6,401,232 | \$ 2,770,518 | | | | | 2% | 7% | 16% | | 75% |
| 162 | 8111300-Other Requirements - COLA | \$2,321,942 | \$ 1,012,231 | | | | | 2% | 7% | 16% | | 75% |
| 163 | 8111500-Other Requirements - WC Claims | \$488,048 | \$ 212,760 | | | | | 2% | 7% | 16% | | 75% |
| 164 | 8111800-Other Requirements - AL/GL Contingent Liab. | \$546,614 | \$ 238,291 | | | | | 2% | 7% | 16% | | 75% |
| 165 | 8113000-Post Retirement Medical Benefits | \$6,207,268 | \$ 2,827,476 | | | | | 3% | 6% | 12% | | 79% |
| 166 | 8121200-Other Requirements - Vacant Positions | \$289,633 | \$ 126,263 | | | | | 2% | 7% | 16% | | 75% |
| 167 | 6008800-Canyon Regional (CRWA) | \$8,103,616 | \$ 8,103,615 | 100% | | | | | | | | 0% |
| 168 | 6008900-BMA | \$3,135,919 | \$ 3,135,918 | 100% | | | | | | | | 0% |
| 169 | 6010500-Other Requirements | \$200,001 | \$ 79,589 | | | | | | | | | 100% |
| 170 | Subtotal Allocated O&M Budget | \$339,384,878 | \$239,807,006 | \$171,795,363 | \$22,186,425 | \$8,373,353 | \$383,508 | \$2,562,071 | \$4,451,388 | \$10,087,541 | -- | \$19,967,358 |
| 171 | <i>Subtotal for Reallocation of As All Others</i> | | | 84.7% | 10.9% | 4.1% | 0.2% | N/A | N/A | N/A | 0.0% | TRUE |
| 172 | <i>Reallocation of As All Others Category</i> | | | \$ 16,919,811 | \$ 2,185,100 | \$ 824,676 | \$ 37,771 | | | | \$ - | \$ 19,967,358 |
| 173 | Total Allocated O&M Budget | | \$ 239,807,006 | \$ 188,715,173 | \$ 24,371,525 | \$ 9,198,030 | \$ 421,279 | \$ 2,562,071 | \$ 4,451,388 | \$ 10,087,541 | \$ - | |

SAN ANTONIO WATER SYSTEM

2022 Water and Wastewater Rate Study

Table A.5 - Allocation of Water Delivery O&M Budget to Functions

| Cost Centers | | | 2022 Total | Water Delivery | Source of Supply | Production | Distribution | Cust. Svc. & Billing | Meter Costs | As All Others |
|----------------------------|---|--|-------------|----------------|------------------|------------|--------------|----------------------|-------------|---------------|
| Allocation of Cost Centers | | | | | | | | | | |
| 2 | 5000000-Board of Trustees | | \$41,371 | \$ 17,838 | | | | | | 100% |
| 3 | 5000100-Office of the President-CEO | | \$813,167 | \$ 350,629 | | | | | | 100% |
| 4 | 5000200-Office of Energy Management | | \$462,025 | \$ 195,854 | | | | | | 100% |
| 5 | 5000300-Board of Trustees Support | | \$220,762 | \$ 95,190 | | | | | | 100% |
| 6 | 5000400-Legal | | \$1,852,785 | \$ 841,200 | | | | | | 100% |
| 7 | 5000500-Water Law | | \$664,227 | \$ - | 100% | | | | | 0% |
| 8 | 5002300-Communications Administration | | \$372,748 | \$ 160,725 | | | | | | 100% |
| 9 | 5002400-Creative Services | | \$470,283 | \$ 202,781 | | | | | | 100% |
| 10 | 5002500-Communications | | \$607,438 | \$ 261,921 | | | | | | 100% |
| 11 | 5002600-Regional and Federal Outreach | | \$232,806 | \$ 100,383 | | | | | | 100% |
| 12 | 5002700-Community Outreach | | \$414,718 | \$ 178,822 | | | | | | 100% |
| 13 | 5002800-Education Outreach | | \$264,393 | \$ 114,003 | | | | | | 100% |
| 14 | 5002900-Internal Audit | | \$461,422 | \$ 198,960 | | | | | | 100% |
| 15 | 5003100-Purchasing | | \$456,727 | \$ 290,892 | | | | | | 100% |
| 16 | 5003200-Contract Administration | | \$269,793 | \$ 152,179 | | | | | | 100% |
| 17 | 5003300-Office of the VP - Engineering and Construction | | \$291,415 | \$ 158,672 | 100% | | | | | 0% |
| 18 | 5003400-Laboratory - Wastewater | | \$1,124,016 | \$ 1,064,115 | 100% | | | | | 0% |
| 19 | 5003500-Laboratory - Water | | \$150,036 | \$ 150,035 | 100% | | | | | 0% |
| 20 | 5003800-Safety and Environmental Health | | \$539,089 | \$ 295,985 | | | | | | 100% |
| 21 | 5004100-Desalination | | \$4,843,628 | \$ - | 100% | | | | | 0% |
| 22 | 5004400-Conservation - Office of the Director | | \$754,175 | \$ - | | | | | | 100% |
| 23 | 5004600-Outdoor Conservation Administration | | \$1,415,110 | \$ - | | | | | | 100% |
| 24 | 5004700-Resource Protection and Compliance | | \$359,238 | \$ - | 100% | | | | | 0% |
| 25 | 5004800-Water Quality and Environmental Ed. (WQEE) | | \$36,001 | \$ - | 100% | | | | | 0% |
| 26 | 5004900-PGA Monitoring | | \$101,281 | \$ - | 100% | | | | | 0% |
| 27 | 5005000-Aquifer Protection and Evaluation | | \$580,835 | \$ - | 100% | | | | | 0% |
| 28 | 5005100-Groundwater Resource Protection | | \$1,122,984 | \$ - | 100% | | | | | 0% |
| 29 | 5005600-Industrial Compliance | | \$376,770 | \$ - | 100% | | | | | 0% |
| 30 | 5005700-Construction Monitoring | | \$395,157 | \$ - | 100% | | | | | 0% |
| 31 | 5005800-Wastewater Compliance | | \$158,251 | \$ - | 100% | | | | | 0% |
| 32 | 5005900-Industrial Waste | | \$33,388 | \$ - | 100% | | | | | 0% |
| 33 | 5006000-Water Resources | | \$1,341,078 | \$ - | 100% | | | | | 0% |

| Cost Centers | | | 2022 Total | Water Delivery | Source of Supply | Production | Distribution | Cust. Svc. & Billing | Meter Costs | As All Others |
|--------------|--|--|--------------|----------------|------------------|------------|--------------|----------------------|-------------|---------------|
| 34 | 5006600-Oliver Ranch | | \$1,572,064 | \$ - | 100% | | | | | 0% |
| 35 | 5006800-Western Canyon Proj w GBRA | | \$7,429,465 | \$ - | 100% | | | | | 0% |
| 36 | 5007000-Regional Carrizo Program | | \$7,820,607 | \$ - | 100% | | | | | 0% |
| 37 | 5007500-WEC | | \$12,662,044 | \$ - | 100% | | | | | 0% |
| 38 | 5008100-Edwards Aquifer | | \$26,225,271 | \$ - | 100% | | | | | 0% |
| 39 | 5008300-Critical Period | | \$122,856 | \$ - | | | | | | 100% |
| 40 | 5009200-Plumbers to People | | \$500,001 | \$ - | | | | | | 100% |
| 41 | 5009500-Watersaver | | \$2,005,582 | \$ - | | | | | | 100% |
| 42 | 5010000-Public Education | | \$1,136,573 | \$ - | | | | | | 100% |
| 43 | 5013400-Pipelines | | \$226,703 | \$ 96,228 | | | 100% | | | 0% |
| 44 | 5014000-Plants and Major Projects | | \$222,432 | \$ 94,415 | | 100% | | | | 0% |
| 45 | 5014100-Treatment Engineering | | \$1,174 | \$ - | | 100% | | | | 0% |
| 46 | 5014200-Production Engineering | | (\$102,259) | \$ (102,260) | | 100% | | | | 0% |
| 47 | 5014600-Governmental | | (\$116,368) | \$ (116,369) | | | 100% | | | 0% |
| 48 | 5014900-Sewer and Water Pipeline | | (\$170,795) | \$ (170,796) | | | 100% | | | 0% |
| 49 | 5015100-Development | | \$156,099 | \$ 93,980 | 100% | | | | | 0% |
| 50 | 5015200-Master Planning | | \$1,166,120 | \$ 494,984 | 100% | | | | | 0% |
| 51 | 5015500-Development Engineering | | \$96,764 | \$ 58,257 | 100% | | | | | 0% |
| 52 | 5015700-Geographic Information Systems | | \$828,002 | \$ 342,477 | | | | | | 100% |
| 53 | 5015800-Office of the CFO | | \$294,778 | \$ 127,105 | | | | | | 100% |
| 54 | 5015900-Accounting | | \$1,462,699 | \$ 630,701 | | | | | | 100% |
| 55 | 5016000-Business Planning | | \$554,405 | \$ 239,053 | | | | | | 100% |
| 56 | 5016100-Treasury | | \$348,038 | \$ 150,070 | | | | | | 100% |
| 57 | 5016200-Remittance Processing | | \$490,463 | \$ 175,422 | | | | 100% | | 0% |
| 58 | 5016400-Data and Platform Services | | \$514,423 | \$ 290,164 | | | | | | 100% |
| 59 | 5016800-Specialized Billing | | \$172,909 | \$ 77,351 | | | | 100% | | 0% |
| 60 | 5016900-Telephone Collections | | \$41,725 | \$ 18,666 | | | | 100% | | 0% |
| 61 | 5017100-Account Review | | \$430,108 | \$ 192,411 | | | | 100% | | 0% |
| 62 | 5017200-Service Centers - ESSC | | \$275,476 | \$ 123,235 | | | | 100% | | 0% |
| 63 | 5017400-Service Centers - WSSC | | \$381,080 | \$ 170,478 | | | | 100% | | 0% |
| 64 | 5017500-Field Operations | | \$89,801 | \$ 40,173 | | | | 100% | | 0% |
| 65 | 5017600-Meter Reading A | | \$3,536,008 | \$ 1,768,004 | | | | 100% | | 0% |
| 66 | 5017700-Field Services | | \$945,472 | \$ 422,962 | | | | 100% | | 0% |
| 67 | 5017800-Investigators | | \$356,214 | \$ 159,354 | | | | 100% | | 0% |
| 68 | 5018000-Customer Service Training | | \$199,880 | \$ 89,417 | | | | 100% | | 0% |
| 69 | 5018200-Stormwater | | \$124,587 | \$ 24,612 | | | | 100% | | 0% |
| 70 | 5018500-Affordability | | \$802,983 | \$ 386,261 | | | | 100% | | 0% |
| 71 | 5018700-Call Center | | \$3,080,424 | \$ 1,378,045 | | | | 100% | | 0% |
| 72 | 5018800-Emergency Operations Center | | \$877,178 | \$ 477,613 | | | | 100% | | 0% |
| 73 | 5019300-Supply | | \$693,321 | \$ 391,073 | | | | | | 100% |
| 74 | 5019500-Equipment Maintenance | | \$4,085,560 | \$ 3,493,122 | | | | | | 100% |

| Cost Centers | | 2022 Total | Water Delivery | Source of Supply | Production | Distribution | Cust. Svc. & Billing | Meter Costs | As All Others |
|--------------|--|-------------|----------------|------------------|------------|--------------|----------------------|-------------|---------------|
| 75 | 5019600-Enterprise Resource Planning | \$2,632,682 | \$ 1,433,467 | | | | | | 100% |
| 76 | 5019700-Human Resources | \$2,695,062 | \$ 1,520,172 | | | | | | 100% |
| 77 | 5020000-Corporate Real Estate | \$93,006 | \$ 52,460 | | | | | | 100% |
| 78 | 5020100-Risk Management | \$1,685,598 | \$ 925,474 | | | | | | 100% |
| 79 | 5020200-Facility Maintenance | \$2,425,795 | \$ 1,320,819 | | | | | | 100% |
| 80 | 5020400-Asset Management | \$1,140,581 | \$ - | 100% | | | | | 0% |
| 81 | 5020600-Headquarters | \$1,829,614 | \$ 1,032,009 | | | | | | 100% |
| 82 | 5020700-Security | \$2,123,778 | \$ 1,197,934 | | | | | | 100% |
| 83 | 5020800-Office of the CIO | \$1,012,241 | \$ 623,701 | | | | | | 100% |
| 84 | 5020900-Shared Services | \$1,540,197 | \$ 838,620 | | | | | | 100% |
| 85 | 5021000-Innovative Systems | \$1,073,387 | \$ 383,915 | | | | | | 100% |
| 86 | 5021100-Information Security | \$834,195 | \$ 513,996 | | | | | | 100% |
| 87 | 5021300-Billing and Print Shop | \$2,747,559 | \$ 982,712 | | | | 100% | | 0% |
| 88 | 5021500-Infrastructure | \$1,906,444 | \$ 1,174,673 | | | | | | 100% |
| 89 | 5021600-Client Services | \$560,025 | \$ 345,064 | | | | | | 100% |
| 90 | 5021700-Engineering | \$1,128,931 | \$ 695,601 | | | | | | 100% |
| 91 | 5021800-Operations | \$1,560,333 | \$ 961,413 | | | | | | 100% |
| 92 | 5021900-Records Management | \$215,983 | \$ 133,079 | | | | | | 100% |
| 93 | 5022000-VP - Water Resources | \$9,086 | \$ - | 100% | | | | | 0% |
| 94 | 5022200-State Legislative Affairs | \$279,860 | \$ 120,673 | | | | | | 100% |
| 95 | 5022400-Mail Room | \$83,268 | \$ 29,782 | | | | | | 100% |
| 96 | 5022500-Manager Call Center | \$272,701 | \$ 121,994 | | | | 100% | | 0% |
| 97 | 5022600-Manager Field Data Services | \$70,093 | \$ 31,356 | | | | 100% | | 0% |
| 98 | 5022700-Revenue Protection | \$241,774 | \$ 108,159 | | | | 100% | | 0% |
| 99 | 5022900-Field Meter Repair | \$453,801 | \$ 226,900 | | | | | 100% | 0% |
| 100 | 5023100-Reading Review | \$543,433 | \$ 243,107 | | | | 100% | | 0% |
| 101 | 5023200-Field Administration | \$160,873 | \$ 71,967 | | | | 100% | | 0% |
| 102 | 5023300-Key Accounts | \$152,434 | \$ 68,192 | | | | 100% | | 0% |
| 103 | 5023500-Billing Review | \$250,584 | \$ 112,100 | | | | 100% | | 0% |
| 104 | 5023800-Manager Customer Support | \$2,991 | \$ 1,337 | | | | 100% | | 0% |
| 105 | 5024300-Distr and Collection Support | \$4,800,394 | \$ 4,800,393 | | | 100% | | | 0% |
| 106 | 5024400-Customer Service Administration | \$369,499 | \$ 165,297 | | | | 100% | | 0% |
| 107 | 5024700-Business Process Analysis | \$204,131 | \$ 91,319 | | | | 100% | | 0% |
| 108 | 5025100-Office of the VP - Distribution and Collection | \$752,294 | \$ 752,293 | | | 100% | | | 0% |
| 109 | 5025200-Production Administration | \$523,897 | \$ 523,896 | | 100% | | | | 0% |
| 110 | 5025400-Instrumentation and Controls | \$1,246,002 | \$ 739,411 | | 100% | | | | 0% |
| 111 | 5025500-Control Center | \$966,941 | \$ 410,438 | | 100% | | | | 0% |
| 112 | 5025700-Meter Shop | \$313,217 | \$ 156,608 | | | | | 100% | 0% |
| 113 | 5025900-ESSC Water Maintenance | \$4,006,402 | \$ 4,006,401 | | | 100% | | | 0% |
| 114 | 5026500-NESC Water Maintenance | \$3,554,891 | \$ 3,554,890 | | | 100% | | | 0% |
| 115 | 5026800-North Side DC Maintenance | \$2,795,959 | \$ 2,795,958 | | | 100% | | | 0% |

| Cost Centers | | 2022 Total | Water Delivery | Source of Supply | Production | Distribution | Cust. Svc. & Billing | Meter Costs | As All Others |
|--------------|--|---------------|----------------|------------------|------------|--------------|----------------------|-------------|---------------|
| 116 | 5027100-West Side DC Maintenance | \$3,794,366 | \$ 3,794,365 | | | 100% | | | 0% |
| 117 | 5027500-Tank Maintenance Section | \$4,286,058 | \$ 4,286,057 | | 100% | | | | 0% |
| 118 | 5027900-Mechanical Maintenance Section | \$4,991,332 | \$ 4,991,331 | | 100% | | | | 0% |
| 119 | 5028000-Production Recycle Maintenance | \$1,187,798 | \$ - | | | | | | 100% |
| 120 | 5028200-Water Supply - Oliver Ranch | \$369,838 | \$ - | | 100% | | | | 0% |
| 121 | 5028600-Water Supply - Artesia, Seale, Randolph | \$1,759,622 | \$ - | | 100% | | | | 0% |
| 122 | 5028900-Construction Inspection | (\$350,275) | \$ (148,682) | 100% | | | | | 0% |
| 123 | 5029000-Concrete and Asphalt Svcs - Water | \$1,734,527 | \$ 1,734,526 | | | 100% | | | 0% |
| 124 | 5029400-Leak Detection Program | \$1,233,921 | \$ 379,719 | | | 100% | | | 0% |
| 125 | 5030400-Office of the VP - Production and Treatment | \$499,054 | \$ 211,834 | | 100% | | | | 0% |
| 126 | 5031100-Operations - ASR | \$3,763,447 | \$ - | | | | | | 100% |
| 127 | 5036700-Recycle Operations | \$381,189 | \$ - | | | | | | 100% |
| 128 | 5038000-Predictive Maintenance | \$362,586 | \$ 215,168 | | 100% | | | | 0% |
| 129 | 5038900-Small Minority Women Business | \$6,993 | \$ 3,944 | | | | | | 100% |
| 130 | 5039000-Growdon Rd Pump Station | \$1,473 | \$ 1,472 | | 100% | | | | 0% |
| 131 | 5039100-Ofc of Chief Operating Officer | \$443,185 | \$ 241,309 | 100% | | | | | 0% |
| 132 | 5039500-System Control | \$134,805 | \$ 60,305 | | | | 100% | | 0% |
| 133 | 5039700-Quality | \$160,451 | \$ 71,778 | | | | 100% | | 0% |
| 134 | 5039900-Desalination and Integration | (\$46,891) | \$ - | 100% | | | | | 0% |
| 135 | 5041000-Surface Water Permits | \$9,522 | \$ - | 100% | | | | | 0% |
| 136 | 5041200-TCEQ Fees - Water | \$1,910,376 | \$ 1,910,375 | 100% | | | | | 0% |
| 137 | 5041700-Public Works and SSO Reduction | (\$69,600) | \$ (69,601) | | | 100% | | | 0% |
| 138 | 5042400-Ofc of Director - Production and Treatment Operation | \$69,289 | \$ 29,411 | 100% | | | | | 0% |
| 139 | 5042500-Centralized Electrical Maintenance | \$4,791,335 | \$ 2,033,783 | | 100% | | | | 0% |
| 140 | 5043000-Data Processes | \$91,577 | \$ - | 100% | | | | | 0% |
| 141 | 5043100-Potable Water Quality | \$840,538 | \$ - | 100% | | | | | 0% |
| 142 | 5043200-Edwards Aquifer and Watershed Protection | \$212,886 | \$ - | 100% | | | | | 0% |
| 143 | 5043400-Control System Programming | \$642,772 | \$ 280,377 | 100% | | | | | 0% |
| 144 | 5043500-Backflow Prevention | \$822,761 | \$ 822,760 | 100% | | | | | 0% |
| 145 | 5045800-Continuous Improvement and Innovation | \$243,394 | \$ 137,288 | | | | | | 100% |
| 146 | 5046200-Fire Hydrant Maintenance | \$375,605 | \$ 375,604 | 100% | | | | | 0% |
| 147 | 5046300-Meter Maintenance | \$1,772,033 | \$ 1,772,032 | | | | | 100% | 0% |
| 148 | 5046500-Vista Ridge Regional Supply Proj | \$100,240,139 | \$ - | 100% | | | | | 0% |
| 149 | 5046800-Governmental Relations Administration | \$215,842 | \$ 93,068 | | | | | | 100% |
| 150 | 5046900-Primary Pumping Station - Operations | \$14,922,514 | \$ 14,922,513 | | 100% | | | | 0% |
| 151 | 5047000-Construction | \$173,852 | \$ 73,795 | 100% | | | | | 0% |
| 152 | 5047100-Construction Management | (\$141,583) | \$ (60,098) | 100% | | | | | 0% |
| 153 | 5047200-Developer Inspections | (\$127,444) | \$ (76,729) | 100% | | | | | 0% |
| 154 | 5047300-Operations Support | \$417,484 | \$ 251,349 | 100% | | | | | 0% |
| 155 | 5047400-Dead-End Main Flushing | \$990,131 | \$ 990,130 | 100% | | | | | 0% |
| 156 | 5047600-Water Point Repair | \$415,445 | \$ 415,444 | | | 100% | | | 0% |

| Cost Centers | | | 2022 Total | Water Delivery | Source of Supply | Production | Distribution | Cust. Svc. & Billing | Meter Costs | As All Others |
|--------------|---|--|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|---------------------|---------------------|
| 157 | 5047800-Advanced Metering Infra. (AMI) | | \$1,803,301 | \$ 901,650 | | | | 100% | | 0% |
| 158 | 5048000-Regional Carrizo Utilities | | \$940,188 | \$ - | | | | | | 100% |
| 159 | 5048100-Agua Vista Station | | \$3,333,028 | \$ - | | | | | | 100% |
| 160 | 5048500-Project Controls | | \$54,822 | \$ 29,850 | 100% | | | | | 0% |
| 161 | 8111100-Other Requirements Center | | \$6,401,232 | \$ 3,630,713 | | | | | | 100% |
| 162 | 8111300-Other Requirements - COLA | | \$2,321,942 | \$ 1,309,710 | | | | | | 100% |
| 163 | 8111500-Other Requirements - WC Claims | | \$488,048 | \$ 275,287 | | | | | | 100% |
| 164 | 8111800-Other Requirements - AL/GL Contingent Liab. | | \$546,614 | \$ 308,322 | | | | | | 100% |
| 165 | 8113000-Post Retirement Medical Benefits | | \$6,207,268 | \$ 3,379,790 | | | | | | 100% |
| 166 | 8121200-Other Requirements - Vacant Positions | | \$289,633 | \$ 163,370 | | | | | | 100% |
| 167 | 6008800-Canyon Regional (CRWA) | | \$8,103,616 | \$ - | | | | | | 100% |
| 168 | 6008900-BMA | | \$3,135,919 | \$ - | | | | | | 100% |
| 169 | 6010500-Other Requirements | | \$200,001 | \$ 120,411 | | | | | | 100% |
| 170 | Subtotal Allocated O&M Budget | | \$339,384,878 | \$99,577,703 | \$6,739,493 | \$28,328,057 | \$21,973,449 | \$8,535,278 | \$2,155,540 | \$31,845,885 |
| 171 | <i>Subtotal for Reallocation of As All Others</i> | | | | 10.0% | 41.8% | 32.4% | 12.6% | 3.2% | TRUE |
| 172 | <i>Reallocation of As All Others Category</i> | | | | \$ 3,168,749 | \$ 13,319,177 | \$ 10,331,392 | \$ 4,013,084 | \$ 1,013,483 | \$ 31,845,885 |
| 173 | Total Allocated O&M Budget | | | \$ 99,577,703 | \$ 9,908,242 | \$ 41,647,234 | \$ 32,304,841 | \$ 12,548,362 | \$ 3,169,023 | |

SAN ANTONIO WATER SYSTEM

2022 Water and Wastewater Rate Study

Table A.6 - Allocation of Water Supply Utility Basis Revenue Requirements to Rate Components

| Description | 2022 Total | Source of Supply | Base | Extra Capacity | | Customer | | Recycled |
|--------------------------------------|----------------|------------------|---------------|----------------|--------------|----------------------|-------------------|---------------|
| | | | | Maximum Day | Maximum Hour | Cust. Svc. & Billing | Meters & Services | |
| 1 Utility Basis Revenue Requirements | | | | | | | | |
| 2 System Units of Service | | 1,000 gallons | 1,000 gallons | 1,000 gpd | 1,000 gpd | Bills | MEUs | 1,000 gallons |
| 3 Total System | | 67,555,485 | 67,555,485 | 151,047 | 287,869 | 6,690,024 | 765,217 | 1,905,020 |
| 4 Water Supply | | | | | | | | |
| 5 O&M Expenses | | | | | | | | |
| 6 Total | \$ 221,103,415 | \$ 177,060,871 | \$ 16,093,830 | \$ 11,861,086 | \$ 4,376,093 | \$ 8,629,996 | \$ 395,262 | \$ 2,686,276 |
| 7 Unit Cost \$/unit | | \$ 2.62 | \$ 0.24 | \$ 78.53 | \$ 15.20 | \$ 1.29 | \$ 0.52 | \$ 1.41 |
| 8 Depreciation Expenses | | | | | | | | |
| 9 Total | \$ 31,522,199 | \$ 12,402,683 | \$ 15,759,483 | \$ - | \$ - | \$ - | \$ - | \$ 3,360,033 |
| 10 Unit Cost \$/unit | | \$ 0.18 | \$ 0.23 | \$ - | \$ - | \$ - | \$ - | \$ 1.76 |
| 11 Total Return on Rate Base | | | | | | | | |
| 12 Total | \$ 16,617,947 | \$ 7,975,456 | \$ 5,520,886 | \$ - | \$ - | \$ - | \$ - | \$ 3,121,606 |
| 13 Unit Cost \$/unit | 1.4% | \$ 0.12 | \$ 0.08 | \$ - | \$ - | \$ - | \$ - | \$ 1.64 |
| 14 Total Unit Cost | | \$ 2.92 | \$ 0.55 | \$ 78.53 | \$ 15.20 | \$ 1.29 | \$ 0.52 | \$ 4.81 |
| 15 Total Water Supply Costs | \$ 269,243,562 | \$ 197,439,010 | \$ 37,374,199 | \$ 11,861,086 | \$ 4,376,093 | \$ 8,629,996 | \$ 395,262 | \$ 9,167,915 |
| | | 75.9% | 14.4% | 4.6% | 1.7% | 3.3% | 0.2% | |

SAN ANTONIO WATER SYSTEM

2022 Water and Wastewater Rate Study

Table A.7 - Allocation of Water Delivery Utility Basis Revenue Requirements to Rate Components

| Description | 2022 Total | Source of Supply | Base | Extra Capacity | | Customer | | Recycled |
|--------------------------------------|----------------|------------------|---------------|----------------|---------------|----------------------|-------------------|---------------|
| | | | | Maximum Day | Maximum Hour | Cust. Svc. & Billing | Meters & Services | |
| 1 Utility Basis Revenue Requirements | | | | | | | | |
| 2 System Units of Service | | 1,000 gallons | 1,000 gallons | 1,000 gpd | 1,000 gpd | Bills | MEUs | 1,000 gallons |
| 3 Total System | | 67,555,485 | 67,555,485 | 151,047 | 287,869 | 6,690,024 | 765,217 | 1,905,020 |
| | | 75.9% | 14.4% | 4.6% | 1.7% | 3.3% | 0.2% | |
| 4 Water Delivery | | | | | | | | |
| 5 O&M Expenses | | | | | | | | |
| 6 Total | \$ 106,563,286 | \$ 10,603,326 | \$ 36,359,029 | \$ 26,796,454 | \$ 15,984,484 | \$ 13,428,656 | \$ 3,391,337 | \$ - |
| 7 Unit Cost \$/unit | | \$ 0.16 | \$ 0.54 | \$ 177.40 | \$ 55.53 | \$ 2.01 | \$ 4.43 | \$ - |
| 8 Depreciation Expenses | | | | | | | | |
| 9 Total | \$ 55,050,679 | \$ - | \$ 20,197,112 | \$ 14,073,605 | \$ 15,442,960 | \$ - | \$ 5,337,002 | \$ - |
| 10 Unit Cost \$/unit | | \$ - | \$ 0.30 | \$ 93.17 | \$ 53.65 | \$ - | \$ 6.97 | \$ - |
| 11 Total Return on Rate Base | | | | | | | | |
| 12 Total | \$ 69,797,587 | \$ - | \$ 24,859,644 | \$ 17,090,735 | \$ 26,163,713 | \$ - | \$ 1,683,495 | \$ - |
| 13 Unit Cost \$/unit | 4.4% | \$ - | \$ 0.37 | \$ 113.15 | \$ 90.89 | \$ - | \$ 2.20 | \$ - |
| 14 Total Unit Cost | | \$ 0.16 | \$ 1.21 | \$ 383.73 | \$ 200.06 | \$ 2.01 | \$ 13.61 | \$ - |
| 15 Total Water Delivery Costs | \$ 231,411,552 | \$ 10,603,326 | \$ 81,415,785 | \$ 57,960,794 | \$ 57,591,157 | \$ 13,428,656 | \$ 10,411,834 | \$ - |
| | | 4.6% | 35.2% | 25.0% | 24.9% | 5.8% | 4.5% | 0.0% |

SAN ANTONIO WATER SYSTEM

2022 Water and Wastewater Rate Study

Table A.8 - Water System Units of Service

| Customer Class | | Base Annual Usage (1,000 gal) | Base Annual Usage (1,000 gal) | Max Day Extra Capacity (1,000 gpd) | Max Hour Extra Capacity (1,000 gpd) | Number of Bills | Meter Equivalent Units (MEUs) | Recycled Water Usage (1,000 gal) |
|----------------|------------------|----------------------------------|----------------------------------|--|---|------------------|----------------------------------|-------------------------------------|
| 1 | Units of Service | | | | | | | |
| 2 | Residential | 38,343,652 | 38,343,652 | 89,929 | 143,432 | 6,213,672 | 552,269 | - |
| 3 | General | 24,831,049 | 24,831,049 | 37,154 | 77,376 | 358,656 | 163,938 | - |
| 4 | Irrigation | 4,006,218 | 4,006,218 | 22,555 | 67,062 | 117,576 | 48,420 | - |
| 5 | Wholesale | 374,566 | 374,566 | 1,409 | - | 120 | 590 | - |
| 6 | Recycled | - | - | - | - | - | - | 1,905,020 |
| 7 | TOTAL | 67,555,485 | 67,555,485 | 151,047 | 287,869 | 6,690,024 | 765,217 | 1,905,020 |

SAN ANTONIO WATER SYSTEM

2022 Water and Wastewater Rate Study

Table A.9 - Allocation of Water Supply Revenue Requirements to Customer Classes

| Customer Class | 2022 Total | Source of Supply | Base | Extra Capacity | | Customer | | Recycled |
|----------------------------------|----------------|------------------|---------------|----------------|--------------|----------------------|-------------------|--------------|
| | | | | Maximum Day | Maximum Hour | Cust. Svc. & Billing | Meters & Services | |
| 1 Customer Class Cost of Service | | | | | | | | |
| 2 Total Unit Cost \$/unit | | \$ 2.92 | \$ 0.55 | \$ 78.53 | \$ 15.20 | \$ 1.29 | \$ 0.52 | \$ 4.81 |
| 3 General | | | | | | | | |
| 4 Units of Service | | 24,831,049 | 24,831,049 | 37,154 | 77,376 | 358,656 | 163,938 | 0 |
| 5 Total Cost | \$ 90,950,290 | \$ 72,571,720 | \$ 13,737,457 | \$ 2,917,534 | \$ 1,176,240 | \$ 462,659 | \$ 84,680 | \$ - |
| 6 Single Family | | | | | | | | |
| 7 Units of Service | | 38,343,652 | 38,343,652 | 89,929 | 143,432 | 6,213,672 | 552,269 | 0 |
| 8 Total Cost | \$ 150,820,016 | \$ 112,063,924 | \$ 21,213,130 | \$ 7,061,779 | \$ 2,180,404 | \$ 8,015,511 | \$ 285,267 | \$ - |
| 9 Wholesale | | | | | | | | |
| 10 Units of Service | | 374,566 | 374,566 | 1,409 | 0 | 120 | 590 | 0 |
| 11 Total Cost | \$ 1,413,026 | \$ 1,094,713 | \$ 207,224 | \$ 110,629 | \$ - | \$ 155 | \$ 305 | \$ - |
| 12 Irrigation | | | | | | | | |
| 13 Units of Service | | 4,006,218 | 4,006,218 | 22,555 | 67,062 | 117,576 | 48,420 | 0 |
| 14 Total Cost | \$ 16,892,316 | \$ 11,708,653 | \$ 2,216,388 | \$ 1,771,143 | \$ 1,019,450 | \$ 151,671 | \$ 25,011 | \$ - |
| 15 Recycled Water | | | | | | | | |
| 16 Units of Service | | 0 | 0 | 0 | 0 | 0 | 0 | 1,905,020 |
| 17 Total Cost | \$ 9,167,915 | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ 9,167,915 |

2022 Water and Wastewater Rate Study

[illegible]

2 **Total Unit Cost \$/unit**

| | | | | | | | | | |
|----|-------------------------|----------------|--------------|---------------|---------------|---------------|---------------|--------------|-----------|
| 2 | Total Unit Cost \$/unit | | \$ 0.16 | \$ 1.21 | \$ 383.73 | \$ 200.06 | \$ 2.01 | \$ 13.61 | \$ - |
| 3 | General | | | | | | | | |
| 4 | Units of Service | | 24,831,049 | 24,831,049 | 37,154 | 77,376 | 358,656 | 163,938 | 0 |
| 5 | Total Cost | \$ 66,510,256 | \$ 3,897,414 | \$ 29,925,614 | \$ 14,256,924 | \$ 15,479,789 | \$ 719,918 | \$ 2,230,598 | \$ - |
| 6 | Single Family | | | | | | | | |
| 7 | Units of Service | | 38,343,652 | 38,343,652 | 89,929 | 143,432 | 6,213,672 | 552,269 | 0 |
| 8 | Total Cost | \$ 135,419,110 | \$ 6,018,316 | \$ 46,210,586 | \$ 34,508,335 | \$ 28,694,994 | \$ 12,472,491 | \$ 7,514,387 | \$ - |
| 9 | Wholesale | | | | | | | | |
| 10 | Units of Service | | 374,566 | 374,566 | 1,409 | 0 | 120 | 590 | 0 |
| 11 | Total Cost | \$ 1,059,080 | \$ 58,791 | \$ 451,415 | \$ 540,605 | \$ - | \$ 241 | \$ 8,028 | \$ - |
| 12 | Irrigation | | | | | | | | |
| 13 | Units of Service | | 4,006,218 | 4,006,218 | 22,555 | 67,062 | 117,576 | 48,420 | 0 |
| 14 | Total Cost | \$ 28,423,107 | \$ 628,805 | \$ 4,828,170 | \$ 8,654,930 | \$ 13,416,374 | \$ 236,006 | \$ 658,821 | \$ - |
| 15 | Recycled Water | | | | | | | | |
| 16 | Units of Service | | 0 | 0 | 0 | 0 | 0 | 0 | 1,905,020 |
| 17 | Total Cost | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |

Appendix B

WASTEWATER SYSTEM ANALYSIS

SAN ANTONIO WATER SYSTEM

2022 Water and Wastewater Rate Study

Table B.1 - Wastewater Revenue Requirements

| Description | Operating Expense | Capital Cost | FY 2022 |
|---|-----------------------|------------------------|------------------------|
| (+) O&M | | | |
| TOTAL O&M | \$ 124,464,394 | \$ - | \$ 124,464,394 |
| (+) Capital | | | |
| TOTAL CAPITAL | \$ 11,554,279 | \$ 183,061,145 | \$ 194,615,424 |
| EXISTING DEBT | | | |
| Senior Lien | | \$ 4,887,161 | \$ 4,887,161 |
| Junior Lien | | \$ 85,282,248 | \$ 85,282,248 |
| Subordinate Lien - Fixed Rate | | \$ 1,537,356 | \$ 1,537,356 |
| TOTAL Existing Debt | \$ - | \$ 91,706,765 | \$ 91,706,765 |
| FUTURE DEBT | | | |
| Senior Lien - Fixed (2022) | | \$ 3,999,863 | \$ 3,999,863 |
| TOTAL Future Debt | \$ - | \$ 3,999,863 | \$ 3,999,863 |
| OTHER EXPENDITURES AND TRANSFERS | | | |
| Other Debt and Debt Expenses | | \$ 1,511,253 | \$ 1,511,253 |
| Operating Reserve | \$ 87,898 | | \$ 87,898 |
| Transfer to City | \$ 11,466,381 | | \$ 11,466,381 |
| Transfer to R&R | | \$ 48,612,721 | \$ 48,612,721 |
| Transfer to R&R - Capital Recovery Fees | | \$ 31,611,446 | \$ 31,611,446 |
| Capital Outlay | | \$ 5,619,098 | \$ 5,619,098 |
| TOTAL Other Expenditures and Transfers | \$ 11,554,279 | \$ 87,354,518 | \$ 98,908,797 |
| (-) Adjustments | | | |
| TOTAL ADJUSTMENTS | \$ (34,066) | \$ (34,244,306) | \$ (34,278,372) |
| (-) Impact Fee Revenue | | | |
| Capital Recovery Fees | | \$ (31,611,446) | \$ (31,611,446) |
| (-) Investment Income | | | |
| Interest Earned & Misc. | | \$ (2,728,860) | \$ (2,728,860) |
| (-) Other Revenue | | | |

| Description | Operating Expense | Capital Cost | FY 2022 |
|--|--------------------|------------------|------------------|
| Recovery of TCEQ Fee | \$ (622,925) | \$ (622,925) | |
| Special Services Fees and Customer Penalties | \$ (6,611,642) | \$ (6,611,642) | |
| Affordability Program | \$ 4,002,638 | \$ 4,002,638 | |
| Bill Adjustments & Uncollected Accounts | \$ 3,625,905 | \$ 3,625,905 | |
| Intercompany Revenue Reallocation | \$ - | \$ - | |
| Incremental AMI Revenue | \$ (428,042) | \$ (428,042) | |
| Project Fund Interest | | \$ 96,000 | \$ 96,000 |
| TOTAL Other Revenue | \$ (34,066) | \$ 96,000 | \$ 61,934 |

(-) Total Rate Revenue Requirement

| | | | |
|---------------------------------------|-----------------------|-----------------------|-----------------------|
| TOTAL RATE REVENUE REQUIREMENT | \$ 135,984,607 | \$ 148,816,839 | \$ 284,801,446 |
|---------------------------------------|-----------------------|-----------------------|-----------------------|

Utility Basis

| | | | |
|---------------------------------|--------------------------|--------------------------|-----------------------|
| RATE REVENUE REQUIREMENT | \$ 135,984,606.87 | \$ 148,816,839.13 | \$ 284,801,446 |
|---------------------------------|--------------------------|--------------------------|-----------------------|

| | | |
|------------------------|----------------|----------------|
| O&M Expenses | \$ 135,984,607 | \$ 135,984,607 |
| Depreciation Expense | \$ 53,456,289 | \$ 53,456,289 |
| Return (Cash Residual) | \$ 95,360,550 | \$ 95,360,550 |

SAN ANTONIO WATER SYSTEM

2022 Water and Wastewater Rate Study

Table B.2 - Allocation of Wastewater O&M Budget to Functional Categories

| Cost Centers | 2022 | Treatment | Collection System | CS - Retail Only | Surcharge Sampling | Customer Service | Billing | As All Others |
|--|--------------|-----------|-------------------|------------------|--------------------|------------------|---------|---------------|
| 1 Allocation of Cost Centers | | | | | | | | |
| 2 5000000-Board of Trustees | \$ 22,030 | | | | | | | 100% |
| 3 5000100-Office of the President-CEO | \$ 433,017 | | | | | | | 100% |
| 4 5000200-Office of Energy Management | \$ 93,914 | 100% | | | | | | 0% |
| 5 5000300-Board of Trustees Support | \$ 117,557 | | | | | | | 100% |
| 6 5000400-Legal | \$ 1,038,859 | | | | | | | 100% |
| 7 5002300-Communications Administration | \$ 198,491 | | | | | 100% | | 0% |
| 8 5002400-Creative Services | \$ 250,429 | | | | | 100% | | 0% |
| 9 5002500-Communications | \$ 323,465 | | | | | 100% | | 0% |
| 10 5002600-Regional and Federal Outreach | \$ 123,970 | 100% | | | | | | 0% |
| 11 5002700-Community Outreach | \$ 220,840 | | | | | 100% | | 0% |
| 12 5002800-Education Outreach | \$ 140,791 | | | | | 100% | | 0% |
| 13 5002900-Internal Audit | \$ 245,710 | | | | | | | 100% |
| 14 5003100-Purchasing | \$ 351,887 | | | | | 100% | | 0% |
| 15 5003200-Contract Administration | \$ 208,559 | | | | | | | 100% |
| 16 5003300-Office of the VP - Engineering and Construction | \$ 197,957 | | | | | | | 100% |
| 17 5003400-Laboratory - Wastewater | \$ 1,327,576 | 100% | | | | | | 0% |
| 18 5003600-Laboratory - Biomonitoring | \$ 16,000 | 100% | | | | | | 0% |
| 19 5003800-Safety and Environmental Health | \$ 365,089 | | | | | | | 100% |
| 20 5004700-Resource Protection and Compliance | \$ 420,684 | | | | 3% | | | 97% |
| 21 5005600-Industrial Compliance | \$ 311,310 | 100% | | | | | | 0% |
| 22 5005800-Wastewater Compliance | \$ 226,295 | 12% | | | 88% | | | 0% |
| 23 5005900-Industrial Waste | \$ 707,555 | | | | 100% | | | 0% |
| 24 5013400-Pipelines | \$ 46,143 | | 100% | | | | | 0% |
| 25 5014000-Plants and Major Projects | \$ 45,273 | | | | | | | 100% |
| 26 5014100-Treatment Engineering | \$ 60,562 | 100% | | | | | | 0% |
| 27 5014600-Governmental | \$ (89,725) | | | | | | | 100% |
| 28 5014900-Sewer and Water Pipeline | \$ (131,691) | | 100% | | | | | 0% |
| 29 5015100-Development | \$ 117,248 | | | | | | | 100% |
| 30 5015200-Master Planning | \$ 237,350 | | | | | | | 100% |
| 31 5015500-Development Engineering | \$ 72,681 | | | | | | | 100% |

| Cost Centers | | 2022 | Treatment | Collection System | CS - Retail Only | Surcharge Sampling | Customer Service | Billing | As All Others |
|--------------|--|--------------|-----------|-------------------|------------------|--------------------|------------------|---------|---------------|
| 32 | 5015700-Geographic Information Systems | \$ 164,221 | | | | | 100% | | 0% |
| 33 | 5015800-Office of the CFO | \$ 156,971 | | | | | 100% | | 0% |
| 34 | 5015900-Accounting | \$ 778,898 | | | | | 100% | | 0% |
| 35 | 5016000-Business Planning | \$ 295,224 | | | | | 100% | | 0% |
| 36 | 5016100-Treasury | \$ 185,332 | | | | | 100% | | 0% |
| 37 | 5016200-Remittance Processing | \$ 156,940 | | | | | 100% | | 0% |
| 38 | 5016400-Data and Platform Services | \$ 397,666 | | | | | 100% | | 0% |
| 39 | 5016800-Specialized Billing | \$ 69,202 | | | | | | 100% | 0% |
| 40 | 5016900-Telephone Collections | \$ 16,699 | | | | | | 100% | 0% |
| 41 | 5017100-Account Review | \$ 172,138 | | | | | | 100% | 0% |
| 42 | 5017200-Service Centers - ESSC | \$ 110,251 | | | | | 100% | | 0% |
| 43 | 5017400-Service Centers - WSSC | \$ 152,516 | | | | | 100% | | 0% |
| 44 | 5017500-Field Operations | \$ 35,940 | | | | | 100% | | 0% |
| 45 | 5017600-Meter Reading A | \$ 501,293 | | | | | | 100% | 0% |
| 46 | 5017700-Field Services | \$ 378,398 | | 100% | | | | | 0% |
| 47 | 5017800-Investigators | \$ 142,564 | | | | | 100% | | 0% |
| 48 | 5018000-Customer Service Training | \$ 79,996 | | | | | 100% | | 0% |
| 49 | 5018200-Stormwater | \$ 22,019 | | | | | | | 100% |
| 50 | 5018500-Affordability | \$ 345,564 | | | | | | | 100% |
| 51 | 5018700-Call Center | \$ 1,232,852 | | | | | 100% | | 0% |
| 52 | 5018800-Emergency Operations Center | \$ 595,864 | | | | | 100% | | 0% |
| 53 | 5019300-Supply | \$ 535,960 | | | | | | | 100% |
| 54 | 5019500-Equipment Maintenance | \$ 4,243,681 | 100% | | | | | | 0% |
| 55 | 5019600-Enterprise Resource Planning | \$ 1,788,375 | | | | | | | 100% |
| 56 | 5019700-Human Resources | \$ 2,083,375 | | | | | | | 100% |
| 57 | 5020000-Corporate Real Estate | \$ 71,896 | | | | | | | 100% |
| 58 | 5020100-Risk Management | \$ 1,141,544 | | | | | | | 100% |
| 59 | 5020200-Facility Maintenance | \$ 1,647,836 | 100% | | | | | | 0% |
| 60 | 5020600-Headquarters | \$ 1,414,354 | | | | | | | 100% |
| 61 | 5020700-Security | \$ 1,641,753 | | | | | | | 100% |
| 62 | 5020800-Office of the CIO | \$ 661,124 | | | | | | | 100% |
| 63 | 5020900-Shared Services | \$ 1,046,252 | | | | | | | 100% |
| 64 | 5021000-Innovative Systems | \$ 343,465 | | | | | | | 100% |
| 65 | 5021100-Information Security | \$ 544,836 | | | | | | | 100% |
| 66 | 5021300-Billing and Print Shop | \$ 879,172 | | | | | | 100% | 0% |
| 67 | 5021500-Infrastructure | \$ 1,245,154 | | | | | | | 100% |
| 68 | 5021600-Client Services | \$ 365,768 | | | | | | | 100% |
| 69 | 5021700-Engineering | \$ 737,337 | | | | | | | 100% |
| 70 | 5021800-Operations | \$ 1,019,099 | 100% | | | | | | 0% |

| Cost Centers | | 2022 | Treatment | Collection System | CS - Retail Only | Surcharge Sampling | Customer Service | Billing | As All Others |
|--------------|--|---------------|-----------|-------------------|------------------|--------------------|------------------|---------|---------------|
| 71 | 5021900-Records Management | \$ 141,064 | | | | | | | 100% |
| 72 | 5022200-State Legislative Affairs | \$ 149,027 | | | | | | | 100% |
| 73 | 5022400-Mail Room | \$ 26,644 | | | | | 100% | | 0% |
| 74 | 5022500-Manager Call Center | \$ 109,141 | | | | | 100% | | 0% |
| 75 | 5022600-Manager Field Data Services | \$ 28,052 | | | | | 100% | | 0% |
| 76 | 5022700-Revenue Protection | \$ 96,763 | | | | | 100% | | 0% |
| 77 | 5022900-Field Meter Repair | \$ 64,334 | | | | | 100% | | 0% |
| 78 | 5023100-Reading Review | \$ 217,493 | | | | | | 100% | 0% |
| 79 | 5023200-Field Administration | \$ 64,384 | | | | | 100% | | 0% |
| 80 | 5023300-Key Accounts | \$ 61,007 | | | | | 100% | | 0% |
| 81 | 5023500-Billing Review | \$ 100,289 | | | | | | 100% | 0% |
| 82 | 5023800-Manager Customer Support | \$ 1,197 | | | | | 100% | | 0% |
| 83 | 5024200-Construction | \$ 2,418,398 | | 100% | | | | | 0% |
| 84 | 5024300-Distr and Collection Support | \$ 3,701,312 | | 100% | | | | | 0% |
| 85 | 5024400-Customer Service Administration | \$ 147,881 | | | | | 100% | | 0% |
| 86 | 5024700-Business Process Analysis | \$ 81,697 | | | | | | | 100% |
| 87 | 5025100-Office of the VP - Distribution and Collection | \$ 580,051 | | 100% | | | | | 0% |
| 88 | 5025400-Instrumentation and Controls | \$ 922,480 | 100% | | | | | | 0% |
| 89 | 5025500-Control Center | \$ 196,809 | 100% | | | | | | 0% |
| 90 | 5025700-Meter Shop | \$ 44,404 | | | | | 100% | | 0% |
| 91 | 5025900-ESSC Water Maintenance | \$ 1,177,515 | | 100% | | | | | 0% |
| 92 | 5026500-NESC Water Maintenance | \$ 1,044,812 | | 100% | | | | | 0% |
| 93 | 5026800-North Side DC Maintenance | \$ 821,756 | | 100% | | | | | 0% |
| 94 | 5027100-West Side DC Maintenance | \$ 1,115,196 | | 100% | | | | | 0% |
| 95 | 5028800-Lift Station Maintenance and Operations | \$ 2,440,960 | | 100% | | | | | 0% |
| 96 | 5028900-Construction Inspection | \$ (71,295) | 100% | | | | | | 0% |
| 97 | 5029000-Concrete and Asphalt Svcs - Water | \$ 1,337,395 | | 100% | | | | | 0% |
| 98 | 5029200-Collection PM Televising | \$ 1,379,705 | | 100% | | | | | 0% |
| 99 | 5029300-Collection PM Line Cleaning | \$ 3,476,346 | | 100% | | | | | 0% |
| 100 | 5030400-Office of the VP - Production and Treatment | \$ 101,576 | 100% | | | | | | 0% |
| 101 | 5030500-Operations - Steven M. Clouse WRC | \$ 10,467,250 | 100% | | | | | | 0% |
| 102 | 5030600-Operations - Salado Creek | \$ 28,587 | 100% | | | | | | 0% |
| 103 | 5030700-Operations - Leon Creek | \$ 3,212,721 | 100% | | | | | | 0% |
| 104 | 5030800-Operations - Medio Creek | \$ 2,023,396 | 100% | | | | | | 0% |
| 105 | 5030900-Operations - ML | \$ 5,788 | 100% | | | | | | 0% |
| 106 | 5031200-Operations - General | \$ 60,112 | 100% | | | | | | 0% |
| 107 | 5031300-Wastehauler Prog | \$ 152,255 | 100% | | | | | | 0% |
| 108 | 5031400-Maintenance - Steven M. Clouse WRC | \$ 154,668 | 100% | | | | | | 0% |
| 109 | 5033800-Mechanical Maintenance - Steven M. Clouse WRC | \$ 9,577,692 | 100% | | | | | | 0% |

| Cost Centers | | 2022 | Treatment | Collection System | CS - Retail Only | Surcharge Sampling | Customer Service | Billing | As All Others |
|--------------|---|--------------|-----------|-------------------|------------------|--------------------|------------------|---------|---------------|
| 110 | 5034000-Mechanical Maintenance - Leon Creek | \$ 702,483 | 100% | | | | | | 0% |
| 111 | 5034100-Mechanical Maintenance - Medio | \$ 314,736 | 100% | | | | | | 0% |
| 112 | 5034600-Special Projects - Steven M. Clouse WRC | \$ 1,774,702 | 100% | | | | | | 0% |
| 113 | 5036000-Odor Control | \$ 3,095,900 | 100% | | | | | | 0% |
| 114 | 5037600-Biosolids - Steven M. Clouse WRC | \$ 5,043,951 | 100% | | | | | | 0% |
| 115 | 5038000-Predictive Maintenance | \$ 268,441 | 100% | | | | | | 0% |
| 116 | 5038900-Small Minority Women Business | \$ 5,405 | | | | | | | 100% |
| 117 | 5039100-Ofc of Chief Operating Officer | \$ 301,054 | | | | | | | 100% |
| 118 | 5039300-Proactive Maintenance | \$ 1,808,472 | | 100% | | | | | 0% |
| 119 | 5039400-Maintenance Planning | \$ (29,516) | | 100% | | | | | 0% |
| 120 | 5039500-System Control | \$ 53,952 | | | | | 100% | | 0% |
| 121 | 5039700-Quality | \$ 64,215 | | | | | 100% | | 0% |
| 122 | 5041300-TCEQ - Wastewater | \$ 598,966 | 100% | | | | | | 0% |
| 123 | 5041500-Fats Oils and Grease (FOG) Program | \$ 461,214 | | 100% | | | | | 0% |
| 124 | 5041600-Sewer System Improvements | \$ 97,838 | | 100% | | | | | 0% |
| 125 | 5041700-Public Works and SSO Reduction | \$ (86,834) | | 100% | | | | | 0% |
| 126 | 5042400-Ofc of Director - Production and Treatment Operations | \$ 14,103 | 100% | | | | | | 0% |
| 127 | 5042500-Centralized Electrical Maintenance | \$ 975,221 | 100% | | | | | | 0% |
| 128 | 5042900-CMOM-Capacity Management OM | \$ 89,192 | | 100% | | | | | 0% |
| 129 | 5043000-Data Processes | \$ 411,278 | | | | | 100% | | 0% |
| 130 | 5043400-Control System Programming | \$ 134,444 | | | | | | | 100% |
| 131 | 5043700-CCTV External (SD) | \$ 1,035,000 | | | 100% | | | | 0% |
| 132 | 5043800-CCTV External (LD) | \$ 835,286 | | 100% | | | | | 0% |
| 133 | 5043900-CCTV External (Siphons) | \$ 640,148 | | 100% | | | | | 0% |
| 134 | 5044500-Sewer Point Repair | \$ 4,797,652 | | | 100% | | | | 0% |
| 135 | 5044600-Flow Monitoring | \$ 1,260,000 | | 100% | | | | | 0% |
| 136 | 5044800-Line Cleaning (SD) | \$ 1,010,000 | | | 100% | | | | 0% |
| 137 | 5044900-Line Cleaning (LD) | \$ 964,714 | | 100% | | | | | 0% |
| 138 | 5045000-Line Cleaning (Siphons) | \$ 859,852 | | 100% | | | | | 0% |
| 139 | 5045600-Smart Cover Program | \$ 824,020 | | | 100% | | | | 0% |
| 140 | 5045800-Continuous Improvement and Innovation | \$ 188,151 | | | | | | | 100% |
| 141 | 5046100-EARZ Smoke Testing | \$ 100,000 | | 100% | | | | | 0% |
| 142 | 5046800-Governmental Relations Administration | \$ 114,937 | | | | | 100% | | 0% |
| 143 | 5047000-Construction | \$ 35,385 | | | | | | | 100% |
| 144 | 5047100-Construction Management | \$ (28,818) | | | | | | | 100% |
| 145 | 5047200-Developer Inspections | \$ (95,727) | | | | | | | 100% |
| 146 | 5047300-Operations Support | \$ 313,579 | | | | | | | 100% |
| 147 | 5047800-Advanced Metering Infra. (AMI) | \$ 255,650 | | | | | 100% | | 0% |
| 148 | 5047900-Mitchell Lake Expanded Wetlands | \$ 60,000 | | | | | | | 100% |

| Cost Centers | | 2022 | Treatment | Collection System | CS - Retail Only | Surcharge Sampling | Customer Service | Billing | As All Others |
|--------------|---|----------------------|----------------------|----------------------|----------------------|--------------------|----------------------|---------------------|----------------------|
| 149 | 5048200-Sewer Lateral Reimbursements | \$ 140,000 | | | | | 100% | | 0% |
| 150 | 5048400-Manhole Team | \$ 253,327 | | 100% | | | | | 0% |
| 151 | 5048500-Project Controls | \$ 37,240 | | | | | | | 100% |
| 152 | 8111100-Other Requirements Center | \$ 4,969,311 | | | | | | | 100% |
| 153 | 8111300-Other Requirements - COLA | \$ 1,794,940 | | | | | | | 100% |
| 154 | 8111500-Other Requirements - WC Claims | \$ 377,277 | | | | | | | 100% |
| 155 | 8111800-Other Requirements - AL/GL Contingent Liab. | \$ 422,551 | | | | | | | 100% |
| 156 | 8113000-Post Retirement Medical Benefits | \$ 4,216,583 | | | | | | | 100% |
| 157 | 8121200-Other Requirements - Vacant Positions | \$ 223,896 | | | | | | | 100% |
| 158 | Subtotal Allocated O&M Budget | \$124,464,394 | \$ 48,490,596 | \$ 27,039,989 | \$ 7,666,672 | \$ 919,840 | \$ 7,654,979 | \$ 1,956,285 | \$ 30,736,034 |
| 159 | <i>Subtotal for Reallocation of As All Others</i> | | 52.2% | 29.1% | 8.3% | N/A | 8.2% | 2.1% | TRUE |
| 160 | <i>Reallocation of As All Others Category</i> | | \$ 16,058,963 | \$ 8,955,019 | \$ 2,539,024 | | \$ 2,535,152 | \$ 647,876 | \$ 30,736,034 |
| 161 | Total Allocated O&M Budget | \$124,464,394 | \$ 64,549,559 | \$ 35,995,007 | \$ 10,205,696 | \$ 919,840 | \$ 10,190,131 | \$ 2,604,161 | |

SAN ANTONIO WATER SYSTEM

2022 Water and Wastewater Rate Study

Table B.3 - Allocation of Wastewater Utility Basis Revenue Requirements to Rate Components

| | Description | 2022 Total | Flow | BOD | TSS | CS - Retail Only | Customer | | |
|----|------------------------------------|----------------|----------------|---------------|---------------|------------------|--------------------|----------------------|-------------------|
| | | | | | | | Surcharge Sampling | Cust. Svc. & Billing | Meters & Services |
| 1 | Utility Basis Revenue Requirements | | | | | | | | |
| 2 | System Units of Service | | 1,000 gallons | lbs | lbs | 1,000 gallons | Bills | Bills | EDUs |
| 3 | Total System | | 51,451,991 | 101,424,759 | 141,276,191 | 48,734,991 | 44,868 | 5,864,019 | 646,112 |
| 4 | Wastewater | | | | | | | | |
| 5 | O&M Expenses | | | | | | | | |
| 6 | Total | \$ 135,984,607 | \$ 65,147,096 | \$ 9,847,287 | \$ 34,856,418 | \$ 11,150,318 | \$ 1,004,979 | \$ 13,978,510 | \$ - |
| 7 | Unit Cost \$/unit | | \$ 1.27 | \$ 0.0971 | \$ 0.2467 | \$ 0.23 | \$ 22.40 | \$ 2.38 | \$ - |
| 8 | Depreciation Expenses | | | | | | | | |
| 9 | Total | \$ 53,456,289 | \$ 30,963,094 | \$ 4,090,486 | \$ 9,685,727 | \$ 5,780,471 | \$ - | \$ 46,276 | \$ 2,890,235 |
| 10 | Unit Cost \$/unit | | \$ 0.60 | \$ 0.0403 | \$ 0.0686 | \$ 0.12 | \$ - | \$ 0.01 | \$ 4.47 |
| 11 | Total Return on Rate Base | | | | | | | | |
| 12 | Total | \$ 95,360,550 | \$ 62,321,693 | \$ 2,373,188 | \$ 8,039,581 | \$ 15,066,545 | \$ - | \$ 26,271 | \$ 7,533,272 |
| 13 | Unit Cost \$/unit | | \$ 1.21 | \$ 0.0234 | \$ 0.0569 | \$ 0.31 | \$ - | \$ 0.00 | \$ 11.66 |
| 14 | Total Unit Cost | | \$ 3.08 | \$ 0.1608 | \$ 0.3722 | \$ 0.66 | \$ 22.40 | \$ 2.40 | \$ 16.13 |
| 15 | Total Wastewater Costs | \$ 284,801,446 | \$ 158,431,883 | \$ 16,310,961 | \$ 52,581,726 | \$ 31,997,334 | \$ 1,004,979 | \$ 14,051,056 | \$ 10,423,508 |
| | | | 55.6% | 5.7% | 18.5% | 11.2% | 0.4% | 4.9% | 3.7% |

SAN ANTONIO WATER SYSTEM

2022 Water and Wastewater Rate Study

Table B.4 - Wastewater System Units of Service

| Customer Class | | Billed Water (1,000 gal) | BOD (lbs) | TSS (lbs) | Retail Billed Water (1,000 gal) | Number of Bills | Number of Bills | Meter Equivalent Units (MEUs) |
|----------------|------------------|-----------------------------|--------------------|--------------------|---------------------------------------|-----------------|------------------|----------------------------------|
| 1 | Units of Service | | | | | | | |
| 2 | General | 21,802,435 | 34,067,612 | 58,624,962 | 21,802,435 | - | 314,489 | 145,018 |
| 3 | Single-family | 26,932,557 | 42,083,735 | 72,419,440 | 26,932,557 | | 5,549,518 | 500,495 |
| 4 | Wholesale | 2,717,000 | 4,245,475 | 7,305,791 | - | | 12 | 600 |
| 5 | Surcharge | - | 21,027,937 | 2,925,999 | - | 44,868 | - | - |
| 6 | TOTAL | 51,451,991 | 101,424,759 | 141,276,191 | 48,734,991 | 44,868 | 5,864,019 | 646,112 |

SAN ANTONIO WATER SYSTEM

2022 Water and Wastewater Rate Study

Table B.5 - Allocation of Wastewater Revenue Requirements to Customer Classes

| | | | | | | | Customer | | |
|----------------------------------|----------------|---------------|--------------|---------------|------------------|--------------------|----------------------|-------------------|--|
| Customer Class | 2022 Total | Flow | BOD | TSS | CS - Retail Only | Surcharge Sampling | Cust. Svc. & Billing | Meters & Services | |
| 1 Customer Class Cost of Service | | | | | | | | | |
| 2 Total Unit Cost \$/unit | | \$ 3.08 | \$ 0.1608 | \$ 0.3722 | \$ 0.66 | \$ 22.40 | \$ 2.40 | \$ 16.13 | |
| 3 General | | | | | | | | | |
| 4 Units of Service | | 21,802,435 | 34,067,612 | 58,624,962 | 21,802,435 | - | 314,489 | 145,018 | |
| 5 Total Cost | \$ 111,840,459 | \$ 67,134,443 | \$ 5,478,697 | \$ 21,819,683 | \$ 14,314,556 | \$ - | \$ 753,562 | \$ 2,339,519 | |
| 6 Single-family | | | | | | | | | |
| 7 Units of Service | | 26,932,557 | 42,083,735 | 72,419,440 | 26,932,557 | - | 5,549,518 | 500,495 | |
| 8 Total Cost | \$ 155,707,457 | \$ 82,931,205 | \$ 6,767,836 | \$ 26,953,863 | \$ 17,682,777 | \$ - | \$ 13,297,466 | \$ 8,074,310 | |
| 9 Wholesale | | | | | | | | | |
| 10 Units of Service | | 2,717,000 | 4,245,475 | 7,305,791 | - | - | 12 | 600 | |
| 11 Total Cost | \$ 11,777,843 | \$ 8,366,235 | \$ 682,750 | \$ 2,719,149 | \$ - | \$ - | \$ 29 | \$ 9,680 | |
| 12 Surcharge | | | | | | | | | |
| 13 Units of Service | | - | 21,027,937 | 2,925,999 | - | 44,868 | - | - | |
| 14 Total Cost | \$ 5,475,687 | \$ - | \$ 3,381,678 | \$ 1,089,030 | \$ - | \$ 1,004,979 | \$ - | \$ - | |

Appendix B

MINUTES FROM RATE ADVISORY COMMITTEE MEETINGS



SAWS RATE ADVISORY COMMITTEE MINUTES
SAWS Headquarters, 2800 U.S. Hwy 281 North, San Antonio, Texas 78212
Via WebEx Video Conference
Tuesday, February 15, 2022
6:00 p.m. to 8:00 p.m.

ATTENDANCE

Committee Members Present:

Frances Gonzalez – Committee Chair
Patrick Garcia, Committee Vice Chair, San Antonio Manufacturers Association
Christine Drennon, District 1
Karen Burgard, District 3 (nominated)
Genevieve Trinidad, District 4
Alfred Montoya, District 5
Ramiro Cabrera, District 6
James Smyle, District 7
Patricia Wallace, District 8
Joseph Yakubik, District 9
Vaughn Caudill, District 10
Steve Alaniz, Hispanic Chamber
Mike Chapline, Outside City Limits
Jeff Harris, Recycled Customer
Stephen Lara, Balcones Heights
Cacie Madrid, San Antonio Chamber of Commerce
Steve Richmond, San Antonio Restaurant Association
Preston Woolfolk, Northside Chamber of Commerce

Committee Members Absent:

Velma Willoughby-Kemp, District 2
Tamara Benavides, Hotel & Lodging Association
Allyson McKay, San Antonio Apartment Association (nominated)

San Antonio Water System Staff Present:

Robert Puente, CEO & President
Doug Evanson, Chief Financial Officer & Senior Vice President
Mary Bailey, Vice President of Customer Experience & Strategic Initiatives
Nancy Belinsky, Vice President of Legal & General Counsel
Lisa Mireles, Board of Trustees Senior Executive Management Analyst
Cecilia Velasquez, Senior Director of Financial Services/Controller
Phyllis Garcia, Senior Director of Financial Services/Treasurer
Lou Lendman, Budget Manager
Keith Martin, Senior Corporate Counsel
Gavino Ramos, Vice President of Communications & External Affairs

Consultants Present:

Jennifer Ivey, Carollo Engineers, Project Manager
Mark Panny, Carollo Engineers, Senior Analyst
Bridget Hinze Weber, KGBTexas Communications, Public Affairs

CALL TO ORDER BY CHAIRPERSON

The meeting was called to order by Chair Frances Gonzalez on February 15, 2022, at 6:05 p.m.

RAC Chairperson Frances Gonzalez opened the meeting and welcomed everyone. Chair Gonzalez noted the importance of the committee to support conservation and the public accountability of SAWS. Chair Gonzalez also noted the reasoning for meeting virtually was to ensure the safety of all participants due to the continued COVID-19 pandemic.

CITIZENS TO BE HEARD

Chair Gonzalez then started the Citizens to be Heard portion of the meeting. Two citizens signed up to speak:

Dr. Meredith McGuire:

Dr. McGuire stated concern that when the current rates were approved in 2015, SAWS claimed the rates promoted conservation, but those claims were false due to the elimination of seasonal rates. This resulted in bill reductions for the customers that used the most water. Dr. McGuire said that the lifeline rate is not a benefit for low-income customers who were burdened with a 29% fixed charge if they used more than 2,292 gallons a month. The transfer of costs is a burden on the residential rate customers. The current rate structure is impoverishing low-income customers and unfairly penalizing all customers that are conserving water. Dr. McGuire requested that the committee return to the pre-2015 rate structure and demand accountability from SAWS.

Dr. Terry Burns:

Dr. Burns, who has followed the last three RAC processes closely, expressed concern that SAWS starts every rate advisory committee process with a predetermined outcome. The committee acts as a fig leaf for a rubber stamp rate increase approval from city council. The 2019/2020 RAC was canceled because of the probing questions from the committee members which SAWS did not wish to answer, not due to the COVID-19 pandemic. Dr. Burns challenged the current committee members to question the data provided by SAWS staff and consultants. Dr. Burns recommended that the RAC members request alternative cost of service, demand answers to questions from the 2019/2020 RAC, and request raw data from the consultants.

OPENING REMARKS AND INTRODUCTIONS

All committee members, SAWS staff and consultants introduced themselves individually. Chair Gonzalez reviewed the agenda for the meeting and expectations.

SAWS OVERVIEW

Mary Bailey, Vice President of Customer Experience & Strategic Initiatives, provided a high-level overview of SAWS emphasizing these key attributes of SAWS:

- One of the largest municipally-owned water utilities in the nation
- Serves over 2 million people in San Antonio and surrounding area
- 500,000+ water customers
- 450,000+ wastewater customers
- 13,300 miles of water & wastewater pipe underground
- 4 major wastewater treatment plants in San Antonio
- \$470 million operating and maintenance budget
- \$2.6 billion 5-year capital program
- 1,700 employees

COMMITTEE PURPOSE, BYLAWS, RULES AND MEETING SCHEDULE

Bailey provided an overview of roles and responsibilities. The RAC is part of a larger rate study team for the 2022 rate study. Consultants will work with SAWS staff and the RAC to analyze data and make recommendations. The SAWS Board of Trustees is responsible for ensuring SAWS is managed effectively and will consider any recommendations that the RAC submits. The Board of Trustees will then submit their recommendations to the San Antonio City Council. Council will have the final approval of the SAWS rate recommendations.

The RAC is created to provide community input into the development of the rate structure and is advisory in nature. SAWS typically completes a rate study every five years. The 2019/2020 study was suspended due to the outbreak of the COVID-19 pandemic.

In January 2022, the SAWS Board of Trustees approved the RAC Bylaws. The RAC is comprised of members that are a representation of the SAWS service area. Each city council district nominated a member, and also business and civic organizations nominated members. SAWS staff also made a couple nominations to ensure that customers types and service areas are well represented.

Bailey reviewed the purpose of the RAC which is to provide rate design structure recommendations to the Board of Trustees for the water delivery, water supply, recycled water, and wastewater rates. Chilled water rates are not part of the study.

Recommendation must be designed to fully recover the revenue requirements of SAWS, be consistent with industry standards, and be based on the cost of service allocations (developed by Carollo Engineers and that will be brought to the Board of Trustees for approval in March). Bailey also noted that the 2022 RAC recommendations should take into consideration the recommendations of the 2019/2020 RAC. Carollo Engineers did consider all of the cost of service allocation recommendations made by the 2019/2020 RAC.

Bailey read the mission of the RAC: to assemble a diversity of perspectives that represent our community to evaluate and make recommendations on the water, sewer, and recycled water rate structures. Chair Gonzalez noted that the RAC mission statement is a guide, a north star for the committee, and will be referred to at every committee meeting moving forward.

Bailey reviewed the RAC responsibilities, which include a lot to accomplish over the next six months. It's important to attend all meetings if possible. If a committee member cannot attend a meeting, SAWS staff will be available to update and brief the member.

Cecilia Velasquez, SAWS Senior Director of Financial Services and Controller, continued explaining the responsibilities of the RAC include to be respectful of one another and to act as a representative to the community.

Velasquez then reviewed the responsibilities of SAWS and the consultants, which include to:

- Promote open, honest discussion during meetings;
- Provide current, accurate data;
- Provide informative, useful study materials;
- Provide accurate minutes of meeting discussions;
- Be respectful of all views and input; and
- Remain accessible to committee members on questions related to the study.

There will be meeting minutes posted for each committee meeting and all meetings will be recorded. The recordings will be reviewed to ensure accuracy of the minutes and to actively ensure all input of the committee and public is heard.

Velasquez reviewed the time commitment of the committee to include a total of seven meetings which will be held approximately monthly. The meetings will be capped at two hours.

Committee members are asked to review all meeting materials in advance of each meeting and ask questions in advance of the meetings. The next two meetings will be held in a hybrid format: virtual and in person attendance options will be provided.

Chair Gonzalez reviewed the rules of engagement for the committee meetings. The Chair expects all attendees of the meetings - committee, staff and public - to be respectful of one another to ensure everyone is comfortable sharing thoughts. All questions and comments should be held until the end of each section. All topics that are not on the agenda will be tabled until the end of the meeting to be respectful of each other's time.

Chair Gonzalez explained the committee will engage a consensus-based decision-making process. The committee will agree on some things, but not others. The committee will be expected to come to consensus to move the items forward. Everyone has unique experiences that frame perspectives, values and ideas - and nevertheless the committee can work together to come to agreement.

Bailey reviewed the rate study timeline which began in October 2021 when SAWS hired Carollo Engineers. Carollo Engineers has worked on the cost of service allocations since then. In January 2022, the RAC Bylaws were approved by the Board and the Board was briefed on preliminary cost of service findings for water. In February 2022, the RAC membership was approved by the Board and the Board was briefed on the preliminary cost of service findings for wastewater. The final cost of service for both water and wastewater will be presented to the Board for approval in March 2022. The RAC will meet from February 2022 through July 2022. The recommendations of the RAC need to be presented to the Board by the end of July 2022. Once recommendations have been presented, the work of the RAC will be complete. SAWS staff will then undergo an extensive public outreach process to inform the public of the proposed new rate structure. The Board will be asked to approve the rate structure recommendations in November and the San Antonio City Council will be presented the Board-approved rate structure for approval in late November 2022. If approved by both the Board and City Council, the new rate structure will be implemented in January 2023.

Mary Bailey reviewed the proposed draft meeting schedule and meeting topics that include:

- Meeting #1: Rate study overview and refresher of pricing objectives
- Meeting #2: Finalize pricing objectives and overview of revenue requirements and cost of service
- Meeting #3: Introduction to rate design and presentation of preliminary residential options

- Meeting #4: Review of residential options and presentation of preliminary general (commercial, industrial, and multifamily), irrigation (primarily commercial customers that have a separate irrigation meter), and recycled water class options
- Meeting #5: Review rate design options for all classes
- Meeting #6: Finalize rate recommendations for all classes
- Meeting #7: Presentation of draft RAC report

Committee member Mike Chapline asked the question:

The CPS Energy rate advisory committee voted on the recent rate increase. Will this committee be asked to recommend a rate increase?

Bailey explained that the CPS Energy RAC charter is different than the SAWS RAC. The SAWS RAC is focused on rate design, not the rates themselves unlike the CPS Energy RAC. The SAWS Board has designated the purpose and purview of the RAC to include recommendations of the rate structure. The last rate increase of SAWS was in 2020 and there is no projection for a rate increase in 2023. This RAC is being asked to create a revenue-neutral rate structure. Any changes in the rate structure will be within customer classes - some customers may pay more; some may pay less - but will generate the same amount of total revenue.

Committee member Vaughn Caudill asked the question:

What is driving the July/August 2022 completion date of the RAC recommendations?

Bailey explained that in order for the rates to be implemented in January 2023, the San Antonio City Council needs to approve any changes by November 2022. The public outreach phase is very extensive with over 80 community meetings planned.

RATE STUDY BASICS

Jennifer Ivey, Carollo Engineers Project Manager of the rate study, presented an overview of rate study basics and the RAC's role in the process.

Ivey explained that the overview is a very high level, but greater detail will be provided in subsequent meetings.

There are 3 main phases in a rate study:

Phase 1: Determination of how much revenue is needed to fully fund operating and capital expenses (based on the budget developed by SAWS).

Phase 2: Carollo Engineers completed the cost of service analysis.

Phase 3: Develop the rate structure design (this is the phase where the RAC will provide input and recommendations).

The purpose of all phases is to equitably allocate revenue among all classes.

Ivey further explained each phase of the rate study. The first phase of determining the revenue requirements is based on the fiscal year 2022 SAWS budget. SAWS' revenue requirements are the sum of operations and maintenance, debt service and reserve fund requirements, capital expenditures, and the transfer to the City of San Antonio. As it was determined that no additional revenue is needed to operate the utility, this study will be revenue-neutral.

Typically, a study will evaluate a test year to determine the customer usage patterns to project future usage patterns. The test year is often the prior year. Due to the COVID-19 pandemic, many customers changed their water usage behaviors and so 2020 was not a good year to use to exclusively predict future usage patterns. Carollo Engineers instead analyzed and averaged three years (2018, 2019, and 2020) due to these special circumstances in order to properly project usage patterns in the future.

Ivey then explained that the second phase of the rate study takes the total revenue requirement and allocates it to functional categories and rate components. Then that is allocated to the classes based on how those classes are using the water and wastewater. A unit cost is then calculated for each rate component.

Ivey then provided an overview of the third phase: Rate Design. This is the phase where the RAC will be heavily involved and asked to provide input. The objective will be to find the right balance of pricing objectives. Some pricing objectives compete with others. The RAC will need to prioritize the pricing objectives to find the right balance.

The SAWS potable water rate structure is comprised of water delivery and water rates. The water delivery rate recuperates costs related to pumping wells and distribution mains. The water supply fee recovers costs associated with new water supplies that have been developed since 2001 and supports the recycled water program.

The water rate structure is currently comprised of fixed and variable rates. It is also considered to be a conservation-oriented rate structure. The lifeline discount reduces the fixed portion of the bill who are under a certain usage amount. Outside city customers pay a higher rate for water delivery than inside city limit customers. SAWS also has affordability programs for low-income customers.

The wastewater rate structure is also comprised of fixed and variable rates, lifeline rates, affordability programs, and higher rates for outside city customers.

The recycled water rate structure has contracted volumes based on different types of usage and is also comprised of fixed and variable rates. Two different types of customers for recycled water are the Edwards Exchange and Non-Edwards Exchange. The recycled water rate structure also has seasonal rates which are higher during summer months (May - September).

A rate design element for the RAC to consider is fixed charges. Higher fixed charges are, the reduce revenue risk, but they are inconsistent with conservation and affordability initiatives.

Variable rate structure options include uniform (the same rate for every unit of water), inclining block, declining block (the more water used, the less per unit the customer pays), budget-based tiers and meter-based tiers. Several elements can be adjusted in a variable rate structure, including but not limited to the number of tiers, amount of water in each tier, and drought management rates (automatically adjust based on the drought level).

Additional elements the RAC can consider include discounts or rates for low-income customers, residential wastewater billing basis, and adjusting recycled water rates.

Question by committee member Christine Drennon:

Does SAWS collect demographic information for low-income customers?

Bailey's response:

SAWS does not gather low income demographics, it is provided voluntarily by customers to take advantage of the affordability program. The level of discount is dependent on income. The income information is not stored in the

billing system. Collecting demographic information of all SAWS customers may require an additional burden/administrative work for SAWS staff.

Committee member Dr. Montoya questions:

Can we request particular data? All the raw data that consultants used to determine phase 2 and share with the RAC by our next meeting?

Do we have data on affordability program that it is reducing disconnections? Is the program working as we hope? How is affordability defined?

Committee member Patrick Garcia question:

When we started the RAC committee in 2019 we used a term of parking lot for questions and topics for future discussions to allow time for SAWS staff to provide answers.

Chair Gonzalez responded that yes, the RAC had a parking lot, but we also need to provide answers to questions in advance of the meetings as well. We need questions in writing to prepare committee members in advance of meetings. Questions can be emailed to SAWS staff or submitted in the chat feature. Not all questions will be relevant to next meeting though.

Bailey responded that for the data request, SAWS staff will provide any specific data that RAC requests. There have been no disconnections due to the pandemic for the past 18 months, so it will be difficult to measure if the affordability programs are working.

Committee member Vaughn Caudill question:

Will we all receive the questions and then answers to the questions?

Bailey responded:

Yes, but we cannot discuss in emails outside of RAC committee meetings for transparency purposes.

Chair Gonzalez recommended SAWS staff create a depository for all questions and answers of committee members.

Several questions were submitted on the chat feature of Webex including:

- When we discuss recycled water rates, can we have a breakdown of usage by customer type (e.g., irrigation, manufacturing/cooling)
- As the affordability issue is of high concern (2019 RAC put it at #1 priority), as we discuss rate designs, can Carollo brief the RAC on current best practice approaches in the industry for building affordability concerns into rate design?
- Immediately prior to suspension the 2019 RAC voted on rate design elements, will those recommendations be used? Or are we starting fresh due to committee membership and changed parameters, e.g., new cost of service?
- The 2019 RAC advised on a change to the ICL vs. OCL rates based on actual cost differences. Are those changes still in effect?
- What is "averaged" over the 3 years? Bill frequency analysis data? Are there any other explanations for customer behavioral changes in addition to weather, e.g., price elasticity due to rate increases?

- Does SAWS envision a rate increase in 2023 in addition to restructure? If so, when and how will that be presented, much daylight will be kept between the increase and restructure in public messaging?
- Can SAWS also provide the text and the recommendations from the 12-month addendum study as cited in both the official rate report and the CoSA analysis of the 2015 re-structure.?
- Are AWWA professional reference texts available for committee?
- In the future discussions, can we please have a breakdown of the General Class into its sub-categories (multi-family, commercial, industrial)?
- Does SAWS have a budget program like CPS?
- I am concerned that the 2020 numbers, with the pandemic's impact on commercial and industrial usage, could be locking in a significant shift of costs for 5 years when the impact is more temporary. As such, I would hope that you could share how that 3 year average was done (simple arithmetic average? weighted? other?) and the assumptions behind the "persistence" of the impact on usage.
- My question was in response to Vaughan as a numbers guy, to provide "industry standard" reference texts so members can review rate structure elements. Last time there were two hard copies available to check out.

Bailey noted that all questions asked in the chat feature will be answered in database that Chair Gonzalez requested of SAWS staff.

PRICING OBJECTIVES OVERVIEW

Ivey reviewed the purpose and importance of pricing objectives. The RAC will be asked to rank the pricing objectives which will guide the RAC decisions on rate design and will justify recommendations.

The 2019/2020 RAC went through a lengthy exercise on pricing objectives to rank the objectives. SAWS staff would like the current RAC to consider the rankings of the previous RAC. Bailey noted that the definition of affordability for the 2019/2020 RAC was in reference to all customers - not solely low-income customers.

The RAC homework for the next meeting is to review the pricing objectives and rankings of the previous RAC and provide input. The pricing objectives and rankings will be reviewed at the next meeting and the committee will come to a consensus on the objectives and ranking.

Ivey reviewed the City of San Antonio's definition of equity that the RAC should be mindful of when considering rate equity: "Equity means that our policy-making, service delivery, and distribution of resources account for the different histories, challenges, and needs of the people we serve. Racial equity means we eliminate racial disproportionalities so that race can no longer be used to predict success, and we increase the success of all communities."

Committee member Christine Drennon question:

How can we implement affordability as a priority if we do not have the data on the income of customers?

Bailey responded that there are different affordability programs, but none are perfect. The definition of affordability for the previous RAC was not solely focused on low-income customers, but rather affordability for all customers.

Chair Gonzalez requested that all questions be sent to SAWS staff as soon as possible to RAC@saws.org. Staff will post the questions and answers at SAWS.org/RAC. Also posted on this webpage will be recordings of meetings, agendas, minutes and presentations. The webpage is accessible to all members of the public.

NEXT STEPS

The next meeting of the RAC will be held on March 8, 2022, and will be a hybrid meeting offering attendance virtually and in person. At the next meeting, the committee will be asked to finalize prioritization of pricing objectives and will be provided an overview of revenue requirements and cost of service.

CLOSING COMMENTS

There were no closing comments by the committee members or SAWS staff members.

ADJOURNMENT

Chair Gonzalez adjourned the meeting at 8:02 p.m.

MEETING RECORDING

A recording of this meeting is located at www.saws.org/rac

NEXT MEETING

The next meeting of the RAC will be held on March 8, 2022, and will be a hybrid meeting offering attendance virtually and in person.



SAWS RATE ADVISORY COMMITTEE MINUTES
SAWS Headquarters, 2800 U.S. Hwy 281 North, San Antonio, Texas 78212
and via WebEx Video Conference
Tuesday, March 8, 2022
6:00 p.m. to 8:00 p.m.

ATTENDANCE

Committee Members Present:

Frances Gonzalez, Committee Chair
Patrick Garcia, Committee Vice Chair, San Antonio Manufacturers Association
Christine Drennon, District 1
Velma Willoughby-Kemp, District 2
Karen Burgard, District 3
Genevieve Trinidad, District 4
Ramiro Cabrera, District 6
James Smyle, District 7
Patricia Wallace, District 8
Joseph Yakubik, District 9
Vaughn Caudill, District 10
Jeff Harris, Recycled Customer
Steve Richmond, San Antonio Restaurant Association
Cacie Madrid, San Antonio Chamber of Commerce
Mike Chapline, Outside City Limits
Steve Alaniz, Hispanic Chamber
Allyson McKay, San Antonio Apartment Association
Preston Woolfolk, Northside Chamber of Commerce

Committee Members Absent:

Alfred Montoya, District 5
Stephen Lara, Balcones Heights
Tamara Benavides, Hotel & Lodging Association

San Antonio Water System Staff Present:

Robert Puente, CEO & President
Doug Evanson, Chief Financial Officer & Senior Vice President
Mary Bailey, Vice President of Customer Experience & Strategic Initiatives
Nancy Belinsky, Vice President of Legal & General Counsel
Gavino Ramos, Vice President of Communications & External Affairs
Lisa Mireles, Board of Trustees Senior Executive Management Analyst
Cecilia Velasquez, Senior Director of Financial Services/Controller
Phyllis Garcia, Senior Director of Financial Services/Treasurer
Lou Lendman, Budget Manager
Keith Martin, Senior Corporate Counsel

Consultants Present:

Jennifer Ivey, Carollo Engineers, Project Manager
Mark Panny, Carollo Engineers, Senior Analyst
Bridget Hinze Weber, KGBTexas Communications, Public Affairs

CALL TO ORDER BY CHAIRPERSON

The meeting was called to order by Chair Frances Gonzalez on March 8, 2022, at 6:01 p.m.

CITIZENS TO BE HEARD

Chair Gonzalez started the Citizens to be Heard portion of the meeting. One citizen signed up to speak:

Dr. Meredith McGuire stated concern that 2018, 2019, and 2020 customer usage data was tainted due to COVID-19 and should not be used for the rate study. Dr. McGuire stated that the customer classes are dysfunctional, and the classes discourage heavy water users from conserving water because they do not pay a higher rate.

OPENING REMARKS AND INTRODUCTIONS

Chair Gonzalez reviewed the agenda for the meeting and welcomed two new committee members: Karen Burgard representing San Antonio City Council District 3 and Allyson McKay representing the San Antonio Apartment Association. Chair Gonzalez also reviewed the mission of the RAC, the committee decision-making process, and the full committee meeting schedule.

REVENUE REQUIREMENTS AND COST OF SERVICE OVERVIEW

Jennifer Ivey, Carollo Engineers Project Manager, provided an overview of the 2022 cost-of-service analysis approved by the SAWS Board on March 1, 2022. The cost-of-service analysis provides a qualitative and defensible basis for distributing the cost of the water and wastewater system to each customer class. Ms. Ivey presented the approved cost of service findings for 2022, which shows the amounts of rate revenue that should be recovered from each class.

Ms. Ivey explained, in detail, the full process of how the cost-of-service findings were calculated based on the SAWS 2022 budget. Ms. Ivey mentioned that the full report is available on the SAWS website. However, the goal for this committee meeting is to provide a high-level overview.

Ms. Ivey emphasized that there are no increases to the rate revenue for 2022; rather, that the rate study will be revenue neutral. This will be accomplished by modifying the rates of customer classes. The SAWS Board of Trustees has approved the cost-of-service analysis.

Ms. Ivey explained the methods to define revenue requirements, including cash basis and utility basis. Cash basis is most often used by government-owned utilities and recovers the total cash basis revenue requirements. Utility basis is often used by regulated, investor-owned utilities. The SAWS budget is determined using the cash-basis method. However, the utility basis is used for allocation purposes. Ms. Ivey explained the revenue requirements for SAWS for water supply (including recycled water), water delivery, and wastewater services.

Committee member asked Ms. Ivey about the transfer amount to the City of San Antonio which is noted of up to 5% gross revenues. Doug Evanson, Chief Financial Officer & Senior Vice President, responded that the current transfer amount is 4% of the gross revenues – which includes operating and interest income.

Chair Gonzalez mentioned that the RAC webpage on the SAWS website contains a technical memorandum that explains the cost-of-service analysis in detail, and she encouraged the committee members to review it.

Ms. Ivey explained in detail the methodology of water allocation. All operating and capital costs are allocated to functional categories and then to cost components. The functional allocation process helps to develop a rate structure that is fair and equitable for each customer class.

Committee member Joseph Yakubik noted that the recycled water functional category is identified separately from other functional categories. Ms. Ivey responded that the SAWS team decided to show it separately in order to simplify water allocations. Additionally, Mr. Yakubik asked Mr. Evanson whether a follow-up recycled water study was conducted in 2015 as recommended by the City's Public Utilities Office report to the City Council on the 2015 Rate Study. Mr. Evanson stated that there was not a follow-up study completed after the 2015 Rate Study was approved. The current Rate Study will provide the necessary follow-up analysis.

Committee member James Smyle asked why the 2022 projection of the capital recovery fee (\$100 million recovered) is less than the actual in 2020. Mr. Evanson responded that SAWS budgets in a conservative manner for all budget projections.

The water main graphic in the presentation illustrates average day, peak day, and peak hour capacity. Customers that contribute to peak demands should pay for the incremental costs of the extra capacity.

Ms. Burgard asked about the water percentage that San Antonians use in the peak hour of any given day. Ms. Ivey answered that they do not have the information at a customer level, but they do have the data for the whole system. Many utilities are installing automated meters – this would allow for that data to be collected and analyzed. This would also allow SAWS to consider a rate structure that charges the individual customer based on their usage and peaking - but until the detailed information is available, SAWS will continue to use customer classes as the basis.

Committee member Karen Burgard asked: do we know the number of individual households that use the max day and hour demands? Ms. Ivey responded that no, historically we do not have that information at the individual level because meters are read once a month. We can review these max days and hours as a system though and we can also estimate the max day and max hour by customer classes. Automated meters would be needed to know the usage by individual customers in real time.

Committee member Vaughn Caudill asked do we know what percentage of customers have a Flume? Ms. Bailey responded that yes, we do know the customers that have a Flume device If they received a rebate that SAWS offers. A Flume device is a flow monitor that is placed on a meter and provides water usage by minute to customers so they can track their water usage in real time.

Committee member Vaughn Caudill asked what does the term conservation mean and encompass? Ms. Bailey responded that we will defer that question to the pricing objectives discussion. We do have conservation expenses at SAWS associated with conservation efforts but those are focused on long-term, permanent reduction of water usage.

Committee Vice Chair, Patrick Garcia, asked Ms. Bailey about the revenue generated based on the meter size that went towards conservation. Is this still occurring? Ms. Bailey responded that a portion of the meter fee, a dedicated amount city ordinance, is partially funding conservation budget/initiatives.

Mark Panny, Carollo Engineers Senior Analyst, introduced himself. Mr. Panny explained the cost-of-service assumptions for the rate study along with a table showing the 2022 units by customer class. The data provides the maximum day and maximum hour per customer classes. The data shows that the Irrigation customer class has the highest peaking factors. Residential peaking is higher than the general class (the general class includes multi-family, commercial and industrial).

Committee member James Smyle asked for clarification on why the numbers in this presentation differ from the SAWS 2020 comprehensive financial report. Mr. Evanson responded that the 2020 and the 2022 figures are both based on budget as opposed to actuals. Ms. Bailey also noted that the customer growth has been 6.2% in residential, so it was not only the pandemic that shifted usage patterns to increase residential usage. 2020 was also a very dry year with limited rain which was the largest driver for increased usage. Mr. Smyle noted that the issue was that the difference between SAWS' estimate and actuals would result in ratepayers having to pay that difference. The \$100 million estimate is already 20% below the 2020 actual and the continued high rates of growth are likely to only increase that percentage, and thus the amount to be paid by the ratepayers.

Committee member Karen Burgard asked Committee member Joseph Yakubik about the significance of his noting the recycled water does not appear in the reallocation. Mr. Yakubik responded that recycled water has the largest portion of the reallocation of the customer classes.

Ms. Ivey explained the methodology of wastewater allocation, which is the same general process for allocating costs as water. Operating and capital costs are allocated to functional categories. For wastewater allocation, the process also includes treatment at the process level. The functionalized costs are allocated to cost components – looking at flow (volume) of wastewater being contributed to the system, as well as the strength of the wastewater. Finally, the costs are allocated to customer classes using the unit costs by cost component.

Committee member Patricia Wallace asked: How many residential homes fall in the residential class? Can we have a breakdown of the general class? Chair Gonzalez responded that SAWS staff will work to find an answer to the question. Mr. Evanson also noted that that information can be seen in the presentation on slide #45.

Committee member Steve Alaniz asked about residential costs being below budget and if that is due again to the conservative nature of budget estimates. Ms. Ivey responded that this is a revenue neutral study so the overall revenue collected will not be increased, but instead shifts may occur between customer classes.

Chair Gonzalez posed the question: How many accounts does SAWS have outside city limits? Mary Bailey answered that approximately 20% of SAWS customer accounts are outside city limits. SAWS staff noted that outside city limits customers are paying 1.3 times more for water delivery and 1.2 times more for wastewater.

Committee Vice Chair, Patrick Garcia, asked if there is a matrix built in to adjust year to year for outside city limit customers? Ms. Ivey responded that yes, the model does incorporate these adjustments and could be tested each year. Ms. Bailey added that we don't want to change this from year to year though for consistency. Because Carollo's analysis indicates the current rate differentials are reasonable, SAWS staff has recommended to the Board of Trustees to keep the differentials in place. This will continue to be reviewed during future rate studies.

Committee Vice Chair, Patrick Garcia, asked if there have been any qualification changes for low-income customers since COVID-19? Ms. Bailey responded that SAWS has not made any changes to the eligibility requirements for the affordability discount program. SAWS has offered many programs for all customers struggling to pay their SAWS bills as a result of the pandemic.

FINALIZE PRICING OBJECTIVES

Due to time constraints, the pricing objectives were not discussed and will be finalized at the next committee meeting on March 29. Chair Gonzalez recommended moving the finalization of pricing objectives to top of the

agenda for the next meeting. Chair Gonzalez requested all committee members send their rankings to staff to be compiled in advance of the next meeting.

NEXT STEPS

- Finalize pricing objectives.
- Introduction to rate design.
- Discuss preliminary rate design options for residential.

CLOSING COMMENTS

There were no closing comments by the committee members or SAWS staff members.

Chair Gonzalez noted that the virtual chat activity will be downloaded and sent to the committee members so all members can see the comments and asked that any questions be sent to SAWS staff in advance of the next meeting. Chair Gonzalez also requested that committee members that plan to attend in person should let the SAWS team know.

ADJOURNMENT

Chair Gonzalez adjourned the meeting at 8:00 p.m.

MEETING RECORDING

A recording of this meeting is located at www.saws.org/rac

NEXT MEETING

The next meeting of the RAC will be held on March 29, 2022, at 6:00 p.m. and will be a hybrid meeting offering attendance virtually and in person.



SAWS RATE ADVISORY COMMITTEE MINUTES
SAWS Headquarters, 2800 U.S. Hwy 281 North, San Antonio, Texas 78212
and via WebEx Video Conference
Tuesday, March 29, 2022
6:00 p.m. to 8:00 p.m.

ATTENDANCE

Committee Members Present:

Frances Gonzalez, Committee Chair
Patrick Garcia, Committee Vice Chair, San Antonio Manufacturers Association
Christine Drennon, District 1
Velma Willoughby-Kemp, District 2
Karen Burgard, District 3
Alfred Montoya, District 5
Ramiro Cabrera, District 6
James Smyle, District 7
Patricia Wallace, District 8
Joseph Yakubik, District 9
Vaughn Caudill, District 10
Steve Alaniz, Hispanic Chamber
Tamara Benavides, Hotel & Lodging Association
Mike Chapline, Outside City Limits
Jeff Harris, Recycled Customer
Stephen Lara, Balcones Heights
Allyson McKay, San Antonio Apartment Association
Steve Richmond, San Antonio Restaurant Association
Preston Woolfolk, Northside Chamber of Commerce

Committee Members Absent:

Genevieve Trinidad, District 4
Cacie Madrid, San Antonio Chamber of Commerce

San Antonio Water System Staff Present:

Robert Puente, CEO & President
Doug Evanson, Chief Financial Officer & Senior Vice President
Mary Bailey, Vice President of Customer Experience & Strategic Initiatives
Lisa Mireles, Board of Trustees Senior Executive Management Analyst
Cecilia Velasquez, Senior Director of Financial Services/Controller
Phyllis Garcia, Senior Director of Financial Services/Treasurer
Lou Lendman, Budget Manager
Keith Martin, Senior Corporate Counsel
Gavino Ramos, Vice President of Communications & External Affairs

Consultants Present:

Jennifer Ivey, Carollo Engineers, Project Manager
Mark Panny, Carollo Engineers, Senior Analyst
Bridget Hinze Weber, KGBTexas Communications, Public Affairs

CALL TO ORDER BY CHAIRPERSON

The meeting was called to order by Chair Frances Gonzalez on March 29, 2022, at 6:03 p.m.

PUBLIC COMMENTS

No public signed up for the public comment period.

STANDARD MEETING INFORMATION

Chairperson Gonzalez reviewed the minutes from the committee meeting on February 15, 2022, and the committee meeting on March 8, 2022. There were no comments or edits requested on the February 15, 2022, committee meeting. For the March 8, 2022, committee minutes there were two edits requested.

First, Committee Member Joseph Yakubik requested an addition to the minutes for his question to Mr. Doug Evanson (Chief Financial Officer & Senior Vice President) noting that the 2015 recycled water study has not been completed.

Second, Committee Member James Smyle noted a revision to his comments regarding the capital recovery fee projection. Mr. Smyle requested the following language: Mr. Smyle noted that the issue was that the difference between SAWS' estimate and actuals would result in ratepayers having to pay that difference. The \$100 million estimate is already 20% below the 2020 actual and the continued high rates of growth are likely to only increase that percentage, and thus the amount to be paid by the ratepayers.

Chairperson Gonzalez reviewed the minutes from the committee meeting on March 29, 2022. There was one edit requested.

Committee Member Joseph Yakubik expressed his dissatisfaction with the response to provide the analysis and charts associated with Item #35 from the Requests and Responses Matrix. He indicated that while the frequency curves were presented, they were incomplete. He stated that the charts, as provided and as presented, did not capture the majority of the usage in the different classes. He would prefer to have the bill frequency data provided in a spreadsheet.

Chairperson Gonzalez acknowledged the addition to the minutes and requests the data be added into the matrix for the full committee's viewing.

Chairperson Gonzalez then stated that the chat comments from the March 8, 2022, committee meeting were provided to the full committee at the end of last meeting and asked for any comments or questions.

Committee Member Joseph Yakubik inquired about the 2022 estimations listed on the graph on Item 24. He asked whether those were budget estimates or averages. Ms. Bailey responded that they are the budget estimates.

Chairperson Gonzalez reviewed the upcoming committee meeting schedule noting that the next meeting on April 26, 2022, will be a hybrid format offering in person and virtual attendance. Ms. Bailey noted that they were at maximum capacity in the SAWS Meeting Room; therefore, they need to continue with the hybrid format to maintain social distancing protocol.

FINALIZE PRICING OBJECTIVES

Ms. Jennifer Ivey, Carollo Engineers Project Manager, started the presentation covering the rankings of the pricing objectives submitted by the RAC members since the last committee meeting.

The point of exercise was to identify the committee's priorities for the rate structure. This is important because an infinite number of rate structures can be developed so we need a way to evaluate their ability to address the RAC's objectives. It is also important to balance the pricing objectives which can sometimes be conflicting. For example, a rate structure that strongly incentivizes conservation can negatively impact revenue stability.

The RAC's rankings this year were similar to those rankings in 2020 with affordability still ranked number one. The same top four priorities remained with small changes to overall rankings when compared to 2019. Conservation was swapped with Minimization of Customer Impacts/Rate Stability.

Chairwoman Gonzalez asked if all committee members submitted rankings. Ms. Bailey responded that most committee members submitted, with three committee members not submitting priorities.

Committee Vice Chair Patrick Garcia asked a question about the City of San Antonio's definition of equity: what metric is used to measure eliminating racial disproportionality. Is there a difference between different races not being able to pay their bills?

Ms. Bailey responded that that was the City of San Antonio's definition of equity — for low-income customers it is not so much the water infrastructure (not that the city neglects infrastructure) but rather how the rates directly impact them. We can't solve all equity concerns through a water bill.

Vice Chair Garcia asked if there was a question pertaining to the physical equal access to water. Ms. Bailey noted that that was a yes good point, but that that was outside of the rate structure scope.

Committee Member Vaughn Caudill stated his discontent with the water usage outlined in his flume report. Ms. Bailey noted that the SAWS staff sent an email to Mr. Caudill about how SAWS staff measures water that flows through customers' meters. Customers can be billed for the same exact amount each month because the last two digits in a water meter are ignored. Therefore, there can be up to 2 CCF or 1,500 gallons of differential water usage as water is billed in CCF (one hundred cubic feet). So, while the amount used can vary each month, the billed amount may be the same for consistent users. However, this billing method tends to underbill rather than overbill customers.

Chairwoman Gonzalez noted to hold Caudill's question for after the meeting to discuss billing methods. Ms. Bailey noted that SAWS is converting to electronic meters which will measure in gallons and will be able to provide the exact usage on any given date.

Committee Member Christine Drennon asked about affordability and equity. How can affordability be prioritized and measured? Ms. Bailey noted that they will have a more details on an affordability framework in the next section of the presentation.

Committee Member Vaughn Caudill compared water usage with his neighbor and noted how the pricing was probably more financially burdensome on his neighbor. Ms. Bailey noted the need for electronic metering to really understand how each individual uses water. Also, older meters slow down and register less water usage.

Committee Member Karen Burgard made a statement on the rankings. She noted that it was good that the rankings were similar between 2020 and 2022 (priorities remained similar).

AFFORDABILITY FRAMEWORK

Ms. Ivey presented an overview on affordability frameworks that included how to define and measure affordability. Affordability frameworks are very difficult to address with rate structures. It can be challenging to identify customers that truly need assistance with bill. Affordability is top of mind the past few years and increasingly important to utilities and customers.

Many different metrics can measure affordability including median household income, household burden indicator, living wage, ALICE index (asset limited, income constrained, and employed), federal poverty level, and hours at minimum wage.

- The Median Household Income (MHI) is the Income level at which 50% of the sample population have an Income below that level and 50% have an income above it; therefore, if affordability is defined as a percentage of the MHI, 50% of customers would fall below this mark and the utility bill would be considered unaffordable for them. This metric is becoming less popular, especially when applied to a large area and population with significant variability, and the industry is looking for better methods to define affordability.
- Household Burden Indicator (HBI) looks at the 20th percentile household income. Studies show that anything above a 7% HBI creates a burden to the customer.
- Living wage is an MIT calculation of living expense — based by region and household size. For the San Antonio - New Braunfels area, the living wage is \$19.30 per hour for a household with one wage earner. The living wage increases to \$30.61 when there are two wage earners in the same household.
- ALICE (Asset Limited, Income Constrained, and Employed) — this measures the income required for a family to cover basic expenses (e.g., housing, food, clothing, childcare). A family of four would need to earn \$64,512 as of 2018. In Bexar County, 52% of households earn below ALICE.
- Ms. Ivey continued with the presentation explaining that the Federal Poverty Level (FPL) is \$27,750 — a level at which 15% of Bexar County residents fall below. The SAWS Uplift program eligibility begins at 125% FPL, or \$34,688.
- Hours at minimum wage — The number of hours that must be worked at minimum wage (\$7.25) to pay the utility bill.

Chairwoman Gonzalez asked a clarifying question pertaining to the data point stating that 52% of households are below ALICE as it had been highlighted in the San Antonio news recently.

Mr. Vaughn asked how many of the 52% of households below ALICE were military families. Ms. Ivey did not know the answer.

Vice Chair Garcia asked if they were to say that 50% of families in Bexar County were below poverty level, what income would that be? the FPL is \$ 15% fall below that line Ms. Ivey explained that the percentage is determined by the federal government, which classifies families that make below \$27,750, 15% fall below FPL.

Vice Chair Garcia asked if the committee was okay with the 15% figure. Ms. Bailey explained that the information is provided by the federal government. Ms. Ivey mentioned the SAWS affordability program offers assistance to customers up to 125% of the FPL. Ms. Bailey added the need of committee input on the affordability framework.

Committee Member Tamara Benavides asked what percentage of customers are in the affordability program. Ms. Bailey noted that there were approximately 34,000 affordability customers and about 525,000 residential customers; therefore, the percentage would be about 6%.

Committee Member Karen Burgard asked about the possibility of outreach for the SAWS affordability program (seeing how there would be individuals that would qualified but have not applied). Ms. Bailey noted that there is currently a strong outreach program, but improvements can always be made. Although, there may be individuals that live in apartments; therefore, they are not directly paying a water bill, as a result, they cannot directly benefit from an affordability rate structure. However, this committee's focus is the rate structure, not public outreach.

Ms. Ivey continued the presentation explaining how to apply the various frameworks to a typical bill under the current rates to view the different results.

Committee Member James Smyle asked if the figures shown include the pass-through fees that show 100% of what customer needs to pay or does it only pertain to water and wastewater. Ms. Bailey noted that it includes all the SAWS water and sewer related fees, but it does not include stormwater fee because that fee is charged by the City of San Antonio.

Committee Member James Smyle noted that we need to have the customers' perspective in mind that customers need to pay the stormwater fee as a portion of their SAWS bill. Ms. Bailey reiterated that that SAWS cannot do anything about the stormwater fee, which is about \$5 per month.

Based on the affordability framework, Ms. Bailey asked the committee for any feedback on the affordability framework percentages and if not, they would continue showing all of the affordability metrics.

Committee Member Tamara Benavides, noted that although the minimum wage is \$7.25, the reality is that individuals need anywhere from \$10 - \$12 an hour to be able to meet their basic necessities. Therefore, that needs to be kept in mind as the RAC discusses the various affordability frameworks.

Committee Member Steve Alaniz noted that the SAWS Uplift program works to keep individuals' bills under 4% of income. Mr. Alaniz reiterated the need to consider the gap between 125% of FPL and ALICE. Ms. Bailey mentioned that they could perhaps figure out a way to highlight in more detail this gap.

Chairwoman Gonzalez asked if there was data pertaining to the people's income that fall between the FPL and ALICE. Ms. Bailey noted that they do not have income data on customers unless they are already in the SAWS affordability program. SAWS can estimate based on the income data from San Antonio overall and subtract it from the number of individuals in the affordability program.

Committee Member Tamara Benavides asked if the SAWS assistance program comes from SAWS or a federal program. Ms. Bailey noted that it was not a federal program, it is funded by SAWS and if we expand the program, the additional assistance will need to be picked up by our other ratepayers.

RESIDENTIAL — CURRENT

Doug Evanson, SAWS Chief Financial Officer & Senior Vice President, presented the SAWS existing rate structure and how it compares to other large cities in Texas (Houston, Dallas, Austin, and Fort Worth). The residential class is the largest rate class in terms of overall usage and revenues generated.

Mr. Evanson provided context of 2021 residential usage compared to 2020 during the COVID-19 pandemic. The residential usage is continuing to decline over the 5-year average. In 2015, SAWS determined that the 5-average residential water usage was 7,092 gallons. In 2017, the average reduced to 6,275 and further to 5,784 in 2021.

The current water rate structure contains eight volumetric blocks for residential customers. Approximately one-third of bills fell into block number one usage and therefore billed within the lowest tier. The next two tiers include approximately one-third of bills. And the final third is above 6,000 gallons usage, with about 3% of bills exceeding 20,000 gallons of usage.

Mr. Evanson compared the rate structure to Austin, Dallas, Fort Worth, and Houston noting that most water utilities in Texas have some form of fixed charge. Some utilities have a tiered fixed charge; for example, Austin has a four-tier fixed charge structure.

Chairwoman Gonzalez asked how long the tiered fixed charge has been in place in Austin. Mr. Evanson noted that it has been in place since their last rate study (first introduced in 2010).

The rate differential, dividing the highest tier rate by the lowest tier rate, is about 5 times for Austin, 6 times for Dallas, 2 times for Fort Worth, 13 times for Houston (Houston has low introductory tier, but once you go over 3,000 gallons, it jumps significantly), and 6.5 times for SAWS.

Existing residential water rate structure for SAWS includes:

- Lifeline rate of 2,992 gallons
- Small increments of about 1,500 gallons for first four tiers
- 8 tiers in total

The bill amounts shown starting on slide 23 are for inside city limits customers and include pass through fees (EAA and TCEQ).

Committee Member Joseph Yakubik asked if the slope referenced by Doug Evanson is what is known as a price signal. Mr. Evanson answered yes. Ms. Bailey added that the price signals jump gradually.

Mr. Evanson continued his presentation providing an overview of the moderate to high usage customers. Austin has a sizable price signal at 6,000 gallons and the highest at 15,000 gallons by significant amount. Houston is next highest. SAWS has the highest volumetric rate. The new Houston volumetric rate will be the highest, once it is implemented on April 1.

SAWS is competitive at low level usage compared with other utilities in Texas. For customers with high water usage, SAWS is the most expensive.

Committee Member James Smyle asked if the high-volume usage in the affordability program is due to leaky plumbing. Mr. Evanson answered that SAWS would not be able to determine this until they have the automated metering infrastructure and more regular reads across the system.

Committee Member Steve Alaniz inquired about affordability customers who were reaching block 8. Mr. Evanson mentioned that we would have historically disrupted service if an affordability customer reached block 8. We try to make contact through Karen Guz's Conservation group to help with leaking infrastructure. Ms. Bailey said that even though we reach out we may not get any response. She mentioned that most of the usage in block 8 are catastrophic leaks, which were prevalent during the pandemic. Since there were no service disruptions, a lot of customers weren't opening their bills and didn't see that they had a very high bill. As a result, SAWS has expanded its leak adjustment program to cover leaks up to 100% credit if they get those leaks fixed.

Committee Member Joseph Yakubik noted the absence of 2022 data. The 2022 budget should be included on slide 19. Mr. Evanson stated that there was an increase in residential connections. Ms. Bailey noted that they we can get that information for 2022 forecasts and the purpose of slide was to show actuals.

RESIDENTIAL — OPTION 1

Ms. Ivey reviewed residential rate design Option 1 that reflects changes to make the residential rate structure better able to achieve the pricing objectives. The objectives for the first option include:

- adjust to the 2022 cost of service for water and wastewater,
- reduce fixed charge,
- reduce the number of rate blocks, and
- increase usage within rate blocks.

Option 1 reduces the number of tiers – from eight to six. The rate structure will recover the residential cost of service with the assumed customer and usage units. 41% of users would be billed at the lowest rate. 15% of users would be billed at the second-tier rate. Option 1 provides breakpoints at thousand-gallon increments and adds 9% of users billed at tier 1. For wastewater, 16% of wastewater volume is included in the fixed charge under the current rate structure.

Ms. Bailey noted that the figures are not shown with pass through fees. Discounts are offered for customers that stay below 2,992 gallons usage, but not reflected in the presentation table.

Committee Member Joseph Yakubik asked if the team would explain how and why the changes were made? Why the wastewater fees increased for everyone with a one-inch meter? Can the committee be provided a traditional bill and usage analysis for 2022 budget with these points on it?

Ms. Ivey noted that SAWS can provide more information about the percentages. Ms. Ivey noted that there are two ways to look at fixed charges. The cost increases with larger meters due to the cost associated with the meter itself and the capacity of the meter.

Committee Member Joe Yakubik inquired why there would be a \$27 increase for a two-inch meter. Ms. Bailey noted that 85% of meters are 5/8-inch meters.

Chairwoman Gonzalez asked what the percentage change was between the existing \$12.82 fixed charge and the proposed \$9.50 fixed charge. Ms. Bailey answered 26% reduction in the fixed charge for water along with 31% reduction on sewer rate fixed charge.

Vice Chair Garcia asked for the percentage of customers that have 5/8-inch meters. Also, is there a meter that measures wastewater? Ms. Bailey answered the sewer system measures capacity based on the size of the customers' water meters. SAWS staff will find the percentage of customers that have 5/8-inch meter sizes and send the information to the committee.

Ms. Ivey explained the impact of Option 1 rate structure to bills noting that most customers will see a reduction in costs for low usage. At the 2,000-gallon mark, it will go up by 1%. For moderate to high usage - 12,500 gallons - Option 1 becomes higher than current rates. The highest volume users will pay more under Option 1. The wastewater bill comparison has a smoother slope. The affordability matrix notes all bills coming down, which reflects a positive change under all of the affordability metrics. The same is true for Uplift customers — all charges being reduced so the change positively impacts customers with a smaller percentage of monthly income.

Ms. Ivey explained how Option 1 measures up to the priorities of the committee. Option 1 checks the boxes of affordability, conservation, equity, simpler to understand, practical to implement. There is not an impact to rate stability, but any increased volume in the higher tiers creates more risk in the revenue. Ms. Bailey added that if San Antonio has a wet year, this would be a concern for revenue under the Option 1 rate structure.

Committee Member Vaughn Caudill noted that it is not simple to understand. Ms. Ivey concurred yes; the rate structure is still complex but less complicated than the current rate structure.

Committee Member Joseph Yakubik asked if the charts assume equal use and that SAWS is not doing away with winter average. Ms. Ivey confirmed.

Committee Member Tamara Benavides inquired about the 2022 budget forecast. How did the staff calculate the rates shown for each tier? Ms. Ivey responded that they used a model to test different configurations that still produce the 2022 cost of service forecast.

Committee Member Tamara Benavides noted that consistent customers will be penalized when they should be rewarded for conservation, especially those at 2,000 gallons. She requested an option that would keep the current tier one rate. Ms. Bailey mentioned that there are different configurations that can be calculated and considered. SAWS staff will bring one or two additional options back to the next meeting for the committee's consideration.

Committee Member Joseph Yakubik noted the committee could revise the cost of service if an increase to recycled water rates is recommended and approved by the Board of Trustees. Ms. Bailey agreed and noted that recycled water will be discussed at the next meeting.

Committee Member Christine Drennon explained that affordability should be addressed first. This would include determining who, where and how many larger meters are in the system. Ms. Bailey noted that they can map out the larger meters.

Committee Member Steve Alaniz noted that affordability is our number one priority. The committee can cross reference the geographical location of the larger meters and the city's data on household income.

The committee decided to reduce the number of tiers to six. Ms. Bailey noted Committee Member Mike Chapline requested an option with four tiers. Chairwoman Gonzalez asked that this option also be provided.

Chairwoman Gonzalez noted that she would like to see 150% of FPL shown on the Uplift bill impacts table. Ms. Bailey noted that they can show the average bill for 150% of FPL.

Vice Chair Garcia asked if they would jeopardize cost of service? Ms. Bailey answered that ultimately, no, but we will be risking revenue stability.

Ms. Bailey reiterated that the rates can be modified but overall, the cost of service still needs to be recovered. SAWS staff will develop other options for the rate structure before the next committee meeting.

NEXT STEPS

Ms. Bailey invited the committee members to the Rain to Drain Tour on April 23, 2022.

At the committee meeting on April 26, 2022, the committee will review additional residential class rate design options and preview preliminary rate design options for general class, irrigation, and recycled water customers.

CLOSING COMMENTS

There were no closing comments.

ADJOURNMENT

Chair adjourned the meeting at 8:20 p.m.

NEXT MEETING

The next committee meeting will be held on April 26, 2022.



SAWS RATE ADVISORY COMMITTEE MINUTES
SAWS Headquarters, 2800 U.S. Hwy 281 North, San Antonio, Texas 78212
and via WebEx Video Conference
Tuesday, April 26, 2022
6:00 p.m. to 8:00 p.m.

ATTENDANCE

Committee Members Present:

Frances Gonzalez, Committee Chairperson
Patrick Garcia, Committee Vice Chairperson, San Antonio Manufacturers Association
Christine Drennon, District 1
Karen Burgard, District 3
Alfred Montoya, District 5
Ramiro Cabrera, District 6
Joseph Yakubik, District 9
Vaughn Caudill, District 10
Jeff Harris, Recycled Customer
Steve Richmond, San Antonio Restaurant Association
Mike Chapline, Outside City Limits
Steve Alaniz, Hispanic Chamber
Preston Woolfolk, Northside Chamber of Commerce
Cacie Madrid, San Antonio Chamber of Commerce
Tamara Benavides, Hotel & Lodging Association
Stephen Lara, Balcones Heights
Allyson McKay, San Antonio Apartment Association

Committee Members Absent:

Velma Willoughby-Kemp, District 2
Genevieve Trinidad, District 4
James Smyle, District 7
Patricia Wallace, District 8

San Antonio Water System Staff Present:

Robert Puente, President & CEO
Doug Evanson, Chief Financial Officer & Senior Vice President
Mary Bailey, Vice President of Customer Experience & Strategic Initiatives
Nancy Belinsky, Vice President of Legal & General Counsel
Gavino Ramos, Vice President of Communications & External Affairs
Lisa Mireles, Board of Trustees Senior Executive Management Analyst
Cecilia Velasquez, Senior Director of Financial Services/Controller
Lou Lendman, Budget Manager
Keith Martin, Senior Corporate Counsel

Consultants Present:

Jennifer Ivey, Carollo Engineers, Project Manager
Bridget Hinze Weber, KGBTexas Communications, Public Affairs

CALL TO ORDER BY CHAIRPERSON

The meeting was called to order by Chairperson Frances Gonzalez on April 26, 2022, at 6:01 p.m.

CITIZENS TO BE HEARD

Chairperson Gonzalez started the Citizens to be Heard portion of the meeting. No citizens were signed up to speak.

OPENING REMARKS AND INTRODUCTIONS

Chairperson Gonzalez reviewed the mission of the RAC, the committee decision-making process, and the full committee meeting schedule.

Chairperson Gonzalez stated the next meeting on May 17, 2022, will be a hybrid meeting offering attendance virtually and in person.

STANDARD MEETING INFORMATION

Chairperson Gonzalez reviewed the minutes from the committee meeting on March 29, 2022. There was one edit requested.

Committee Member Joseph Yakubik expressed his dissatisfaction with the response to provide the analysis and charts associated with Item #35 from the Requests and Responses Matrix. He indicated that while the frequency curves were presented, they were incomplete. He stated that the charts, as provided and as presented, did not capture the majority of the usage in the different classes. He would prefer to have the bill frequency data provided in a spreadsheet.

Chairperson Gonzalez acknowledged the addition to the minutes and requests the data be added into the matrix for the full committee's viewing.

UNIFORM RATE STRUCTURE

Jennifer Ivey, Carollo Engineers Project Manager, started the presentation addressing a question from the previous meeting about a uniform rate structure.

The presentation slides compared existing vs. uniform rate structures with a 20% fixed charge and a 30% fixed charge. The existing fixed charge generates 29% of the water rate revenue. If we were to set a goal to recover 20% of the revenue from the fixed charges, the fixed charge would be \$10.99 per month for a 5/8" meter and the volumetric rate per 1,000 gallons would be \$5.767. If the RAC were to set a goal to recover 30% of the revenue from the fixed charges, the fixed charge would be \$16.07 per month for a 5/8" meter and the volumetric rate per 1,000 gallons would be \$5.061.

The impact on the different customer classes under either uniform water rate structure would result in an increase to the amount of revenue recovered from residential customers. This means that residential customers would pay more than the cost to provide service to those customers. The irrigation class has the opposite effect. Irrigation customers would pay less than their cost of service.

Vice Chairperson Patrick Garcia asked if he could determine his current volumetric rate on his SAWS water bill using the information on slide 11.

Mary Bailey, Vice President of Customer Experience & Strategic Initiatives, explained that water bills are billed in 100-gallon increments, so the decimal point would need to be moved over one. If you take the sum of the water delivery charge and the water supply fee charge you will get the block rate displayed in the existing volumetric rate structure on slide 11.

Vice Chairperson Garcia asked Ms. Ivey if the chart on slide 12 was for customers using more than 10,000 gallons.

Ms. Ivey explained that the chart on slide 12 represented the total revenue that would be recovered by each of the four classes, represented as a whole.

Committee Member Yakubik asked if the comparison of the revenue from a uniform rate to the cost of service is based on the raw cost of service or the beneficial reallocation cost.

Ms. Ivey explained the comparison was done after the beneficial reallocation.

Ms. Ivey presented a chart comparing the existing residential wastewater structure to a uniform structure with a 20% fixed charge and a 30% fixed charge. The existing fixed charge generates 34% of the wastewater rate revenue. If we were to set a goal to recover 20% of the revenue from the fixed charges, the fixed charge would be \$7.52 per month for a 5/8" meter and the volumetric rate per 1,000 gallons would be \$4.232. If we were to set a goal to recover 30% of the revenue from the fixed charges, the fixed charge would be \$11.00 per month for a 5/8" meter and the volumetric rate per 1,000 gallons would be \$3.703.

Ms. Ivey stated that the uniform rate structure analysis was presented in response to a request from Committee Member James Smyle. Chairperson Gonzalez stated that Committee Member Smyle provided an email prior to the meeting stating that the uniform rate analysis was not exactly what he was looking for, so she suggested moving forward to review the additional residential rate options.

RESIDENTIAL RATE OPTIONS

At the last RAC meeting, residential rate structure Option 1 was presented to the committee for consideration. Additional options will be presented for two groups: non-affordability customers and affordability (Uplift) customers. The cost of the affordability program will be determined by the approved rate structures developed for both non-affordability customers and affordability customers.

The pie chart on slide 25 shows that non-affordability customers use 36.0 billion gallons per year whereas affordability customers use 2.3 billion gallons per year. Affordability customers carry a small percentage, but the affordability program can still have a big impact on revenue, depending on which option is chosen.

The first set of options discussed are the non-affordability options. Option 1 was presented during the last RAC meeting and the following three options were based on the feedback received from RAC members. All three options (Options 2 through 4) include the same proposed wastewater rates in Option 1.

- Option 2 would further decrease the water fixed charge from \$9.50 mentioned in Option 1 to \$8.50. It would still have 6 water rate tiers, similar to Option 1. However, it would decrease rates even further in the lower tiers and result in higher rates in the higher tiers.
- Option 3 would have a 2-tiered water fixed charge. The current water fixed charge is \$10.25 per month and \$12.82 per month if monthly usage exceeds 2,992 gallons. Option 3 has a water fixed charge at \$10.00 per month and \$12.30 if your usage goes into Tier 2 (over 4,000 gallons). Like Option 2, it would have 6 water rate tiers and the Tier 1 rate would be tied to the existing Tier 1 rate.
- Option 4 would decrease the water fixed charge to \$9.00 and reduce the number of water rate tiers to 4. This option reduces the number of tiers and cost for low and moderate users.

Ms. Ivey compared the four residential water options, and the water bill impacts for low/moderate users. Low/moderate usage was defined as customers who use up to 10,000 gallons per month.

Ms. Ivey explained that the second column of the Water Bill Impact table on slide 30, labeled “Percent of Bills” is the cumulative percentage of total residential bills that correspond with the usage for that row. For example, 51.5% percent of bills are for 5,000 gallons or less.

Committee Member Christine Drennon asked why the Water Bill Impact chart only showed numbers up to 85.5%.

Ms. Ivey answered because the remaining 15% of residential water bills are over 10,000 gallons.

Option 2 provides bill reductions for the largest number of low/moderate bills, 83% of these users would see a bill reduction.

Doug Evanson, Chief Financial Officer & Senior Vice President, further explained the Water Bill Impact table by saying that while Options 3 and 4 provide a larger bill reduction to customers at 9,000 and 10,000 gallons, Option 2 provides the largest bill reductions to 76% of customers.

Vice Chairperson Garcia asked if the RAC will need to make a decision or recommendation related to the options presented on slide 30.

Ms. Ivey responded yes. She said that the RAC should be prepared to answer questions to help select a rate structure, whether it be one of the four options presented or request an additional option to be developed.

Committee Member Preston Woolfolk inquired about why some graphs showed data up to 24,000 gallons (on slide 28) and why the water bill impact graphs only went up to 10,000 gallons.

Ms. Ivey answered that that the water bill impact table only goes up to 10,000 gallons so it is easier to read. She explained that there are other tables later in the presentation that show higher usage above 10,000 gallons.

Committee Member Woolfolk asked to confirm that the bulk of our residential customers use less than 10,000 gallons per month.

Ms. Bailey responded that yes, 85.5% of residential customer bills are below 10,000 gallons.

Committee Member Woolfolk asked for the distribution of the usage.

Ms. Ivey stated that the cumulative percent of usage against the usage amount is available and was sent out prior to the meeting in response to Item #35 in the Requests and Responses. Additional details will be provided.

Ms. Ivey described the water bill comparison line graphs representing low/moderate usage on slide 31. For the zero to 10,000-gallon range, all four options would result in a reduced bill for almost all customers. The orange dotted line represented the cumulative percent of bills at each incremental usage level, plotted using the right-hand axis.

For slide 32, Ms. Ivey explained that 96.9% of bills are for 20,000 gallons or less of usage. Under all 4 options, customers that use more than 13,000 gallons per month will see an increase in their bills. Slide 33 provided a chart for high water usage from 11,000 to 20,000 gallons. Ms. Bailey provided backup slide 78 (shown below), showing the water bill impact for very high usage.

RESIDENTIAL

Page 78

WATER BILL IMPACT – Very High Use

| Kgal | Existing | Total Water Bill | | | | % Change from Existing | | | |
|------|-----------|------------------|-----------|-----------|-----------|------------------------|----------|----------|----------|
| | | Option 1 | Option 2 | Option 3 | Option 4 | Option 1 | Option 2 | Option 3 | Option 4 |
| 20 | \$ 164.65 | \$ 174.72 | \$ 187.65 | \$ 178.44 | \$ 168.46 | 6% | 14% | 8% | 2% |
| 25 | \$ 240.94 | \$ 253.77 | \$ 275.37 | \$ 258.60 | \$ 249.01 | 5% | 14% | 7% | 3% |
| 30 | \$ 318.16 | \$ 332.82 | \$ 363.08 | \$ 338.76 | \$ 329.57 | 5% | 14% | 6% | 4% |
| 35 | \$ 395.38 | \$ 411.88 | \$ 450.79 | \$ 418.92 | \$ 410.13 | 4% | 14% | 6% | 4% |
| 40 | \$ 472.59 | \$ 490.93 | \$ 538.50 | \$ 499.09 | \$ 490.69 | 4% | 14% | 6% | 4% |
| 45 | \$ 549.81 | \$ 569.98 | \$ 626.22 | \$ 579.25 | \$ 571.24 | 4% | 14% | 5% | 4% |
| 50 | \$ 627.03 | \$ 649.03 | \$ 713.93 | \$ 659.41 | \$ 651.80 | 4% | 14% | 5% | 4% |
| 55 | \$ 704.25 | \$ 728.09 | \$ 801.64 | \$ 739.57 | \$ 732.36 | 3% | 14% | 5% | 4% |
| 60 | \$ 781.46 | \$ 807.14 | \$ 889.35 | \$ 819.74 | \$ 812.92 | 3% | 14% | 5% | 4% |
| 65 | \$ 858.68 | \$ 886.19 | \$ 977.07 | \$ 899.90 | \$ 893.47 | 3% | 14% | 5% | 4% |



Committee Member Christine Drennon mentioned that the percentage of bills in the high usage blocks are a place to look for revenue.

Mr. Evanson affirmed that observation and said SAWS currently receives a good amount of revenue from the higher blocks. He also said that the highest volumetric rate starts at 20,200 gallons, which is very similar to the other major cities in Texas.

SAWS volumetric rate is higher than all of the major cities in Texas, except for Houston. On April 1, 2022, Houston had a rate adjustment that increased its highest tier about \$0.20 per 1,000 gallons above SAWS' highest tier.

Committee Member Alfred Montoya asked if the rate is the same for the 20,000th gallon and the 65,000th gallon.

Mr. Evanson said no, that for up to 20,200 gallons customers there are different prices based on the eight current tiers. Once a customer exceeds 20,200 gallons, they pay \$15.45 per 1,000 gallons. In SAWS current rate structure, there are no tiers beyond 20,199 gallons.

Ms. Bailey added that SAWS currently makes around 12% of revenue from 3% of bills that are over 20,200 gallons. She explained that later in the presentation they will show the four proposed options and the revenue that they will generate.

Committee Member Woolfolk asked if CPS Energy is one of those customers who reach over 20,000 gallons a month.

Ms. Bailey said that these options are focused on residential rates and explained there is a separate rate structure for the general class.

Committee Member Woolfolk then asked what type of residential customer uses that much water.

Ms. Bailey replied that these bills are usually for houses with large lots with landscaping or customers with catastrophic leaks.

Committee Member Karen Burgard wanted confirmation that 85% of all bills fall into the tier of 10,000 gallons or less.

Ms. Bailey said that was correct.

Committee Member Burgard then asked if the next tier from 85% to 96% of bills account for the usage between 11,000 and 20,000 gallons.

Ms. Bailey said that was correct.

Mr. Evanson noted that customers who use 50,000 gallons are already seeing \$627 water bills. Even though this usage has proven to be somewhat inelastic, SAWS discourages high water usage since new water supplies are hard to find. However, if these high-water users were to stop using large amounts of water, SAWS would need to increase rates for all customers.

Committee Member Woolfolk stated that 11,000 gallons to an infinite amount of usage accounts for 13% of all residential bills. Then he asked if SAWS has the respective percentage of revenue.

Ms. Bailey said yes, later in the presentation there are slides with the percentage of usage versus percentage of revenue.

Ms. Ivey continued the presentation stating that when the members compare the combined water and wastewater bills on slide 34, the low-volume customers will see bill decreases for all four options. She reminded the members that in RAC Meeting #3 the wastewater rates would see a decrease based on the cost of service analysis.

Ms. Bailey explained that the combined bill impacts on slide 34 assume that water and wastewater usage are equal, which may not be the case since wastewater is based on each customer's individual average winter consumption. On slide 35, for the combined bill impacts with water usage above 10,000 gallons, we assumed the sewer usage was capped at 10,000 gallons.

Ms. Ivey explained how the combined bill for the four options performed when evaluated under the affordability matrix, which includes the federal poverty level, 150% of the federal poverty level, median household income and Asset Limited, Income Constrained, Employed (ALICE) index. All affordability metrics were below 2%, except for the 100% Federal Poverty Level, which was around 2.5%.

Ms. Ivey reviewed the water revenue stability of the four options comparisons on slide 39.

Vice Chairperson Garcia asked if this chart covered the fixed charge.

Ms. Ivey stated that the first column showed the fixed revenue as a percentage of total residential revenue.

Mr. Evanson explained the projected revenue stability of the different options. He furthered explained that impact fees can only be used to offset growth related capital costs and cannot be used for O&M.

Committee Member Drennon asked if SAWS can budget for more than one year to take into account the variability in weather and usage patterns.

Ms. Bailey responded that SAWS budgets for what is considered normal weather patterns – not projecting for a wet or dry year. During rain events, there is a dramatic drop in usage by customers – which is good, but it reduces revenues. Customers are sensitive to weather, specific to large amounts of rainfall. In a wet year, revenues will decrease more than the reduction in usage.

Committee Member Drennon asked what happens to the revenues when it is extremely dry. She asked if there are excess revenues.

Ms. Bailey responded yes, but it is riskier for our revenue stream to assume that it will balance. The more risk we add into our revenue stream, things such as climate change and severe weather patterns would adversely impact SAWS. In addition, if we add too much risk into our revenue stream, it may impact our debt coverage, which may result in a credit downgrade from the rating agencies.

Committee Member Burgard asked if the normal assumptions have changed in last 5 years.

Mr. Evanson answered that normal hasn't changed but SAWS assumes that customers will continue to conserve and decrease their usage year over year (0.7%-0.8%), which is offset by customer growth (1.5%-2.0%).

Committee Member Woolfolk asked if SAWS changes its cost of service when it is a wet year.

Mr. Evanson explained that most of the costs are largely fixed, with the exception of utilities, which may fluctuate based on how much water is being pumped and moved. On the opposite side, SAWS has one water supply contract whereby we pay more when it is raining since they can supply us more water. The company is susceptible to drought, in dry years, they can't provide us much water due to aquifer limitations. So, when we need it, it's not there and when we don't need it, they can supply us up to the maximum contractual amount.

Vice Chairperson Garcia asked which water supply contract was being referenced.

Mr. Evanson and Mr. Robert Puente, President & CEO, answered that it was the contract with the Water Exploration Company.

Ms. Ivey explained that staff evaluated all four options against the RAC's pricing objectives (by ranking order with affordability ranked highest) on slide 41. Ms. Ivey asked for feedback from the committee on the four options.

Committee Member Alaniz noted he preferred Option 4 because under Option 2 SAWS would charge the high users more, but Option 2 would be riskier for revenue. He preferred Option 4 because it doesn't sacrifice SAWS' revenue stability as much during wet years.

Committee Member Burgard noted that she prefers Option 2 because there are cost savings for low use customers, with 83% of bills would see a reduction in their bills.

Committee Member Drennon prefers Option 2 but would like to understand usage. She requested to see the usage by customer tier, by year, by month. Ms. Velasquez noted that this data was provided by tier, by year - but not by month. SAWS staff will provide this data by month.

Committee Member Montoya preferred Option 2 but stated that it is not aggressive enough to reduce bills for lower tiers. He would like to see more aggressive pricing for the higher tiers, especially during drought stages 1 and 2. He explained that the higher tiers are for discretionary use and the pricing should be more aggressive. Based on the price inelasticity from the higher tier data, he is not concerned about revenue stability under this option.

Committee Member Woolfolk agreed with Committee Member Alaniz. He stated that it is not a wise decision to lower the fixed revenue allocation by 9% - that is drastic for revenue stability. Option 3 is the much better option; it seems to be more of a middle ground between Option 2 and Option 4. Option 3 still reduces the costs for lower tiers. However, the downside of Option 3 is that it is not as simple to understand, with the two-tier fixed charge and six tiers. He would suggest having four tiers to make it simpler. He noted that most customers do not know about the tiered structure.

Vice Chairperson Garcia asked if SAWS calculated the revenue impact under each option.

Ms. Bailey answered yes, SAWS would receive the same revenue under every option since we are basing the revenues on the cost of service.

Vice Chairperson Garcia asked which option would bring the best revenue stability.

Ms. Bailey answered the existing rate structure because it has the highest fixed charge percentage.

Committee Member Tamara Benavides preferred Option 2 because it would have the largest impact on lowering bills and promoting conservation for higher users. Also, fewer tiers would make the rate structure simpler to understand. She asked if SAWS takes into account new customers in its 2022 budget projections, specifically the large multi-family units being built.

Mr. Evanson answered yes, SAWS projects a certain amount of growth when budgeting but currently customer growth is exceeding projections. In 2021, the budgeted growth was approximately 1.0%, but actual growth was around 2.8%.

Committee Member Harris preferred Option 2 for the same reasons previously described.

Committee Member Caudill preferred Option 2.

Committee Member Madrid preferred Option 2.

Committee Member Yakubik preferred Option 2 of the presented options. However, he has concerns on the way the information was presented. He also takes exception with how growth is built into the budget, but impact fees have not been increased in the budget for three years. If SAWS is planning on increased development, then he would have predicted that the budget that was used to calculate the cost of service would have demonstrated that growth. He is not satisfied with how that information is being presented.

Committee Member Richmond would be good with the committee's consensus.

Chairperson Gonzalez stated that she agreed with the committee on reducing bills for low-volume users but is cognizant of the impact to higher users and the impact on SAWS' revenue. She noted that she liked the simplicity of Option 4 and asked if it was possible to create a fifth option – which would be a blend of Option 2 and Option 4 - with a lower fixed charge and fewer tiers.

Ms. Bailey responded yes, an alternative Option 5 could be modeled after Option 4 with four tiers and Option 3 with two-tiered fixed charge and higher bills for high usage similar to Option 2. Staff will present Option 5 at the next committee meeting.

Committee Member Yakubik noted that we are not at a final cost of service so we don't necessarily know the revenue because we haven't addressed the reallocation of recycled water, which is approximately \$3.9 million in costs that could be removed from the residential class cost of service. That would affect how this structure gets allocated and might mitigate some of the revenue stability concerns because the revenue could come from a stable recycled water class base, which is currently heavily subsidized. That is the crux of the comments in chat.

Ms. Bailey agreed. If you make decisions about recycled water, it could lower the residential cost of service. On the other hand, once decisions are made regarding affordability, it may increase the residential cost of service. Overall, the committee needs to settle on a residential rate structure, then we will incorporate the changes made as a result of the affordability and recycled water decisions.

Vice Chairperson Garcia noted that it is a layered process.

Chairperson Gonzalez asked whether the full committee agreed with requesting the SAWS staff to present Option 5 at the next committee meeting – a blend of Option 2 and Option 4 rate structures.

Committee Member Drennon didn't understand the push for fewer tiers, she said it reminded her of a flat tax, a regressive structure.

Committee Member Burgard explained that the tiers were not her focal point. She was looking at which option would give the most customers the biggest relief.

Committee Member McKay was supportive of an Option 5.

Committee Member Ramiro Cabrera stated he is in favor of developing Option 5.

The full committee agreed.

Ms. Bailey stated that staff will present Option 5 compared to Option 2 at the next committee meeting.

AFFORDABILITY RATE OPTIONS

Ms. Ivey continued the presentation with the affordability discount program, which provides a fixed discount amount based on their percentage of the federal poverty level up to 125% and based on the services that are provided: water only, sewer only, or water and sewer.

Similar to Option 1 presented at the last meeting, SAWS staff has developed an initial Option A for the committee's consideration and feedback. This alternative affordability rate structure provides:

- Reduced fixed charge
- Reduce number of rate blocks
- Increase usage within rate blocks
- Reduced rates

Slide 47 of the presentation reviewed Option A against the current charges and Option 1.

- The fixed charge for qualified customers, regardless of meter size, would be \$3.00 before adding in any usage amount.
- Option A is a three-tier structure. The Tier 1 rate is \$2.40 for usage up to 10,000 gallons, which includes 92% of current Uplift program bills.
- Tier 2 rate is \$4.80 for usage between 10,000 and 20,000 gallons, which accounts for 7% of current Uplift program bills.
- Tier 3 rate is \$7.20 for usage above 20,000 gallons, which accounts for only 2% of current Uplift program bills.

A separate affordability rate structure would decrease most qualifying customers' bills by at least 50%.

Ms. Ivey mentioned the only concern is that users at 50% of the Federal Poverty Level would see a bill increase for usage up to 3,000 gallons since the current affordability discount covers their bill, aside from the pass-through fees.

The existing Uplift affordability water and wastewater program costs about \$8 million. The projected cost of Option A is approximately \$17.8 million.

- The current program is already factored into the budget.
- Need to determine how to recover the incremental cost for Option A.
 - Additional cost would be allocated to customers not enrolled in the program. If this is the case, the bill amounts for the four options reviewed earlier in the meeting will be higher than discussed. The cost could be assessed as a new volumetric charge for both water and wastewater.

Chairperson Gonzalez stated since SAWS staff presented Option A then she assumes executive leadership has viewed this option. Chairperson Gonzalez asked if any other major cities in Texas have a separate affordability rate structure.

Ms. Bailey replied yes, Austin has implemented a similar customer assistance program, with a separate volumetric charge per \$1,000 gallons that covers the cost of the affordability program.

Mr. Evanson replied that Austin's program is called the Community Benefit Charge and they charge \$0.15 per 1,000 gallons of water and \$0.15 per 1,000 gallons of wastewater.

Chairperson Gonzalez posed a question for Gavino Ramos, SAWS Vice President of Communications & External Affairs. Would SAWS see an impact and opportunity to get more people involved in this program or would it be an automatic enrollment?

Ms. Bailey answered that it would not be automatic, customers would still have to qualify.

Mr. Ramos said that SAWS currently has over 34,000 families in the affordability discount program but are still aggressively recruiting more to join. He mentioned there will always be a stigma of an affordability program, however with Option A, he sees an opportunity for more families to join.

Mr. Montoya asked if the cost shown for Option A is at the current participation level of the affordability discount program, or does it include expanding the number of people.

Ms. Bailey replied that yes, it assumes the current participation level of the program, but they hope to see more people apply for the program.

Mr. Evanson added that SAWS will figure out a way to cover the cost if participation increases and exceeds the budget.

Chairperson Gonzalez referred to the third column on slide 50 that shows the total possible volumetric charge and asked if the \$0.29 would be charged to all residents for every 1,000 gallons used.

Ms. Bailey answered yes, every customer except for the ones in the affordability program.

Committee Member Burgard asked if the new Option 5 to be presented at the next committee meeting can also include the numbers from Option A.

Ms. Bailey answered yes, SAWS staff will provide that information, but also clarified that's just one example on how to cover the cost, it could be done other ways.

Vice Chairperson Garcia asked if his example of incorporating Option A rates into a hypothetical rate for a residential customer not in the affordability program were correct. Mr. Evanson responded yes.

Committee Member Woolfolk asked why Option A in the affordability rate structure would support usage over 20,000 gallons for people in the affordability program.

Mr. Ramos responded this likely represents leaks or large families. Ms. Bailey added that we could offer just one tier, but the reality is that it would not get a customer's attention if a leak is present.

Vice Chairperson Garcia asked if there is a leak forgiveness program.

Ms. Bailey responded yes there are options to assist, but it will not adjust the entire bill.

Committee Member Alaniz stated that Option A seems like a flat rate discount designed to attract individuals that are at 75% FPL or higher and not so many individuals at 50% FPL.

Ms. Ivey explained that slide 49 is based on a customer using 5,000 gallons a month. Slide 48 shows the impact of each FPL at usages from 0 to 10,000 gallons and at 10,000 gallons, a customer would see a significant bill reduction.

Committee Member Yakubik asked within the budget if there is a line for unrecoverable costs or unpaid bills.

Ms. Bailey replied yes, this year's budget accounted for 1% of bad debt.

Committee Member Yakubik asked does bad debt overlap the affordability discount program. If bad debt is similar to the cost of the proposed program and those costs are associated with the Uplift program, would it be a wash?

Ms. Bailey answered the premise of going to Option A is to decrease the amount of people who are needing to be disconnected. She explained that most of our write-offs are not associated with the affordability program, so it is not a wash.

Ms. Ivey would like feedback on the affordability residential rates.

- Continue with the current bill discount program?
 - Are current bill discounts sufficient?
- Implement a separate rate structure?
 - How much should program cost?
- How should program costs be recovered?

Committee Member Woolfolk liked this Option A and the fact that it can significantly reduce bills for people who are in most need. He is concerned with Option 2 because it only reduced the bill about \$2 a month for the essential water use customers. Option A reduces the bill for those customers by almost half. He wants to determine what our goal is for the committee. Or are we trying to save 60% of our customers \$2 a month or significantly help our affordability customers by saving \$25 a month.

Committee Member Alaniz liked Option A but would like to see if there can be a fix for the concern that Ms. Ivey brought up, for low volume customers at 50% of the Federal Poverty Level who are using 3,000 gallons per month or less. They are seeing a slight increase in their bill rather than a decrease like customers who use more than 3,000 gallons per month.

Ms. Bailey mentioned that there might be an opportunity to add a discount in addition to the reduced rates for those folks. Staff will research what percentage of people fall into this category.

Committee Member Caudill mentioned a personal experience where he encountered a lady buying baby formula at a Walmart. He got the impression that this was all she could afford. When he offered to buy her more, she was beyond grateful. He stated that reducing the bill as seen in Option A, could really benefit families like hers who need that money to purchase necessities, like baby formula for \$23.65.

Chairperson Gonzalez concluded that Mr. Caudill's message was a great way to close the meeting. Ms. Bailey mentioned that General Class Rates, agenda item #3, was not discussed and will need to be covered at the next committee meeting. Chairperson Gonzalez recommended extending the next meeting to 2.5 hours.

The committee agreed to meet for 2.5 hours at the May 17 meeting.

NEXT STEPS

- General Class, Irrigation Class, and Recycled Water Rates
- Follow-up on Residential rate options (non-affordability and affordability)

CLOSING COMMENTS

There were no closing comments by the committee members or SAWS staff members.

ADJOURNMENT

Chairperson Gonzalez adjourned the meeting at 8:16 p.m.

NEXT MEETING

The next meeting of the RAC will be held on May 17, 2022, at 6:00 p.m. and will be a hybrid meeting offering attendance virtually and in person.



SAWS RATE ADVISORY COMMITTEE MINUTES
SAWS Headquarters, 2800 U.S. Hwy 281 North, San Antonio, Texas 78212
Via WebEx Video Conference
Tuesday, May 17, 2022
6:00 p.m. to 8:30 p.m.

Committee Members Present:

Frances Gonzalez, Committee Chairperson
Patrick Garcia, Committee Vice Chairperson, San Antonio Manufacturers Association
Christine Drennon, District 1
Velma Willoughby-Kemp, District 2
Karen Burgard, District 3
Genevieve Trinidad, District 4
Alfred Montoya, District 5
Ramiro Cabrera, District 6
James Smyle, District 7
Patricia Wallace, District 8
Joseph Yakubik, District 9
Vaughn Caudill, District 10
Steve Alaniz, Hispanic Chamber
Jeff Harris, Recycled Customer
Cacie Madrid, San Antonio Chamber of Commerce
Steve Richmond, San Antonio Restaurant Association
Preston Woolfolk, Northside Chamber of Commerce
Tamara Benavides, Hotel & Lodging Association
Allyson McKay, San Antonio Apartment Association
Mike Chapline, Outside City Limits

Committee Members Absent:

Stephen Lara, Balcones Heights

San Antonio Water System Staff Present:

Robert Puente, President & CEO
Doug Evanson, Chief Financial Officer & Senior Vice President
Mary Bailey, Vice President of Customer Experience & Strategic Initiatives
Nancy Belinsky, Vice President of Legal & General Counsel
Lisa Mireles, Board of Trustees Senior Executive Management Analyst
Cecilia Velasquez, Senior Director of Financial Services/Controller
Phyllis Garcia, Senior Director of Financial Services/Treasurer
Lou Lendman, Budget Manager
Keith Martin, Senior Corporate Counsel
Gavino Ramos, Vice President of Communications & External Affairs
Donovan Burton, Vice President of Water Resources & Governmental Relations
Jaime Castillo, Chief Strategy Officer / Chief of Staff

Consultants Present:

Jennifer Ivey, Carollo Engineers, Project Manager

Bridget Hinze Weber, KGBTexas Communications, Public Affairs

Elissa Garza, KGBTexas Communications, Public Affairs

CALL TO ORDER BY CHAIRPERSON

The meeting was called to order by Chairperson Frances Gonzalez on May 17, 2022, at 6:02 p.m.

CITIZENS TO BE HEARD

Chairperson Gonzalez started the Citizens to be Heard portion of the meeting. Two citizens were signed up to speak, Dr. Meredith McGuire and Dr. Terry Burns.

Written comments by Dr. Terry Burns were read.

- Residential rate design should deliver affordable rates for basic human needs and penalties for excessive use that overburdens the entire system.
- Option 2 comes closest to achieving this with lower rates in low usage tiers, and higher rates at high tiers.
- The inflection point around 7,000 gal is appropriate for almost all families and should have a larger price jump.
- The negative impact of Option 2 on “Revenue Stability” is a good thing. It will promote conservation. The impact should be predictable, and SAWS should manage for this.
- Option 2, or something similar should be an integral part of any realistic “Drought Management Plan”.
- General Class rates should continue to include 4 volumetric blocks, and variable meter sizes. Base volumetric rate should NOT be ONLY based on prior year usage but should begin at a minimum volumetric charge that is at least as high as the lowest residential tier.
- General Class wastewater rates are among the lowest in Texas. There is room for substantial increases, which should be implemented.
- The discounts given to various businesses (TowerJazz Semiconductor has lowest water and wastewater rates shown) are surely due to the “pro-growth” policies of SAWS, COSA and the former SAEDF. These subsidies should at the very least be funded by the entire General Class that loves growth, not by current residents of SAWS service area.
- It would be simple for you to show customer bill costs on a per gallon basis, by dividing the TOTAL water bill by the total water used. It would be very helpful to all.
- Winter sewer averaging unfairly benefits those with high summer landscaping use.
- Uniform 20 and 30% fees would make big discounts for high users and big increases for small users, very unfair. Dr. Burns was in favor of Option 2 for the residential rate structure. As for the General Class rate structure, he is in favor of implementing increases and continuing to include four volumetric blocks and variable meter sizes.

Dr. Meredith McGuire had technical issues and joined the WebEx meeting during the General Class Discussion.

OPENING REMARKS AND INTRODUCTIONS

Chairperson Gonzalez reviewed the mission of the RAC, the committee decision-making process and the full committee meeting schedule.

Chairperson Gonzalez stated that the next meeting on June 7, 2022, will be a hybrid meeting offering attendance virtually and in person.

STANDARD MEETING INFORMATION

Chairperson Gonzalez reviewed the minutes from the committee meeting on April 26, 2022. There were no edits to the meeting minutes.

General Class Discussion

Jennifer Ivey, Carollo Engineers Project Manager, started the presentation reviewing General Class water and wastewater sales from 2017 to 2022. In addition, the monthly usage over the last 5 years have averaged around 70,000 gallons. Slide 12 provided a comparison of the general/commercial class rate structures for the major Texas cities including Austin, Dallas, Fort Worth, Houston and SAWS. They all have fixed charges based on meter size. On the water side, Austin, Fort Worth, and Houston have a uniform rate structure. Other than SAWS, Dallas is the only other major Texas city with a tiered base-excess rate structure for General Class.

A comparison of the volumetric rates per 1,000 gallons of water was shown to the Committee. Fort Worth has the lowest rate, and Houston has the highest. Comparing the volumetric rates per 1,000 gallons of wastewater, Dallas has the lowest rate and Austin has the highest.

SAWS' existing General Class water rate structure has a fixed charge that is dependent upon meter size with 4 volumetric tiers based on peaking. Unlike the Residential Class, the General Class volumetric tiers are based on actual annual usage from the prior year. The annual usage is divided by 12 and the monthly average is the amount of usage that can be billed at the lowest tiered rate (base) for each month. The higher tiers are calculated based on a percentage of the base usage, in excess of 100%.

Committee Member Christine Drennon asked, if she were to use a million gallons and wouldn't vary her usage from year to year and if she were to use 50 gallons and wouldn't vary her usage from year to year, for both scenarios, would she pay \$4.80 per 1,000 gallons?

Ms. Ivey responded yes because the structure is designed to discourage peaking. It encourages consistent usage throughout the year, regardless of how much is used. If a customer uses more than their base amount in certain months, then they would pay the higher tiered rates for those months. Ms. Ivey explained that there are very large and small customers in the general class and even if a large customer is using a large amount of water that doesn't mean that they are using it inefficiently.

Committee Member Drennon responded, is that common?

Ms. Ivey responded that a uniform rate structure is the most common rate structure for the General Class.

Committee Member Drennon asked about Dallas' tiered rate structure.

Ms. Ivey explained that Dallas' structure is a blended structure, it allows small retail businesses to benefit from the lowest tier rate. The lowest rate is up to 10,000 gallons and the next lowest tier includes up to 1.4 times the average annual consumption from the prior year.

Vice Chairperson Patrick Garcia said that eight years ago he had been told that a business with major growth could request an adjustment to its average annual consumption. Vice Chairperson Garcia then asked if he has 200% growth in his business can he go to SAWS and ask for an adjustment?

Ms. Bailey responded that SAWS could adjust the average annual consumption, which is the previous year's average, however; this is usually the practice when businesses take over another business in which they are not performing as well as it did the year prior. She provided an example like in the 2008 recession and the 2020 COVID-19 pandemic brought a decline in usage for businesses only to pay the peaking prices the following year for higher usage.

Committee Member Joseph Yakubik asked in a multi-year drought where a general class customer uses more water in the first year than the second year, would their rate then drop because they established a higher base that year during the drought?

Ms. Bailey responded that the general class outside usage is connected to an irrigation meter and therefore drought should not impact usage unless their business' usage is impacted by weather.

Ms. Ivey reviewed the general class bill frequency, which showed the percentage and frequency of bills for the four tiers over the last four years. About 68% of the bills stay within the first tier, which wouldn't pay more than \$4.80 per 1,000 gallons. About 10% to 11% of the bills stay in each of the other three tiers. Approximately 82% of the General Class consumption is charged at the lowest tier rate with 5% to 7% of consumption billed at each of the three higher rates.

Committee Member Yakubik said that it is not a surprising number when you look at the mathematical distribution of an average.

Ms. Ivey said that Committee Member Yakubik was correct.

Doug Evanson explained that multi-family units, which are included in the General Class, have less consumption in the higher tiers so they have a lower effective rate than the commercial and industrial customers. Therefore, multi-family customers benefit from being included in the General Class.

The presentation continued to list the 10 largest potable water customers in 2021. Ms. Ivey noted that six out of the 10 are not-for-profit businesses. The 2021 revenue divided by the consumption yields the effective rate 1,000 gallons for each of these customers. These rates vary because the fixed charge revenues are included as well as irrigation revenues.

Ms. Bailey explained that the report for the ten largest potable water customers each year is required for the annual financial report. This includes all potable water consumption, including irrigation.

Ms. Bailey responded to the public comments at the beginning of the meeting from Dr. Terry Burns implying that the General Class gets discounts, by saying no customer at SAWS gets discounts other than the customers in the affordability program. High water users, like TowerJazz, who are extremely consistent water users would pay the base rate because they avoid peaking.

Committee Member Joseph Yakubik asked what is the multiplication differential between the highest residential rate and the base rate and what is the differential for the general class rates? Ms. Bailey replied 6.5 for residential class rates and 1.75 for general class rates.

Ms. Ivey continued the presentation by reviewing the ten largest wastewater customers in 2021. On slide 17, Ms. Ivey then reviewed the General Class water bill comparisons at 50,000 to 500,000 gallons, which showed San Antonio in the middle, Ft Worth as the lowest and Houston the highest.

The General Class wastewater bill comparison between 0 and 50,000 gallons showed San Antonio as the lowest and Austin as the highest. This assumed inside city limits with a 5/8-inch meter and includes TCEQ pass-through.

The General Class wastewater bill comparison from 50,000 to 500,000 gallons showed San Antonio with the lowest bill and Austin with the highest bill.

The General Class combined water and wastewater bill comparison for 0 to 50,000 and 50,000 to 500,000 gallons showed San Antonio, Fort Worth and Dallas on the low end and Houston and Austin on the high end.

The General Class Customer Characteristics:

- The General Class includes commercial, industrial, and multi-family customers.
 - Multi-family connections are one meter serving three or more residential units.
 - Industrial classification is assigned to customers that require wastewater permits and regular testing of wastewater discharge, which may exclude industrial water users.
- Prior RACs have evaluated disaggregating multi-family customers from the General Class, but no recommendation was made to disaggregate.

It is important to understand where multi-family customers are located. The map on Slide 25 shows the geographic locations of multi-family customers while also categorizing the geographic location by median household income. Many of the multi-family customers are in areas with a low median household income.

Ms. Ivey reported that there may not be sufficient information available to improve the existing rate structure for multi-family customers. Based on the cost of service analysis, the revenue from multi-family is less than the cost of service, which would mean if multi-family class were disaggregated it would result in higher rates. The increased rates would likely be passed onto tenants.

The findings for the water cost of service shows that commercial and industrial customers generate more revenue per 1,000 gallons than multi-family customers because they have more peaking and larger meters.

Committee Member Drennon asked what is beneficial reallocation? Ms. Ivey responded that beneficial reallocation was discussed in one of the first meetings and is discussed in detail in the cost of service report. Some recycled water costs were reallocated to Irrigation and Residential to reduce recycled water cost of service to match the budgeted revenue. And the irrigation class cost of service was significantly less than the budgeted revenues, so we reallocated residential and general class to irrigation.

Ms. Bailey added that costs were reallocated to Irrigation from the other potable water customer classes.

Approximately 86.4% of multi-family usage is at or below the 100% base. The cost of service findings for wastewater were presented, showing a separate analysis of the commercial/industrial class and the multi-family class.

Committee Member Preston Woolfolk asked if the revenue generated from water in the General Class is used to offset the cost from wastewater? Ms. Ivey responded that water and wastewater are evaluated separately, and General Class revenue does not cover the cost of service for both water and wastewater.

Ms. Ivey explained the General Class rate structure alternatives:

- Retain or modify the current “peaking” structure (equity)
- Implement uniform rates (same rate per 1,000 gallons, regardless of volume) (rate stability)
- Develop multi-tiered rates tied to volume thresholds (affordability)

Ms. Bailey asked the committee, what is it about our current structure that bothers you and why? Ms. Ivey explained that a uniform rate is the most common rate structure for the General Class because it is difficult to tailor a tiered structure that would be fair to a heterogeneous group of customers.

Committee Member James Smyle asked about the marginal use of water, with large intensive industries and how will we recover the Vista Ridge costs. Ms. Bailey replied that the cost for Vista Ridge is \$2,071 per acre-foot, including operations and maintenance, times 50,000 acre-feet, which equals \$103 million.

Committee Member Smyle asked if the \$2,071 per acre-foot includes the raw water cost and the capital investment? Ms. Bailey replied yes and continued to explain that Vista Ridge and the other water supplies were allocated, so the costs are being picked up by each class based on the proportionate volumes. Ms. Bailey said every option presented is meant to recover the cost of service for that class.

Committee Member Steve Alaniz asked what kind of feedback has SAWS received from the General Class regarding the current structure? Ms. Bailey replied that she gets some complaints regarding the peaking rates hurting businesses that are growing.

Ms. Ivey continued the presentation on slide 31 showing the General Class rates for the three options. The cost-of-service adjustments to the current rate blocks would result in increased volumetric rates for all customers. The uniform rates would increase bills for customers in the first or base tier and would decrease bills for customers with significant peaking. These two options assume the fixed charges are equal to Residential Option 4 fixed charges plus Conservation charge of \$1.70 for a 5/8-inch meter, scaled up for larger meters. For wastewater, the uniform rate option would do away with including the first 1,496 gallons in the fixed rate and charge all usage at a uniform rate of \$4.40 based on the fixed charge that was proposed with the Residential Option 4.

Committee Member Smyle asked about the conservation fee. Ms. Ivey explained that the conservation costs are allocated and recovered through both fixed and variable charges. Ms. Bailey added that there is city ordinance that requires SAWS to charge a certain portion of the meter charge to pay for conservation. The overall budget is about \$10 million. In addition, they get the conservation revenue through a portion of the volumetric charges from the Irrigation Class, and the top four tiers of the Residential Class.

Committee Member Karen Burgard asked if the General Class includes multi-family? And 85% of multi-family usage is at the base or below, correct? Ms. Bailey responded yes.

Committee Member Burgard continued, if we were to propose the uniform rates, multi-family would increase by \$0.75 per 1,000 gallons? Ms. Ivey responded yes.

Ms. Ivey continued to the General Class decision points:

- Maintain multi-family's inclusion in the General Class or disaggregate
- General Class rate structure options:
 - Peaking tiered rates (current structure)
 - Uniform rates
 - Volumetric tiered rates

Cecilia Velasquez read a webchat comment from Committee Member Allyson McKay, which said that the landlord and/or unit is the one charged by SAWS and not the individual person. It will be difficult to know if any discount is passed down to the tenant.

Ms. Ivey agreed and reiterated that it is important to understand the location of the multi-family units and that when the rates go up, the increase will be passed onto the residents. Utilities, as an industry, have found it extremely difficult to help multi-family customers with affordability initiatives.

Committee Member Smyle asked if it would be beneficial to consider a multi-tiered volumetric rate structure to improve affordability initiatives within multi-family? Chairperson Gonzalez mentioned that the committee can't ensure that any cost savings for multi-family customers would be passed onto to the tenants.

Committee Member Smyle asked about the possibility of the RAC talking with people who own small multi-family units, who aren't eligible for flow meters like Residential Class.

Chairperson Gonzalez also mentioned that the smaller multi-family units are more susceptible to higher leakage rates given that they are normally older complexes. Chairperson Gonzalez told the committee that it is important to bring this to the Board and ask for more research into best practices around affordability for multi-family units.

Robert Puente, President & CEO, addressed the concerns around affordability for multi-family customers and explained that it is beyond the scope of the RAC. He further explained that the downtown area is tricky; there are both low-income and high-income multi-family units, which makes it difficult to tailor the rate structure for the multi-family class.

Committee Member Yakubik commented on the comparison of Residential Rates and General Class Rates. If you are a business using 50,000 gallons in the General Class your bill is \$270, however, if you are a residential customer using 50,000 gallons the bill is \$627. Ms. Bailey replied that the cost of service is based on class. The residential rate structure is tiered and designed so that high users pay a higher rate.

Committee Member Yakubik then asked if he is interpreting the data correctly by understanding that 67% of water usage is accrued by 12% of bills. Then maybe one option is to create a hybrid tiered structure, like Dallas, in which there is a threshold of 100,000 gallons or less so small businesses can benefit from a lower rate. Ms. Bailey replied that they could model the Dallas structure by developing a base tier that would benefit multi-family but would like to note that multi-family does receive a benefit by being included in the General Class and we don't know if the benefit would be passed onto the tenants.

Committee Member Yakubik clarified that he was referring to the General Class, not multi-family.

Committee Member Karen Burgard commented that she does not think she has enough data to make an informed decision on keeping or disaggregating multi-family from the General Class. Ms. Ivey explained the biggest challenge among multi-family is the lack of data because multi-family connections often use a master meter and do not sub-meter. For example, there may be 20 apartments connected to one master meter, which means SAWS does not receive consumption data for each individual apartment.

Committee Member Steve Alaniz asked if the multi-family tenants ever see their SAWS bill. Ms. Bailey replied that by law, multi-family customers to allocate their water bill and bill each unit separately, based on the number of bedrooms and so forth. She further explained that the usage of water from the shared common spaces cannot be allocated to the residents. Therefore, most residents get a rent bill and an allocated water bill or get one bill that combines the rent and the allocated water amount.

Committee Member Allyson McKay agreed with Ms. Bailey and said many of the new properties being built outside of tax credits have submeters installed, which does allow for individual units to view their usage, and under PUC rules they have the right to request invoicing from their complex. She also addressed the lack of data – consequently in the last several years the Apartment Association has been working with third-party billers to better allocate consumption. This type of data could be helpful for future multi-family research.

Ms. Bailey responded and said that data goes to the apartment complex, and SAWS can ask for that data to better understand consumption per unit. She also emphasized that the new electronic meters SAWS will be introducing

will help see the time of day the water was used, which will also gather better data. This future data will be beneficial, but for now SAWS only has the data available through the master meter.

Chairperson Gonzalez commented on the data that has been shared and recommends keeping multi-family in the General Class.

Committee Member Patricia Wallace responded virtually, "I agree with Chairwoman Gonzalez, based on the information presented and the data we have. I think multi-family should remain in the General Class. I also am in favor of keeping the current General Class rate structure."

Committee Member Genevieve Trinidad responded virtually, "I also agree with Pat in reviewing my notes. I was skeptical and everything, but I totally agree with keeping multi-family in the General Class." Chairperson Gonzalez asked the committee if there is a consensus to have multi-family remain in the General Class, no opposition was noted. Chairperson Gonzalez moved on to discuss the second decision point, which was the rate structure for the General Class.

Ms. Bailey addressed Committee Member Yakubik's suggestion which was to use a hybrid tiered structure similar to Dallas, which has a base tier rate at 10,000 gallons and peaking tiers beyond that.

Committee Member Steve Alaniz commented that the ten largest water and wastewater consumers in the General Class are also some of the largest employers in San Antonio. He suggested that it may be helpful to get data on the usage per employee for the top 10 largest water consumers.

Chairperson Gonzalez asked Committee Member Alaniz if he knows how many small businesses there are in San Antonio and what qualifies as a small business. Committee Member Alaniz responded about 85% of businesses in San Antonio are small businesses.

Chairperson Gonzalez asked Ms. Bailey if there is an estimated stratification of water and wastewater usage for small businesses. Ms. Bailey responded that she doesn't have a specific breakdown for small businesses, but the bill frequency data shows that 58% of the General Class bills do not use above 10,000 gallons.

Committee Member Woolfolk agreed with Committee Member Yakubik and would like to see an affordability tiered rate structure that would include peaking after a base consumption tier. He further explained that it is important to balance the structure and not make high water users pay too much and end up moving elsewhere. Ms. Bailey responded that there are two structures to consider – either a peaking structure or a tiered structure. In a peaking rate structure, a high-water user, like school districts, governmental agencies and HEB, can use water consistently and pay a lower rate rather than a tiered rate structure where they pay a higher rate.

Vice Chairperson Garcia mentioned that there should be a distinction made when talking about a high-water user like HEB because they have several plants that may use more water than their grocery stores.

Committee Member Woolfolk commented that he believes it is important to create an affordability tier focusing on startups and small businesses getting off the ground and maintain a peaking structure to shift costs. Ms. Bailey responded by saying when small business usage remains consistent, they are in the lower block paying \$4.80 per 1,000 gallons compared to their cost of service of \$6.22 per 1,000 gallons. If there is a consensus to widen the affordability to 10,000 gallons, staff can model that scenario.

Chairperson Gonzalez asked Committee Member Steve Alaniz if there is sense of how many small businesses shut down during COVID-19? Committee Member Alaniz responded that it was significant, about a third.

Chairperson Gonzalez mentioned that this could be an opportunity to create a specific tier for this small business group and asked the committee for their thoughts and feedback.

Ms. Bailey stated that they do not ask customers if they are a small business. Committee Member Woolfolk mentioned that if a small business uses about 3,000 gallons of water each month and their overall SAWS bill is about \$80, he doesn't know how meaningful that is on its overall cost of operations.

Chairperson Gonzalez asked the committee if there was a consensus on leaving the General Class rate structure as is. Committee Members Steven Alaniz, Preston Woolfolk, Jeff Harris and Karen Burgard responded to leave as is. Committee Members Pat Wallace, Tamara Benavides, Allyson McKay, and Genevieve Trinidad responded on the online chat to leave as is. The Chairperson asked again if there was consensus, no further opposition was noted.

CITIZENS TO BE HEARD (continued)

Dr. Meredith McGuire was able to virtually join the meeting. She shared the following concerns with the RAC Committee.

- Eliminate all classes at SAWS because there is unfairness among the rates between classes. There should be a single volumetric rate for all potable water usage.
- The diverse customers within the General Class, especially the top ten listed on Slides 16 and 17, are given incentives to use a lot of water and energy despite paying very little.
 - Provided an example and cited a recent article which referenced TowerJazz as using about 9% of the Vista Ridge water.

Irrigation Class Discussion

Ms. Ivey continued the presentation to discuss the Irrigation Class.

- Beginning in 2001, new General Class customers were required to have a separate irrigation meter for irrigation systems.
- For General Class customers who connected prior to 2001, SAWS assumes irrigation usage of 20% for multi-family and 29% for commercial or industrial.
- The current Irrigation rate structure is like the Residential inclining block structure with higher rates than the General Class.
- There are no wastewater charges for irrigation use because the water does not go down the drain like indoor usage.

Historical irrigation class usage varies with rainfall, but the average usage is trending downward over time. Ms. Bailey further explained that the last two decades have shown declining irrigation usage.

The current Irrigation rate structure includes a fixed charge of \$31.87 for a 1-inch meter, including EAA and TCEQ pass-throughs, with four increasing volumetric blocks.

- Block 1 includes up to 8,229 gallons per month at a rate of \$7.203 per 1,000 gallons
- Block 2 includes usage between 8,230 and 17,954 gallons at a rate of \$10.081 per 1,000 gallons
- Block 3 is the largest block in the structure with usage between 17,955 and 162,316 gallons at a rate of \$12.964 per 1,000 gallons
- Block 4 includes all usage above 162,316 gallons at a rate of \$16.566 per 1,000 gallons

If SAWS were to update the current Irrigation rate structure with the fixed charge from Residential Option 4, the fixed charge would decrease from \$31.87 to \$21.97, and the four blocks would see a slight increase.

Ms. Ivey continued to the decision points for the Irrigation class:

- Should we retain/modify the existing structure?
 - Number of blocks
 - Block sizes

Ms. Bailey commented that the first block in the updated Irrigation rate structure would comprise about 61% of the bills but only about 14% of the irrigation usage. Block 2 would comprise 11% of bills and about 11% of the irrigation usage. Block 3 would comprise 27% of the bills and 51% of irrigation usage. Block 4 would comprise 3.9% of bills and about 24% of irrigation usage.

Chairperson Gonzalez asked why the fixed charge would go down in the updated rate structure for Irrigation? Ms. Bailey explained that it would be tied to the Residential rates, whatever decision is made for Residential will be carried onto the General Class and Irrigation Class. The General Class and Irrigation Class rates also have the added conservation fee.

Committee Member Christine Drennon asked if this is an opportunity to recapture and reallocate to the Affordability program? Ms. Bailey replied that the \$8.2 million cost of the Affordability program is already allocated to all the classes' cost of service.

Committee Member Steve Alaniz asked what are the current complaints about the Irrigation rate structure? Ms. Bailey replied that back in 2015 some apartment complexes with around 400 units said that they did not get the same affordable allocation that the Residential class received. The Irrigation rate structure was adapted to expand the third block to address the multi-family customer complaints.

Chairperson Gonzalez asked for input from Committee Member Tamara Benavides, Hotel & Lodging Association, to voice any questions or concerns from this industry.

Committee Member Benavides replied that the hotel industry has been battling rising property taxes, inflation, staffing, and raising wages to \$15, and believes that higher rates could significantly impact the industry.

Ms. Bailey responded and said that this is not an increase in rates; it is a shift between the fixed charge and the volumetric rate. The fixed charge is going down and the volumetric rate is going up but at the end of the day the revenue generated is the same.

Committee Member Woolfolk asked between all the classes, Residential, General, and Irrigation, which class uses more water as a whole? Ms. Bailey replied that the Residential Class uses the most water at around 50% of water usage, then General Class followed by Irrigation, which is about 6% of usage.

Committee Member Woolfolk commented that he asked that question to see which class will see a larger impact from the rate structure changes.

Committee Member Alaniz asked who are the highest Irrigation users? Ms. Ivey responded that Marriott, Cibola Canyon, and UTSA are among the highest Irrigation users.

Committee Member Benavides asked if all the Marriott hotels are bulked together? Ms. Bailey responded yes; it is a combination of all their accounts.

Committee Member Wallace had a question about the updated Irrigation rate structure, is the updated structure reflecting higher rates in the lower blocks and lower rates in the higher blocks? Ms. Bailey corrected Committee Member Wallace and said that the fixed charge decreases by approximately \$10, and the rest of the blocks increase minimally.

Chairperson Gonzalez asked if there is a consensus to maintain the current Irrigation water rate structure? Committee Members Cacie Madrid, Patricia Wallace, Tamara Benavides, Genevieve Trinidad agreed to leave the current Irrigation structure as is. No opposition was noted.

Committee Member Burgard requested an additional meeting or for the remaining meetings to be extended so that the committee is not rushing through items. Chairperson Gonzalez asked for a consensus to extend the upcoming two meetings by 30 minutes. The Committee affirmed.

Recycled Water Class Discussion

Ms. Bailey presented the Recycled Water System. SAWS built a loop around San Antonio which distributes treated wastewater through the recycled water “purple pipe” system.

Many businesses and companies can tap in and utilize the recycled water system:

- Landscaping / Irrigation
- Golf courses
- Cooling towers
- Other industrial/ manufacturing uses
- River flow – when you go downtown on the Riverwalk, that is mostly recycled water

There is a variety of customer types that use recycled water:

- 20% Federal/ Local Government
- 7% Golf courses
- 13% Healthcare
- 12% Manufacturing
- 13% Military
- 4% Education
- 31% Other
 - Examples of the companies in this list are Microsoft, Brooks City Base, and USAA

The type of usage for recycled water also varies:

- 25% Golf Course
- 26% Landscape
- 49% Mixed
 - They have one Recycled Water meter but can be used for many purposes like cooling towers and irrigation. Some examples of the group in the Mixed list are Toyota, all military bases, UT Health Science Center, Microsoft and NSA.

There are two types of recycled water Customers:

- Edwards Exchange customers – customers who transferred their Edward’s Aquifer rights to SAWS to receive a reduced Recycled Water rate.
- Non-Exchange customers – customers who did not exchange any rights and pay the higher charge for Recycled Water. The amount of water supplied is determined by the contract, however they are only charged for what they use. Newer contracts, which make up about 4% of Recycled Water customers, are take-or-pay.

Vice Chairperson Patrick Garcia asked if SAWS would ever charge non-Exchange customers the contracted amount and not only the usage amount?

Ms. Bailey responded that they would have to evaluate the contract and the ordinance and determine if it is renegotiable.

There are two Edwards Exchange customers and 83 non-Exchange customers. Some of the water that goes through the “purple pipe” system does not get billed. SAWS uses recycled water for operational purposes that they do not pay for. The water that is currently put into the downtown river to generate water flow is currently not being charged to the City of San Antonio.

Committee Member Joseph Yakubik asked if the pie chart of the recycled water usage is based off only the billed water? Ms. Bailey responded yes.

In 2001, SAWS entered into a Recycled Water Agreement with the City of San Antonio that expired in December 2021. The contract required SAWS to provide recycled water to the San Antonio River and Salado Creek, unbilled, in exchange for Edwards rights for 5,210 acre-feet. Subsequently, the Edwards Aquifer Authority only approved the transfer of 2,192 acre-feet, which is based on historical usage.

SAWS and the City of San Antonio staff are currently renegotiating the Recycled Water Agreement. The intent for the new agreement is to include take-or-pay terms, separate contracts for each site, and identify appropriate contractual volumes per site. For the San Antonio River and Salado Creek, the new agreement would charge the City of San Antonio the Exchange rate for the recycled water, which would generate an estimated \$800,000 in additional revenue.

Committee Member Smyle asked if this would also include the San Pedro Creek when it comes online? Donovan Burton, Vice President of Water Resources & Governmental Relations, responded yes that the City of San Antonio has an agreement with the San Antonio River Authority, and it is included.

The history of recycled water rates:

- In 2000, non-Exchange rates were initially set near potable water rates (General Class).
- No recycled water rate increases were implemented for more than a decade.
- 2009 RAC recommended recycled water rates increase based on Water Delivery rates for potable water.
- 2015 RAC recommended recycled water rates increase based on the weighted average change in residential potable water rates.

The % rate increase for recycled water was shown on slide 46. Committee Member Yakubik stated that the percentage rate increase for 2020 was 30.6%. Ms. Bailey reiterated that the rate increase was 19.2% for the average residential customer, based on the weighted average change for potable water rates.

For recycled water, the 2022 projected revenue per 1,000 gallons is \$1.57, while the total potable water revenue per 1,000 gallons is \$7.37. Therefore, recycled water customers are paying approximately 21% of the total potable rate. The other customer class comparisons are provided on slide 47.

2022 recycled water cost of service findings:

- Current rates recover 1/3 of total cost of recycled water system.
- 2022 Cost of Service study beneficially reallocated the entire shortfall to Residential and Irrigation Class customers based on the ratio of outdoor irrigation usage.
- 2022 Budgeted Revenue does not include additional revenue from the City of San Antonio for river flows
 - Staff recommends the benefit from projected additional City of San Antonio revenues be reallocated to classes based on beneficial reallocations used in 2022 Cost of Service study.

Direction from SAWS Board for recycled water rates:

- Evaluate existing recycled water rates
- Determine if rates should increase to recover a greater percentage of recycled water's actual cost of service
- Consideration should be given to:
 - Additional costs incurred by recycled water users
 - Value of Edwards Aquifer water rights exchanged for recycled water
 - Benefit to the community from recycled water use

Recycled water considerations:

- Capital investment made by customers to connect to the "purple pipe" system
- Additional cost to treat water for manufacturing use
 - Water and wastewater charges associated with reject water
 - Chemicals, labor, and equipment costs to treat
- Value of Edwards water received from Exchange customers
 - SAWS has received 3,437 acre-feet of permitted Edwards rights
 - Annual value is \$665,000 based on the going rate for Edwards leases
- Community benefits from recycled water
 - Frees up potable water to support community growth
 - River flows support vibrant San Antonio economy
 - Demonstrates San Antonio's commitment to the environment – SAWS has the nation's largest recycled water system

Vice Chairperson Garcia asked when the Edwards Exchange customers opt-in, are they leasing their rights or giving them to SAWS? Ms. Bailey responded that they are giving their Edwards rights to SAWS.

The 2019 RAC Recommendation for recycled water rates:

- Increase percentage of recycled water costs recovered from customers over time
- Increase revenue recovered by 15% in 2021 and 10% per year for the next four years
- Allocate unrecovered recycled water costs to other customer classes based on discretionary/outdoor irrigation usage (Residential and Irrigation Classes)

The 2019 RAC was suspended due to COVID, and the recommendations were not implemented.

Ms. Bailey continued to the decision point for the recycled water rates:

- Is the 2019 RAC recommendation for recycled water rates still valid?

Committee Member Jeff Harris commented that his company is a very large user of recycled water and while his thoughts may not change the decision, it seems appropriate to raise rates. His company uses recycled water for cooling towers and irrigation, they invested capital to connect and incur significant chemical makeup costs. The recycled water system is probably one of the most unreliable part of SAWS. Often times they have to go off of recycled water and have to go to potable water. He would caution against increasing rates too much so that we don't drive other customers back to the Edwards Aquifer. His company didn't give up their rights so they could go back to their wells. But they use recycled water for sustainability, community and all of those benefits.

Vice Chairperson Garcia responded and said that in 2019 he was on the RAC and spoke with several large, recycled water users, like Toyota and HEB and they had agreed that the 15% rate increase would not run them off.

Ms. Bailey responded to Mr. Harris' point that these recycled water customers would not shift back to potable water, but they may instead shift back to their Edwards Aquifer wells.

Chairperson Gonzalez asked if there was any negative feedback on the recycled water increase from 2019? Mr. Puente answered that he received a lot of questions about reliability, redundancy and predictability but there was nothing out of the ordinary as far as negative feedback.

Committee Member Steve Alaniz asked if there is data to show the change in Recycled Water cost of service over the last few years. If SAWS is seeing a significant increase in cost of service and not recovering the amount, seeing the cost of service over the last few years can help determine if 15% is reasonable.

Ms. Bailey responded that they could provide the cost of service for recycled water over time.

Committee Member Woolfolk asked if there is a certain ratio of recycled water cost of service vs. potable? Is there a huge difference? What would drive you to go to normal water? Ms. Bailey replied that the overall cost of service is \$4.81 per 1,000 gallons for recycled water and potable water is \$6.22 per 1,000 gallons. Overall, it is cheaper to produce recycled water than potable water, but SAWS is not charging the full cost of recycled water to the customer.

Committee Member Woolfolk asked why a customer would switch to potable water if it is more expensive than recycled water? Ms. Bailey responded that they might not go to potable water but go to pumping their own water, which would be significantly cheaper.

Chairperson Gonzalez asked the committee how they feel about the 2019 RAC recommendation? Committee Member Patricia Wallace responded that she thinks 15% may be too high for some customers and would not want customers to revert to their wells. She would be open to negotiating the percentage increase.

Vice Chairperson Garcia said that the 15% increase is a number that is four years old. If costs have increased in the last four years, the increase should reflect that and be higher than 15%. Ms. Bailey responded to Vice Chairperson Garcia that the 2022 cost of service is very similar to the costs shown to the 2019 RAC.

Committee Member Karen Burgard made a comment that this recommendation in 2019 was also pre-COVID, and things have changed a lot, and it should be kept in consideration when looking at the numbers.

Committee Member Drennon asked if recycled water usage was going down? Ms. Bailey responded and said no, that was irrigation usage that was trending down year over year. Over the last few years, recycled water usage has been fairly consistent. She explained that there are a few barriers when it comes to connecting to the recycled water system in terms of capacity and capital costs. In the last year, one Edwards Exchange customer reverted back to their Edwards well.

Committee Member Steve Richmond, San Antonio Restaurant Association, agreed with Committee Member Wallace. He proposed an initial 12% increase and 8% over the next five years. Ultimately, it is the same overall total, it would reduce the initial painful impact.

Committee Member Yakubik mentioned that it is 15% of \$1.57. It is a large percentage of a small number so it's not a significant increase. Back in 2019, even though it was the largest percentage it wasn't the largest rate increase per 1,000 gallons.

Ms. Bailey agreed to an extent and said that customers who do not use large amounts may not see a 15% increase on \$1.57, but the large customers that were mentioned earlier would have a larger dollar increase.

Chairperson Gonzalez reverted the committee back to the decision point and asked if they can come to a consensus? Committee Member Patricia Wallace asked Jeff Harris, as one of the largest recycle water users, if what would be a fair number, did he have a percentage increase in mind that was different than the 15%? Committee Member Harris mentioned that large customers can adapt to the increased cost, but he can't speak for mid-size and smaller companies.

Committee Member Woolfolk asked if it would be possible to see the impact of the 2019 RAC recommendation on the top 25 users of recycled water? Ms. Bailey replied yes, some examples can be provided. Vice Chairperson Garcia commented that in 2019 the recycled water increase started at 50% and then was discussed until landing on the 15% recommendation.

Chairperson Gonzalez asked if the committee was ready to decide on the recycled water rates? Committee Member Wallace said no that she would like to see the examples of what a 15% increase would look like to a mid-size or smaller company. She wants to make a more informed decision if 15% is the right number or not. She does not want the recycled water customers to revert to potable water or their wells.

Chairperson Gonzalez asked SAWS to provide examples of mid-size and large customer bills with the 15% increase and to provide the projected revenue. She also requested a recycled water recommendation from staff to better guide the RAC.

Mr. Puente made a comment that it is important to note that some of the top users of recycled water also must take into consideration other costs if they must treat their water.

Committee Member Alfred Montoya would also like to know, out of the 83 non-Exchange customers, which of them have Edwards Aquifer water rights? Mr. Burton said that staff would research this item.

Committee Member Yakubik asked if anyone wanted to see any objective criteria for recycled water rates, specifically from the AWWA M1 Manual to be able to benchmark other programs. Ms. Bailey responded and said that they had researched other recycled water programs and their recycled water rates ranged anywhere from 20-35% of potable water rates. Committee Member Smyle stated that there was a 2019 AWWA study that covers several dozen recycled water programs. Ms. Bailey said that staff would research this item.

Recycled Water rate structure was tabled until the next meeting.

NEXT STEPS

- Continue Recycled Water Rate discussion
- Continue Residential Rates discussion
- Follow-up on rate options – all classes

CLOSING COMMENTS

Committee Member Joseph Yakubik stated that Councilman Courage had extended an invitation to the committee to attend the Municipal Utilities Committee Meeting on May 24, 2022.

ADJOURNMENT

Chairperson Gonzalez adjourned the meeting at 8:50 p.m.

NEXT MEETING

The next meeting of the RAC will be held on June 7, 2022, at 6:00 p.m. and will be a hybrid meeting offering attendance virtually and in person.



SAWS RATE ADVISORY COMMITTEE MINUTES
SAWS Headquarters, 2800 U.S. Hwy 281 North, San Antonio, Texas 78212
Via WebEx Video Conference
Tuesday, June 7, 2022
6:00 p.m. to 8:30 p.m.

Committee Members Present:

Frances Gonzalez – Committee Chairperson
Christine Drennon, District 1
Karen Burgard, District 3
Alfred Montoya, District 5
Ramiro Cabrera, District 6
James Smyle, District 7
Patricia Wallace, District 8
Vaughn Caudill, District 10
Steve Alaniz, Hispanic Chamber
Jeff Harris, Recycled Customer
Cacie Madrid, San Antonio Chamber of Commerce
Steve Richmond, San Antonio Restaurant Association
Tamara Benavides, Hotel & Lodging Association
Allyson McKay, San Antonio Apartment Association
Stephen Lara, Balcones Heights

Committee Members Absent:

Patrick Garcia, Committee Vice Chairperson, San Antonio Manufacturers Association
Velma Willoughby-Kemp, District 2
Genevieve Trinidad, District 4
Joseph Yakubik, District 9
Mike Chapline, Outside City Limits
Preston Woolfolk, Northside Chamber of Commerce

San Antonio Water System Staff Present:

Robert Puente, CEO & President
Doug Evanson, Chief Financial Officer & Senior Vice President
Mary Bailey, Vice President of Customer Experience & Strategic Initiatives
Nancy Belinsky, Vice President of Legal & General Counsel
Lisa Mireles, Board of Trustees Senior Executive Management Analyst
Cecilia Velasquez, Senior Director of Financial Services/Controller
Gavino Ramos, Vice President of Communications & External Affairs
Jaime Castillo, Chief Strategy Officer/ Chief of Staff
Phyllis Garcia, Senior Director of Financial Services/Treasurer
Lou Lendman, Budget Manager
Keith Martin, Senior Corporate Counsel

Consultants Present:

Jennifer Ivey, Carollo Engineers, Project Manager
Elissa Garza, KGBTexas Communications, Public Affairs

CALL TO ORDER BY CHAIRPERSON

The meeting was called to order by Chairperson Frances Gonzalez on June 7, 2022, at 6:07 p.m.

CITIZENS TO BE HEARD

Chairperson Gonzalez started the Citizens to be Heard portion of the meeting. No citizens were signed up to speak.

OPENING REMARKS AND INTRODUCTIONS

Chairperson Gonzalez reviewed the mission of the RAC, the committee decision-making process, and the full committee meeting schedule. Chairperson Gonzalez stated that the next meeting on June 28, 2022, will be a hybrid format offering in person and virtual attendance.

STANDARD MEETING INFORMATION

Chairperson Gonzalez reviewed the minutes from the committee meeting on May 17, 2022. There were no edits to the meeting minutes.

RESIDENTIAL WATER RATE DESIGN

Jennifer Ivey, Carollo Engineers Project Manager, began the presentation and continued the discussion on residential rate design. For water, an additional option, Option 5, has been added as a hybrid of Options 2 and 4.

Options 1 and 3 were removed at the request of the Committee Members. Option 2 includes a one-tier fixed charge of \$8.50 for a 5/8-inch meter with higher fixed charges for larger meters and 6 volumetric rate tiers. Option 4 also includes a one-tier fixed charge of \$9.00 for a 5/8-inch meter with higher fixed charges for larger meters, but the volumetric rate structure includes only 4 tiers. Option 5 includes a two-tier fixed charge of \$9.00 for a 5/8-inch meter if usage remains in the first volumetric tier and \$11.00 once usage exceeds that amount. Larger meters have a similar structure but with higher fixed charges. The volumetric rate structure includes 5 tiers.

- Option 2 offers the lowest Tier 1 rate at \$2.530 compared to \$2.767 and \$2.591 for Options 4 and 5, respectively.
- Option 2 charges a higher rate for usage in excess of 10,000 gallons than Option 4.

All options result in reduced bills for monthly usage of 9,000 gallons or less, which includes 83% of residential bills. The water bill for high users, or customers using more than 12,000 gallons, will increase with all options. 96.9% of residential bills include 20,000 gallons of usage or less.

For very high users, or customers using over 20,000 gallons, the water bill increases the most with Option 2 at 14%, compared to about a 4% increase with Option 4 and about a 7% increase with Option 5.

Inclining block rate structures are commonly used to encourage conservation, but they can become unsustainable when the objective is to consistently achieve reduced bills or minimal increases for low-volume users and high increases for high-volume users.

- Low tiers typically have higher sales volume.
- Rate increases in high tiers must outpace rate increases in low tiers to generate sufficient revenue, resulting in larger differential between the highest and lowest tier rates.
 - Current rate structure – 6.5x differential between the highest and lowest tier rates
 - Option 2 – 6.8x differential
 - Option 4 – 5.7x differential
 - Option 5 – 6.25x differential

Committee Member James Smyle explained that if 50% of the volume of water is being consumed by the top 20% of bills, why does the rate structure show signs of unsustainability? Mr. Smyle was referring to data that was previously provided to the RAC.

Ms. Ivey explained that there was an error in one set of numbers that was sent out to the committee, which was subsequently corrected in later versions of the Requests and Responses Matrix. Ms. Ivey explained that she would review the data and follow up with an explanation of the data.

Ms. Ivey continued the presentation to graphically explain how an inclining block rate structure may become unsustainable in the future.

The presentation compared Option 2's rates for 2022 and projected 2025 rates using the Option 2 rate structure and maintaining the proposed Option 2 tier differentials. The analysis assumes residential cost of service increases by 3% per year and residential customers are conserving water and reducing consumption in each tier by 1% per year. The analysis showed an increase in the highest tier rate from \$17.204 to \$19.531. These rates are for inside city limits customers; outside city limits customers will pay even more due to the differential. Low-volume customers will see a 2.5% increase, and high-volume customers will see a 4.0 to 4.5% increase.

If the objective is to maintain bill increases that are at or below annual inflation (3% for this analysis) for low-volume users and higher than annual inflation for high-volume users, the tier differentials must be adjusted. Slide 25 presents the results for a modified Option 2 rate structure in 2025, which results in a 7.5% increase for customers that use more than 20,000 gallons in a month. In order to achieve this result, the rate differential between the highest and lowest tiers increases from 6.8x to 7.5x. Ms. Ivey stated that it is very difficult to sustain an inclining block rate structure that generates sufficient revenue with minimal impact to low-volume customer bills and high bill increases for high-volume customers.

RESIDENTIAL WASTEWATER RATE DESIGN

Ms. Ivey reminded the committee about residential wastewater Option 1, which was presented at a previous RAC meeting. Option 1 reduces the fixed charge to \$10.00 for a 5/8-inch water meter with higher fixed charges for larger water meters and includes two volumetric tiers, rather than the current three-tier structure. Currently, there is no charge for Tier 1 wastewater volume, but all wastewater volume would be billed under the proposed Option 1 rate structure. Option 1 will result in reduced bills for all residential wastewater customers. It is important to note that this is largely due to the decreased wastewater cost of service for the residential customer class.

Committee Member Smyle asked if there will be a uniform fixed rate reduction for all meter sizes? Ms. Ivey explained that supplemental information regarding the development of the fixed charge was provided to the RAC, which would be helpful in answering his questions. She then answered that the percentage reduction to the fixed charge will not be the same for all meter sizes because the fixed charge has two components: one component is the same for all meter sizes and the second varies by meter size.

The bill impact for water and wastewater combined showed that all options (Water Options 2, 4, and 5 combined with Wastewater Option 1) will result in reduced bills for customers that use less than 10,000 gallons per month. For higher water usage, all options presented result in increased bills for usage in excess of 14,000 gallons per month, with Option 2 as the highest.

Ms. Ivey continued the residential presentation to discuss the affordability metrics. All three options result in lower bills and a reduced burden to low-income families than the existing rates, with Option 2 providing the largest discount. This comparison assumes the customers are not eligible for the existing Uplift program and would pay the full bill amount, and it assumes 5,062 gallons of usage for both water and wastewater, which is the average winter consumption for residential customers.

On Slide 33, there is an overview of the options presented for residential water and wastewater and how they address the final pricing objectives.

- Option 2 meets the pricing objectives of: Affordability, Conservation, Equity, Simple to Understand, and Practical to Implement
- Option 4 meets all the pricing objectives except Revenue Stability.
- Option 5 meets the pricing objectives of: Affordability, Conservation, Equity, Simple to Understand, and Practical to Implement

Committee Member Smyle asked how the pricing objectives are assessed, is it relative or are there absolute data points that lead you to this assessment? Ms. Ivey responded that there is no threshold or absolute datapoints to assess, but the presented options were compared to the existing rate structure and evaluated to determine if the changes are significant enough to either achieve the pricing objective or not.

Committee Member Smyle asked why none of the options had either a check or 'X' under drought management? If we are increasing rates for the highest users and the weather is dry, would there not be a reduction? Ms. Bailey responded that drought management will be covered later with Other Rate Issues. She further explained that drought management and conservation are two different things, conservation is long-term change in behavior and drought management results in immediate change. The tiered rate structure alone does not result in a sudden reduction in usage when experiencing drought.

Committee Member Christine Drennon commented that the discussion moved from data to behavior and does not feel there is sufficient behavioral data. Ms. Bailey replied that the rainfall data for 2021 was shown to the committee two meetings ago. When that rainfall data was aligned with consumption data, it showed a reduction in consumption in excess of 7,000 gallons per month.

Committee Member Drennon clarified that she is not referring to rainfall but rates. Ms. Bailey responded that revenue stability correlates to rainfall. Ms. Ivey clarified that behavior is not assumed; it is understood that there will likely be more conservation in the higher tiers, but it is not modeled that way. The rate structure and options were modeled with the conservative assumption that conservation occurs uniformly at all usage levels.

Committee Member Karen Burgard asked what causes the rate instability? Ms. Ivey responded that when you are trying to balance revenue and you have more water usage in the lower tiers than in the higher tiers, for every penny increase in the lower tiers, a significantly higher increase is required in the higher tiers.

Committee Member Alfred Montoya commented that there should be a clear distinction between the value of the penny between the low tiers and the higher tiers. He then mentioned that risk is evaluated throughout the rate structure and that there should not be actual fear around the options that result in lower impacts for the low-volume users and higher increases for the high-volume customers.

Ms. Bailey responded that it is not the short-term risk, but the long-term impact that they are evaluating. Currently, if a hypothetical rate increase was applied it would uniformly apply to all the tiers, the options proposed would increase the higher tiers rate more than the lower tiers which could cause revenue instability.

Committee Member Burgard asked at what point is an estimated usage of 70,000 gallons unreasonable, what is the breaking point? Ms. Bailey answered that the high-volume water users are being charged significantly more than what the water costs the utility. When the high-volume water users decide it is enough and they want to reduce their consumption, then SAWS will have to make up that revenue elsewhere. Ms. Ivey clarified further that the inclining block structure is recommended; the only caution is when the differential between the highest and lowest tiers is increased too much, and the focus is very high percentage increases to high-volume users. An 8% increase to a \$500 bill is significantly higher than the same increase for lower bills.

Chairperson Gonzales asked the committee present in-person and virtually if there were any questions.

Committee Member Ramiro Cabrera asked if the wastewater option assumed the average winter consumption? Ms. Bailey responded that it will be discussed at the end of the presentation under the Other Rate Issues.

Committee Member Steve Alaniz asked if there is a reason why Option 4 under Revenue Stability does not have a green checkmark or a red 'x'? Ms. Bailey and Mr. Doug Evanson, Chief Financial Officer & Senior Vice President, responded that revenue stability was neither positive nor negative for Option 4 because the revenue risk is not significantly different from the existing risk, unlike Options 2 and 5.

Committee Member Vaughn Caudill commented that he started watering his yard and now uses 7,000 to 8,000 gallons per month and that he personally will pay whatever it would cost to water his grass; however, given that

others are not as fortunate and other costs are going up, there are some communities that may not be so fortunate.

Ms. Ivey continued to the residential class discussion points. She asked if the committee could reach a consensus on a residential water rate structure and a residential wastewater rate structure.

Committee Member Alaniz commented to the RAC that all the options presented are rate decreases for low volume users and that the new rate option should not be viewed as a rate increase. He likes that Option 4 increases the rate for people using more than 10,000 gallons less than Options 2 and 5. He believed that Option 4 includes the least amount of risk and the most stability for revenues.

Committee Member Ramiro Cabrera commented that he was in favor of Option 5. Although he wanted to see the lower tiers a little lower, he liked the lower fixed cost for the lower tiers and the higher volumetric and fixed charges for higher water usage.

Committee Member Burgard responded to Committee Member Cabrera and mentioned that she prefers Option 2, but she can come to a consensus as well for Option 5.

Chairperson Gonzalez read comments on behalf of Committee Member Preston Woolfolk, who was absent. He was in favor of Options 4 or 5 and believed that those accomplished the goals that the committee established while also providing SAWS with revenue stability.

Committee Member Smyle agreed with Committee Member Alaniz that all the options presented seem to have similar percentage impacts and that the 11,000-gallon range does show some signs of risk for all the options, but generally across the other ranges, it does not seem alarming.

Ms. Ivey reminded the committee that all three of these options are designed to generate the same amount of revenue, assuming the projected usage patterns for 2022. The revenue risk analysis assumes a rainy year, which would result in reduced usage under all options and varying revenue shortfalls. However, if you calculate the revenue using the projected 2022 usage, all three options will generate the same revenue.

Committee Member Pat Wallace commented that she was in favor of Option 4 because it hit all the RAC's priorities. She believed that it is important to have revenue stability within the rate structure to provide SAWS with the ability to have funds for things like infrastructure updates.

Committee Member Jeff Harris commented on the virtual chat that he was in favor of Option 4.

Committee Member Alfred Montoya commented that he was strongly in favor of Option 2 because it reduces the rates the most for the low-volume customers who may not have as much elasticity in their water use. He also mentioned that weather has been discussed as a risk, but over the years the weather risk evens itself out. Option 2 provides the most equity and leads to more conservation.

Committee Member Smyle commented that SAWS is currently 50% over target in their unrestricted funds. The target is 300 days, and they are at 420 days. He believed that SAWS is in great financial health, it does a great job in maintaining a financial cushion and that cushion allows for discussion of Option 2.

Chairperson Gonzalez commented that there was flexibility with the fixed charges in Option 5 and the increases in the higher tiers were not as high when compared to Option 2.

Committee Member Allyson McKay commented that she was in favor of Option 4.

Committee Member Stephen Lara was also in favor of Option 4 because it met all the needs for SAWS committee, however he hopes that SAWS will be ready for the growth and new population to provide support to its customers.

Committee Member Drennon commented that she is in favor of Option 2 but would support Option 5. She also mentioned that not all low-usage customers are low-income customers. She would like to discuss the affordability program to get a deeper understanding of the population before coming to a consensus on residential rate structure.

Committee Member Burgard asked the committee if those in favor of Option 4 and Option 2, could we come to a consensus on Option 5?

Committee Member Steve Alaniz said that Option 4 meets every single priority that the SAWS committee agreed upon, however he could agree with Option 5.

Committee Member Jeff Harris commented that he agrees with Option 4 because it meets all the committee's priorities but can align with Option 5.

Chairperson Gonzalez circled back to the Residential Class decision points and asked the committee if there is a consensus on wastewater. The committee came to a consensus on Option 1 for wastewater.

Ms. Bailey explained that affordability metrics for essential use can be viewed on Slide 32. An example mentioned was under Option 2 where water customers at 150% of the Federal Poverty Level who use about 5,062 gallons of water and wastewater (average winter usage) would see a bill of about \$56.47 (with stormwater) and that is about 1.63% of their monthly income. Under the existing rate it is about \$64.58 with stormwater, or 1.86% of monthly income. She reminded the committee that all users who use 9,000 gallons per month or less will see a reduction under all three options, so if they are at 150% of the Federal Poverty Level, their bills will still decrease even though they do not qualify for the Uplift Program, which starts at 125% of the Federal Poverty Level.

Committee Member Drennon replied that this information is very helpful and confirmed that the Uplift Program currently includes 34,000 customers.

Chairperson Gonzalez moved the presentation forward to discuss Affordability. After the Affordability discussion, the committee will then discuss the water rate structure for Residential Class.

AFFORDABILITY RATE DESIGN

Ms. Ivey continued the presentation with the Affordability Program. The current program provides a fixed bill discount based on income level. The amounts shown on Slide 36 are the maximum discounted amounts at each income level. For low volume customers, this could zero out their bill but for large households with high water usage, the discount is not as impactful.

Ms. Ivey presented two separate Affordability rate structure options for the RAC's consideration. Option A was presented previously, but Option B is new.

- Option A – 3 Tiers
 - Water fixed charge is \$1.50 for all customers in the program
 - Tier 1: 0 to 10,000 gallons is \$2.40 per 1,000 gallons
 - Tier 2: 10,001 to 15,000 gallons is \$4.80 per 1,000 gallons
 - Tier 3: 15,001+ gallons is \$7.20 per 1,000 gallons
 - Wastewater fixed charge is \$1.50 for all customers in the program
 - Tier 1: 0 to 10,000 gallons is \$1.500 per 1,000 gallons
 - Tier 2: 10,001+ gallons is \$2.325 per 1,000 gallons
 - Program cost for water and wastewater combined is \$17,790,381
 - Affordability program cost recovery fee would be \$0.360 per 1,000 gallons
- Option B – 5 Tiers
 - Water fixed charge is \$3.00 for all customers with usage above 2,000 gallons
 - Tier 1: 0 to 2,000 gallons is \$0.000 per 1,000 gallons
 - Tier 2: 2,001 to 6,000 gallons is \$2.650 per 1,000 gallons
 - Tier 3: 6,001 to 10,000 gallons is \$3.975 per 1,000 gallons

- Tier 4: 10,001 to 15,000 gallons is \$6.625 per 1,000 gallons
- Tier 5: 15,001+ is \$9.275 per 1,000 gallons
- Wastewater fixed charge is \$0.00 for all customers
- Tier 1: 0 to 2,000 gallons is \$0.000 per 1,000 gallons
- Tier 2: 2,001+ is \$2.700 per 1,000 gallons
- Program Cost for water and wastewater combined is \$17,675,562
- Affordability program cost recovery fee would be \$0.304 per 1,000 gallons

Ms. Ivey presented the combined bill impact graphically. Option A showed a reduction for all bills except those in the 0 to 2,000 gallons per month range. Option B shows a reduction for all usage levels, even those in the 0 to 2,000 gallons per month range and includes a larger discount for users between 5,000 and 15,000 gallons per month. The dotted line is the percent change in the monthly bill, which is around 50% for customers who use more than 5,000 gallons per month.

Ms. Ivey presented a comparison of the existing affordability program to the separate affordability rate structure options. The existing affordability discount for customers who are at 50% of the Federal Poverty Level results in a bill of \$38.44 with stormwater for 5,277 gallons of usage, which is the average winter usage for current program participants. That bill would be reduced to \$29.34 with Option A and \$27.54 with Option B.

Ms. Ivey continued to show a comparison of the bills for program participants and non-participants under existing rates to the bills under the three rate options. An example presented for Option 2 shows the combined bill for customers at 50% of the Federal Poverty Level would be \$30.28 in comparison to Option A which is \$29.34 and Option B which is \$27.54.

Ms. Bailey explained that one of the advantages of a separate rate structure for affordability is that you no longer focusing on each Federal Poverty Level, everyone at or below 125% of the Federal Poverty Level can take advantage of lower rates.

Ms. Ivey moved the presentation to the Affordability Program Decision Points.

Chairperson Gonzales asked the committee if they want the existing discount program or a separate rate structure.

The Committee came to a consensus for a separate rate structure.

Chairperson Gonzales asked the committee which option, A or B, for the separate rate structure?

Committee Member Burgard spoke in favor of Option B because the volumetric Tier 1 rates for both water and wastewater are \$0.00, which could really help senior individuals living on a fixed income.

Ms. Bailey said that Option B is designed to eliminate the bill increase that a customer at 50% of the Federal Poverty Level with usage between 0 and 2,000 gallons would see under Option A. The purpose of the tiers in the affordability rate structure is to send a price signal, which may alert a customer to a leak. Once we are able to implement smart meters across the entire service area, we will be able to identify leaks much earlier for these customers.

Committee Member Smyle commented that when looking at the affordability discount program, two numbers stuck out to him. One number was that 24% of affordability customers are still getting their water shut off. The second number was that the average water usage was quite high under the affordability program.

Chairperson Gonzalez redirected the committee back to the decision points for affordability.

Committee Members Wallace, Benavides, Lara and Harris, all virtual attendees, were in favor of Option B.

The committee came to a consensus for Option B as a separate affordability rate structure.

Ms. Bailey commented to the committee that the cost of the current affordability program is about \$8 million, and the estimated cost of the proposed affordability program Option B is around \$17.7 million. The cost could be recovered through a uniform rate per 1,000 gallons charged to all non-affordability program customers, including residential and non-residential customers, for all water usage.

Committee Member Alaniz asked how the current \$8 million is collected for the affordability program?

Ms. Bailey replied that it is built into the current rate and the separate affordability recovery charge for Option B would be removed from the current tiered rate structure and the full cost would be recovered through a uniform volumetric rate.

Mr. Evanson mentioned that Austin has a similar affordability charge listed as a separate line item on the customer bills.

Committee Member Burgard asked if residential customers will see an increase from the separate affordability rate structure under Options 2, 4, and 5.

Ms. Bailey replied that the tiers in Options 2, 4, and 5 will go down from the removal of the current Affordability program costs but then would increase by the uniform rate for the Affordability Program.

Chairperson Gonzales asked the committee if there is a consensus for a separate charge to fund the Affordability Program or to continue to cover the cost of the program within the cost of service rates?

Committee came to a consensus for a separate charge to fund the Affordability Program.

Chairperson Gonzalez redirected the committee back to the Residential Class decision points on Slide 34.

Chairperson Gonzalez reviewed her notes regarding the status of the committee on the Options. Committee Members are strongly for either Options 2 or 4 but could agree on Option 5.

Committee Member Steve Richmond commented he was strongly in favor of Option 4.

Committee Member Benavides is strongly in favor of Option 2.

Committee Member Wallace is strongly in favor of Option 4 because it checks off all the committee's priorities.

Chairperson Gonzalez reminded the committee of consensus-based decision making. A consensus is if you can say any of the following:

- I can say an unqualified "yes"
- I can accept the decision
- I can live with the decision
- I do not fully agree with the decision, but I am willing to move forward with the group's decision

Committee Member Burgard stated that she was firm on Option 2 but would be willing to move forward with Option 5.

Committee Member Benavides asked if she was reading the graph on Slide 12 correctly that the first tier under Option 5 showed an increase?

Ms. Ivey replied that yes, the first-tier rate increases but the fixed charge decreases, which results in a decreased bill.

Ms. Bailey asked to go to Slide 13. Under all 3 options any customer using less than 9,000 gallons is seeing a reduction on their water bill. For customers using more than 9,000 gallons, Options 4 and 5 provide a little more of a break than Option 2.

Committee Member Burgard commented that she favors Option 2, however when comparing Options 4 and 5, Option 5 has a lower second tier amount than Option 4.

Committee Member Alaniz agreed and said that more than half of the bills fall within Option 5's second tier, which is \$4.794 per 1,000 gallons compared to Option 4's second tier at \$6.365.

All Committee Members attending in person came to consensus with Option 5. Committee Members Wallace, McKay, Lara and Harris, all virtual attendees, said they could align with Option 5.

Ms. Bailey mentioned to the group that if the committee can come to a consensus, SAWS staff will present that option to the Board but will include comments like concerns and reservations.

Ms. Bailey asked Committee Member Benavides, who was virtually present, if she could align with Option 5. Committee Member Benavides stated that if she is the only one not in agreement with the committee then she is willing to align with Option 5.

Committee Member Burgard agreed with Committee Member Benavides and said that she was also in favor of Option 2 but could agree with Option 5.

Committee came to a consensus on Option 5 for Residential Class water rate structure.

RECYCLED WATER RATE DESIGN

Ms. Ivey continued the presentation to recycled water. The slides address the follow-up requests from the prior meeting.

Ms. Ivey presented some general industry guidance from two American Water Works Association (AWWA) publications.

- *AWWA Principles of Water Rates, Fees, and Charges M1 Manual (7th edition, 2017), Chapter V.1*
 - Financial analysis focuses on revenues and expenses and is the primary method of determining rates. For recycled water rates, an economic analysis can be used to consider other factors like avoided cost of alternative water supplies, enhanced drought resistance, environmental sustainability.
 - Recycled water is an "imperfect substitute" for potable water, which often dictates a lower price.
 - Uniform rates are the most common rate structure for recycled water.
- *AWWA-sponsored Water Reuse Cost Allocations and Pricing Survey (2019)*
 - 19 utilities were surveyed, including SAWS.
 - Almost all provided recycled water primarily for irrigation purposes (18).
 - Most identified cost of service as a key driver for pricing (16).
 - Half subsidized recycled water costs with potable water or wastewater rate revenue (10).
 - 3 utilities set recycled water rates as a percentage of potable water rates (50-100%).
 - 2 utilities set recycled water rates based on market or contract pricing.

SAWS has three recycled water customers with Edwards Aquifer rights who use more than 25 million gallons per year:

- USAA
- Microsoft
- Oak Hills Country Club

The historical cost of service for recycled water for the prior rate studies was:

- 2015- \$9,876,229
- 2020- \$8,790,640
- 2022- \$9,167,915

The recycled water recommendation from the 2019 RAC imposed an initial 15% increase and then 10% per year for the next four years. Bill impacts were shown for the average high, medium and low use recycled water customers

(based on 2021 average annual usage) with the 15% increase. The average high user currently has an average annual charge of \$99,453.39, the 15% increase would equate to an \$14,926.57 increase, the total bill would be \$114,379.96. The City of San Antonio river flows would increase from a proposed annual charge of \$831,014.13 (at the Edwards Exchange rate) to \$955,666.25 with the 15% rate increase. The city's proposed annual charge is contingent upon the approval of the new recycled water agreement.

Ms. Bailey mentioned that the goal is to keep the current conservation rates at the same level.

Committee Member Smyle asked why the recycled water subsidy is allocated to the Residential Class and Irrigation Class but not to the General Class?

Ms. Ivey answered that the General Class customers are paying for the recycled water subsidy through the Irrigation Class rates. She reminded them that General Class usage is separated into non-discretionary usage, which is charged at the General Class rates, and discretionary or outdoor usage, which is charged at the Irrigation Class rates.

Committee Member Alaniz asked if the top three users of recycled water who have Edwards rights will likely continue to use the recycled water. Ms. Bailey replied that the users may have Edwards Rights but may not have wells and so it may not be a quick decision to stop using recycled water.

Ms. Ivey summarized the impact of a 15% increase to recycled water rates in the first year:

- Any increase to recycled water rates, assuming Irrigation revenue remains constant, results in decreased cost of service for Residential, General, and Wholesale customers
- The latest negotiated annual payment from COSA is \$831,014 at current rates, which results in decreased cost of service:
 - Residential cost of service decreases by 0.5%.
 - General cost of serve decreases by 0.1%.
 - Wholesale cost of service is decreases by 0.1%.
- A 15% increase to recycled water generates an additional \$572,402, which when combined with the COSA revenue results in decreased cost of service:
 - Total Residential decrease is 0.8% (\$0.044 per 1,000 gallons).
 - Total General decrease is 0.2% (\$0.008 per 1,000 gallons).
 - Total Wholesale decrease is 0.2% (\$0.008 per 1,000 gallons).

Ms. Ivey asked if there is a consensus regarding the Recycled Water rate increase? Chairperson Gonzalez read recycled water comments from Committee Member Preston Woolfolk who agrees with the 2019 RAC's recommendation of 15% increase for the first year and 10% per year thereafter.

The RAC came to a consensus to proceed with the 2019 RAC's recommendation for Recycled Water for a 15% increase in the first year and 10% for years 2-5.

OTHER RATE ISSUES

Mary Bailey continued the presentation to discuss the basis for estimating Residential wastewater volume.

- SAWS bills Residential wastewater usage based on Average Winter Consumption (AWC).
- AWC is an estimate of monthly sewer volume.
 - Based on average water usage during 3 consecutive billing periods between November 15 and March 15.
 - Fixed monthly billable wastewater volume regardless of actual water usage during the month being billed.
- 25 to 30% of all Residential bills have water usage less than the corresponding AWC.
- Customers have complained that they are being overbilled for sewer.
 - Would like SAWS to bill for sewer based on the lower of AWC or actual water use.
 - Residential volumetric wastewater rates would need to increase by about 14%to recover an estimated \$12 million loss in revenue due to that change.

- SAWS staff recommendation:
 - AWC represents a reasonable approximation of sewer discharge throughout the year.
 - Continue current practice of charging AWC regardless of actual water usage.

Chairperson Gonzalez asked who are the 25 to 30% of residential users that have water usage less than the AWC? Ms. Bailey answered that there is not an exact demographic, but an example could be a family who were out of town for a while or even people who only live at their residence during the winter season, Winter Texans.

Chairperson Gonzalez asked the committee if there is consensus to leave the current practice of charging the AWC regardless of actual water usage?

Committee came to a consensus to continue billing residential wastewater usage based on average winter consumption.

Ms. Bailey commended the committee on their progress throughout the meeting and that the consensus options for Residential and Affordability will be extremely beneficial.

Ms. Bailey explained that there has been a Council Consideration Request, which was submitted by one of the councilmembers to the City's Governance Committee, which asked the utilities to explore freezing the rates charged to senior citizens, disabled citizens, and disabled veterans. Ms. Bailey explained that SAWS has consulted with their attorneys, who have consulted with other attorneys, and believe that it is not statutorily authorized to provide discounts to those listed groups. SAWS can provide discounts based on income, but not based on age, etc. Ms. Bailey commented that the work that the RAC has done with affordability customers and even non-affordability customers will significantly help those in need.

Nancy Belinsky, Vice President of Legal & General Counsel, explained that this item would go back to City Council during SAWS normal briefings regarding the rate structure recommendations. Ms. Bailey explained that the committee was briefed on this item to inform them about the request and explain how the work the RAC has done will have an impact on the listed groups.

NEXT STEPS

- Discuss other rate issues: duplexes and drought surcharges
- Summarize RAC rate recommendations

CLOSING COMMENTS

There were no closing comments by the committee members or SAWS staff members.

ADJOURNMENT

Chairperson Gonzalez adjourned the meeting at 8:48 p.m.

NEXT MEETING

The next meeting of the RAC will be held on June 28, 2022, at 6:00 p.m. and will be a hybrid meeting offering attendance virtually and in person.



SAWS RATE ADVISORY COMMITTEE MINUTES
SAWS Headquarters, 2800 U.S. Hwy 281 North, San Antonio, Texas 78212
Via WebEx Video Conference
Tuesday, June 28, 2022
6:00 p.m. to 8:30 p.m.

Committee Members Present:

Frances Gonzalez – Committee Chair
Patrick Garcia, Committee Vice Chair, San Antonio Manufacturers Association
Christine Drennon, District 1
Velma Willoughby-Kemp, District 2
Karen Burgard, District 3
Alfred Montoya, District 5
Ramiro Cabrera, District 6
James Smyle, District 7
Patricia Wallace, District 8
Joseph Yakubik, District 9
Vaughn Caudill, District 10
Steve Alaniz, Hispanic Chamber
Jeff Harris, Recycled Customer
Cacie Madrid, San Antonio Chamber of Commerce
Steve Richmond, San Antonio Restaurant Association
Tamara Benavides, Hotel & Lodging Association
Allyson McKay, San Antonio Apartment Association
Preston Woolfolk, Northside Chamber of Commerce

Committee Members Absent:

Genevieve Trinidad, District 4
Mike Chapline, Outside City Limits
Stephen Lara, Balcones Heights

San Antonio Water System Staff Present:

Doug Evanson, Chief Financial Officer & Senior Vice President
Mary Bailey, Vice President of Customer Experience & Strategic Initiatives
Nancy Belinsky, Vice President of Legal & General Counsel
Lisa Mireles, Board of Trustees Senior Executive Management Analyst
Cecilia Velasquez, Senior Director of Financial Services/Controller
Gavino Ramos, Vice President of Communications & External Affairs
Jaime Castillo, Chief Strategy Officer/ Chief of Staff
Phyllis Garcia, Senior Director of Financial Services/Treasurer

Lou Lendman, Budget Manager
Keith Martin, Senior Corporate Counsel
Donovan Burton, Vice President of Water Resources & Governmental Relations
Karen Guz, Director of Water Conservation

Consultants Present:

Jennifer Ivey, Carollo Engineers, Project Manager
Bridget Weber, KGBTexas Communications, Public Affairs
Elissa Garza, KGBTexas Communications, Public Affairs

CALL TO ORDER BY CHAIRPERSON

The meeting was called to order by Chairperson Frances Gonzalez on June 28, 2022, at 6:07 p.m.

CITIZENS TO BE HEARD

Chairperson Gonzalez started the Citizens to be Heard portion of the meeting. No citizens registered to speak.

OPENING REMARKS AND INTRODUCTIONS

Chairperson Gonzalez reviewed the mission of the RAC, the committee decision-making process, and the full committee meeting schedule.

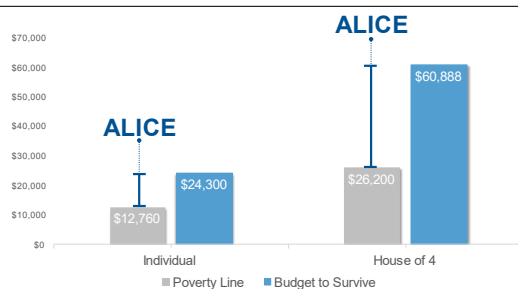
Chairperson Gonzalez welcomed United Way for a special presentation to the RAC.

Jason Aleman, Vice President of Ready Children, began his presentation and explained the mission “to unite the community to identify and solve our most critical issues” and vision “to live in a diverse and thriving community where everyone has the opportunity to achieve their potential”.

The presentation continued to explain ALICE (Asset Limited, Income Constrained, Employed). ALICE includes households with earnings above the Federal Poverty Level, but not enough to afford the bare-bones ALICE household budget. Based on 2018 Bexar County data, approximately 17% households earn less than the Federal Poverty Level and 35% are within ALICE (52% of households are not able to afford the survival budget).

Emily Kittrell, United Way Program Performance Analyst and Coach continued the presentation. Ms. Kittrell explained the household survival budget includes housing (which includes utilities), childcare, food, transportation, health care, technology, miscellaneous/savings and taxes and varies based on the type of household (i.e., single adult, one adult, one in childcare, two adults, single senior, etc.). An individual that falls within ALICE makes an annual income of \$12,760 compared to \$24,300 which is the budget needed to afford essentials. A household of four, two adults and two children, falls within ALICE with an annual income of \$26,200 compared to \$60,888, which is the budget needed to afford essentials. Ms. Kittrell explained how the Federal Poverty Level compared to ALICE on the presented slide below.

Who Is ALICE?



Vice Chairperson Patrick Garcia asked Ms. Kittrell what United Way is doing since the data was pre-pandemic and the statistics are probably going to be worse? Ms. Kittrell explained that United Way is not waiting for the new data, the 2018 data is compelling enough for their Board to start shifting their programs and working with their partners to support ALICE households.

Dr. Aleman and Ms. Kittrell thanked the committee members for their time and efforts serving on the RAC, while being mindful of communities in need.

STANDARD MEETING INFORMATION

Chairperson Gonzalez reviewed the minutes from the committee meeting on June 7, 2022. There was one edit requested. Committee Member Smyle requested that the minutes reflect the information on item #52 in the Requests and Responses Matrix.

OTHER RATE ISSUES

Mary Bailey, Vice President of Customer Experience & Strategic Initiatives, began the presentation on other rate issues.

Duplexes

Duplexes are currently billed under the Residential rate structure. Duplexes are only two units. Three or more units per meter are considered multi-family and fall under the General rate structure. A common complaint from duplex customers is that they should be provided more usage in each rate block.

In 2021, less than 1% of total residential accounts were attributed to duplexes, which is about 4,300 customers. Duplexes' average monthly usage is 6,956 gallons which is 20% more than the residential average. Ms. Bailey also pointed out that most utilities do not provide duplexes with more usage per rate block than single-family residences.

SAWS staff does not recommend a separate rate block for duplexes. Staff reported that the difference between duplex and single-family usage is not significant enough to support additional usage within each rate block.

Committee Member Christine Drennon asked about incorporating duplexes with multi-family units in the General Class. Ms. Bailey responded that duplexes would benefit from the recommended reductions to the Residential fixed charges.

Wholesale Class

Ms. Bailey continued the presentation on Wholesale Class water. The current rate structure includes a fixed charge and a 2-tier volumetric rate based on contracted volumes. The overall cost of service has increased by 3.8% before the affordability cost is allocated. Nearly all wholesale usage is within Tier 1, so the Tier 2 rate is intended to send a signal that they are exceeding their contracted amount.

The SAWS staff recommendation for Wholesale Class water is to maintain the current rate structure with a reduced rate differential for Tier 2. The Tier 2 rate differential will be reduced from a multiplier of 3.0x to 2.0x to reflect the impact of exceeding the contracted amount more accurately.

Wholesale Class wastewater has a current rate structure that includes a fixed charge and a uniform volumetric rate. The overall cost of service has decreased by 4.1% before the affordability cost is allocated.

SAWS staff recommends leaving the fixed charge as is for Wholesale Class wastewater and updating the volumetric rate with the final cost of service.

Drought Surcharge

SAWS currently has an approved drought surcharge. The surcharge is “to discourage discretionary water consumption by customers during any time designated by the City Council.” The drought surcharge is assessed during Stage IV of water use reduction measures. Any changes that need to be made to the existing drought surcharge should be evaluated in connection with SAWS policy related to drought management.

Donavon Burton, Vice President of Water Resources & Governmental Relations, continued the presentation and explained the Water Management Plan (WMP) development process. The Water Management Plan is a comprehensive 50-year outlook of SAWS water supplies and is a guiding document to meet long-term water needs of SAWS’ customers. It is updated approximately every five years.

Mr. Burton continued to present the core topics that are discussed in the WMP:

- Population
- Growth & Development
- Conservation
- Water supplies
- Climatic & Aquifer Conditions
- Integration & Infrastructure
- Wholesale Partnerships

Demand reduction focuses on conservation and water loss tools, which can be the following:

- Technology
- Water Rules
- Pricing Signals / Drought Surcharge
- Drought Scenarios
- Enforcement
- Nonrevenue Water

Mr. Burton explained the 2022 WMP Schedule:

- Cross Departmental Participation – Ongoing
- Board Meeting Briefings – Now through completion
- Community Outreach and Engagement – During Plan Development
- Internal Taskforce Kickoff – Spring
- Draft 2022 WMP – Summer/Fall
- Community Comment, Draft Plan – Summer/ Fall
- COSA Council Briefing – Fall
- Board Consideration – By end-of-year

Committee Member Joseph Yakubik asked if there were any new major SAWS projects planned in the future. Mr. Burton replied that based on the 2017 WMP, SAWS has two projects set for 2040 and 2050 but they are expansions on current facilities and are not new projects.

Committee Member Christine Drennon asked if SAWS has ever considered implementing Stage 3 and Stage 4 water restrictions. Karen Guz, Director of Water Conservation, replied that Stage 2 is effective and typically results in the intended amount of conservation, but Stage 3 deliberately has a clause that requires SAWS to determine if it has enough supplies to meet customer demand. Therefore, we’ve never had to move into Stage 3 based on our supplies and conservation enforcement efforts.

Committee Member Drennon asked why there are water restriction stages if there is a drought surcharge. Ms. Guz answered that the city ordinance was crafted so SAWS can communicate water restrictions and utilize other tools

instead of going directly to a drought surcharge. Ms. Guz mentioned that this topic will be discussed and analyzed by the WMP task force.

Committee Member Yakubik asked Ms. Guz why the media is reporting record pumping numbers when she mentioned that Stage 2 water restrictions are sufficient. Ms. Guz answered that the SAWS team is rigorously enforcing the Stage 2 water restrictions and are getting the results needed. However, we would rather that it not escalate further.

UPDATED COST OF SERVICE

Jennifer Ivey, Project Manager at Carollo Engineers, presented the updated cost of service.

Recycled water had two major changes: added the revenue from the new City of San Antonio recycled water contract to sustain San Antonio River flow; and the recommended initial 15% recycled water rate increase for the first year. The additional Recycled Water revenue will be reallocated to Residential, General, and Wholesale.

The budgeted cost of the current affordability program was removed from the cost of service so the full cost of the recommended affordability rate structure can be recovered through a proposed affordability program cost recovery fee.

The original cost of service for water was estimated at \$500,655,114. The updated cost of service is \$496,464,611 with the removal of the current affordability discount program cost. Ms. Ivey explained the beneficial reallocation for the recycled shortfall (based on discretionary usage) and then the beneficial reallocation for irrigation (based on cost of service).

Committee Member Yakubik asked if the recycled water volume was updated after the City of San Antonio contract revenues were included in the analysis. Ms. Bailey explained that the consumption did not change since the City of San Antonio's consumption had been included in the original cost of service analysis.

Vice Chairperson Garcia asked if the negotiations with the City of San Antonio regarding the contract amount had been finalized? Ms. Bailey explained that the City Council has approved the contract and SAWS Board will be approving the contract in the July Board meeting.

The original cost of service for wastewater was estimated at \$284,801,446. The updated cost of service is \$280,798,808 with the removal of the current affordability discount program cost.

Ms. Ivey explained that these were the new cost of service targets for water and wastewater and were plugged into the rate model to determine the updated fixed and volumetric charges for each class.

REVIEW RAC RECOMMENDATIONS

Ms. Bailey addressed an email that was received from Committee Member Yakubik regarding item #52 of the Requests and Responses Matrix. During RAC Meeting #6, Committee Member Smyle mentioned that 20% of the residential customers use 50% of the water. Ms. Bailey explained that he was correct. In 2020, 20% of our customers used 52% of the water, which was 57% of the revenues. She also explained that by using Option 5 rate recommendations, the percentage of revenues would increase to slightly higher than 60%.

The RAC agreed on the Residential Water Rate Design by selecting Option 5 at Meeting #6. Option 5 includes a two-tier fixed charge and a five-tier volumetric rate. Volumetric rates were recalculated with updated cost of service and affordability program cost recovery charge, assuming no change to the proposed fixed charge and tier differentials. The recommended rate structure reflects the pricing objectives of affordability, conservation, and simple to understand.

Vice Chairperson Patrick Garcia asked if the revenue changed from going from eight volumetric rate tiers to five? Ms. Ivey answered that every option they presented generated the same revenue under the same usage assumptions.

Ms. Ivey presented the residential water bill impacts, which displayed the current rates, proposed rates and the cumulative percentage of bills. The proposed rates result in a decreased bill for water usage under 10,000 gallons and an increased bill for usage above that amount.

Ms. Ivey explained the histogram for residential water bill impacts by percentage change. The chart grouped percentages of rate decreases and increases in buckets based on the percentage of impacted customer bills. The largest share of bills, at 33.5%, is projected to have a 5 to 10% decrease in their water bill.

For the residential wastewater rate design, the RAC came to a consensus on Option 1 at Meeting #6. Option 1 includes a fixed charge and a two-tier volumetric rate. Volumetric rates were recalculated with updated cost of service and affordability program cost recovery charge, assuming no change to the proposed fixed charge and tier differentials. The recommended rate structure reflects cost of service, promotes affordability and is easy for customers to understand, meeting several previously outlined pricing objectives.

The line graph was presented that displayed the residential wastewater bill impacts showing that the proposed rates result in a decrease for all bills.

Most residential wastewater bills (50.9%) are projected to decrease by 5 to 10% according to the bill impact histogram on slide 35.

Ms. Ivey presented the residential affordability metrics for a combined bill at an “essential usage” level (5,062 gallons of water and wastewater). The proposed inside city limits and outside city limits rates generate a reduction in the combined bill at this usage level compared to existing rates. The combined bills under the proposed rates would account for no more than 3% of a household’s income at 100% of the Federal Poverty Level, 150% of the Federal Poverty Level, Bexar County median, and the ALICE threshold.

Committee Member Yakubik asked for clarification that ALICE median accounts for two adults and two children. Ms. Ivey responded yes.

LOW-INCOME RESIDENTIAL WATER AND WASTEWATER RATES

The RAC agreed on the low-income/affordability residential water Option B at Meeting #6, which includes a two-tier fixed charge and a five-tier volumetric rate. The cost of the low-income rate structure is recovered through an affordability program cost recovery charge, which is assessed on all non-affordability residential, general class, and irrigation usage. Proposed affordability program rates acknowledge the high percentage of poverty within the city and are equal or exceed the existing program benefits at all levels of usage. Proposed affordability program rates address the pricing objectives of affordability, conservation, equity, and simple to understand.

The low-income residential water rate design shows that there is no charge for Tier 1 usage for inside city limits and outside city limits. The volumetric rates for inside city limits and outside city limits only differ in their water delivery rates after Tier 2.

Committee Member Vaughn Caudill asked if a low-income customer that uses more water in certain months than others will see a large increase on their bill. Ms. Ivey answered that regardless of the month the customer will not pay more than what the customer is paying for the current Affordability Discount Program.

A line graph was presented that represents the water bill impact for low-income residential rates demonstrating a significant bill decrease using the proposed rates as compared to the current rates for individuals experiencing poverty at all levels.

A histogram was shown on low-income residential water bill impacts demonstrating that the largest group of 46.7% of applicable customers would receive a 40% to 60% decrease in their water bill.

The presentation continued to discuss low-income residential wastewater rates. The RAC agreed on Option B for low-income wastewater rates at Meeting #6. Option B is a two-tier volumetric rate with no fixed charge. The cost of the rate structure is recovered through an affordability program cost recovery charge, which is assessed on all non-affordability residential and general class usage. Proposed affordability program rates acknowledge the high percentage of poverty within the city and increase the benefits at all levels of usage. The histogram presented for low-income residential wastewater bill impacts showed the largest group of 57.6% of applicable customers would receive a 40% to 60% decrease in their wastewater bill.

The low-income residential affordability metrics for essential use combined bill impacts table showed the undiscounted bill with and without stormwater in comparison to the discounted bills.

Chairwoman Gonzalez asked Ms. Bailey if the 125% Federal Poverty Level threshold is a number that is defined by the City of San Antonio, and if so, will that increase the amount needed to fund the affordability program? Ms. Bailey answered that as she understands, the city determines the 125% threshold. She also added that if more people are added into the program, it will make the program cost increase, but that cost will be recovered from fewer customers.

Chairwoman Gonzalez asked if there can be a designated point of contact for this program. Gavino Ramos, Vice President of Communications & External Affairs, answered that SAWS staff will provide the name.

GENERAL CLASS WATER AND WASTEWATER RATES

The current General Class water rate design includes a fixed rate charge and a four-tier volumetric rate based on average annual consumption. The RAC agreed to maintain the current rate structure at Meeting #5. The fixed charge is reduced to match the Tier 2 Residential fixed charge plus the calculated conservation charge of \$1.70 per month for a 5/8-inch meter (scaled up for larger meters). The volumetric rates were recalculated with the updated cost of service and affordability program cost recovery charge assuming there is no change to the proposed fixed charge and tier differentials. The adjusted rates address the pricing objective of cost of service and conservation.

A General Class water bill impacts chart presented shows the proposed bills and the current bills are almost identical except at high monthly usage, where proposed bills are higher. A bill impacts table was also presented to show that low-usage customers would see a decrease of 4% to 5%, the medium-usage customers would see minimal to no difference in their bill, and high-usage customers would see a small increase of about 3% to their bill.

Vice Chairperson Garcia asked if the fixed charge cost varies by meter size. Ms. Ivey responded that yes, the fixed charge costs do vary by meter size. The calculation explanation is provided in the Requests and Response Matrix. The final report to the Board will show both the current and proposed fixed charge costs for each meter size.

Doug Evanson, Chief Financial Officer & Senior Vice President, added that the fixed charges decreased, regardless of the meter size.

At Meeting #5, the RAC came to a consensus on Option 1 for the General Class wastewater rate design, which included a fixed charge and uniform volumetric rate. The fixed charge is reduced to match the Residential fixed charge. The volumetric rates were recalculated with the updated cost of service and the affordability program cost recovery charge. It assumed no change to the proposed fixed charge. The proposed rates address the pricing objectives of cost of service and simple to understand.

A line graph comparing the General Class wastewater bill impacts was presented showing that the proposed bills are higher in comparison to the current bills for all usage levels except for usage under 1,000 gallons. A histogram presented showed that most bills (60.6%) are projected to increase by up to 10%.

A combined General Class bill impacts table showed that a low-usage customer would see a 2% to 3% decrease in their bill whereas medium- and high-usage customers would see a 6% to 7% increase.

IRRIGATION WATER RATES

The current rate structure for irrigation includes a fixed charge and a four-tier volumetric rate. The current rate structure maintains the current revenue contribution and sends appropriate conservation signals. The RAC came to a consensus to maintain the current rate structure (with adjusted tier breakpoints for 1,000 gallons) at Meeting #5. The fixed charge is reduced to match the Tier 2 Residential fixed charge plus the calculated Conservation charge of \$1.70 per month for a 5/8-inch meter (scaled up for larger meters). The volumetric rates were recalculated with updated cost of service and the affordability program cost recovery charge. An irrigation water bill impacts histogram was presented that showed that 44.1% of bills will see a 0 to 3% increase in bills.

Vice Chairperson Garcia asked how the irrigation class is broken down among the other classes. Ms. Bailey replied that almost all irrigation users are in the General Class.

RECYCLED WATER RATES

The current rate structure has two sub-classes (Edwards Exchange and Non-Edwards Exchange) and includes a fixed charge and a two-tier seasonal volumetric rate. Also, the current rate structure generates approximately 33% of the cost of the recycled water system.

The RAC agreed to maintain the current rate structure and affirm the 2019 RAC's recommended rate increase at Meeting #6. The 2019 RAC's recommendation was a 15% increase in the first year and 10% annual increase in years 2 through 5. The recommended increase brings recycled water revenue closer to cost of service while still recognizing the benefits of an alternative water supply, enhanced drought resistance, and environmental sustainability. Additional revenue from the new City of San Antonio recycled water contract was included in cost of service and beneficially reallocated back to residential and irrigation classes. The proposed rate increases plus the City of San Antonio revenue generates approximately 48% of the cost of the recycled water system in year 1 and 71% by year 5, assuming no change in the cost.

A recycled water bill impacts table presented showed the annual average rate per 1,000 gallons over the next five years for existing recycled water customers and the City of San Antonio.

RAC RECOMMENDATION HIGHLIGHTS

Ms. Bailey explained that the RAC's recommendation highlights are talking points that can be taken back to the committee's constituency to discuss the RAC's accomplishments and progress.

Ms. Ivey continued presenting the highlights of the RAC recommendations. The rate recommendations provide sufficient revenue to meet 2022 revenue requirements and are revenue neutral. The rate recommendations meet cost of service by customer class as determined by Carollo Engineers, the rate consultant.

Residential

For residential customers, 83% of water bills are projected to decrease. All residential wastewater bills are projected to decrease. The combined residential bill is projected to decrease 8.4% for essential water use (5,062 gallons per month). The fixed charge for most customers will decrease more than 20%.

Low-income Residential

The separate rate structure with reduced rates will replace the current discount program. The low-income residential rate acknowledges that low-income households may use more water due to larger household size

and/or older plumbing. All customers enrolled in the current Affordability Discount Program will see a reduction in their bill. The bill reductions range from 33% to 57% for essential water use.

General Class

The recommended General class rate structure lowered fixed charges, which will benefit small business/low-volume users. The inclining block rates remain tied to prior year average use, which ensures that customers with peak usage pay higher rates than consistent water users.

Irrigation Class

The inclining block rates will send strong price signals for discretionary outdoor water use.

Recycled Water

The rate recommendations for Recycled Water will begin to close the cost recovery gap while still providing an affordable alternative to potable water use

NEXT STEPS

Ms. Bailey presented next steps outlining that the RAC committee will be provided the draft report by July 15th. The RAC members' comments will be due by July 25th. The final report will be provided to the Board of Trustees on August 2nd. Community outreach efforts will begin in August. The City Council briefings regarding the RAC recommendations will be conducted in September or October. We will be seeking approval from our Board and City Council in November or early December. If the rate structure is approved, the new rates would take effective January 1, 2023.

Chairwoman Gonzalez asked Ms. Bailey to continue providing the RAC with changes and updates that may happen in the coming months with the efforts on the RAC recommendations.

CLOSING COMMENTS

There were no closing comments by the committee members or SAWS staff members.

ADJOURNMENT

Chairperson Gonzalez adjourned the meeting at 8:05 p.m.

NEXT MEETING

This was the last meeting of the 2022 SAWS Rate Advisory Committee.