City of SCOTTSDALE

Water Financial Plan, Cost of Service, and Rate Study

Final Report / January 26, 2024

RAFTELIS

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January 26, 2024

Ms. Gina Kirklin
Scottsdale Water
7447 East Indian School Road
Scottsdale, AZ 85251

Subject: Water Financial Plan, Cost of Service, and Rate Study

Dear Ms. Kirklin,

Raftelis is pleased to provide this Water Financial Plan, Cost of Service, and Rate Study (study) for Scottsdale Water.

The primary objectives of the study included the following:

- A financial plan for the study period FY24 through FY29.
- Cost of service analysis to ensure costs are allocated equitably to customer classes.
- Design rates to recover the revenue requirements of each customer class.
- Develop an interactive rate model for Scottsdale Water to develop financial plans and rates in the future.

The Report summarizes the key findings and recommendations related to the study. The key findings and results are based on data provided as of December 2023. Since that time, the City may have refined and reduced some forecasts which impact the results.

It has been a pleasure working with you, and we thank you and the Scottsdale Water staff for the support provided throughout this study.

Sincerely,

Todd Cristiano

Todd Cristiano
Senior Manager

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Table of Contents

Executive Summary 7
- INTRODUCTION 7
- STUDY GOALS AND OBJECTIVES 7
- STUDY FINDINGS 8
- RELIANCE ON CITY-PROVIDED DATA 9

Section 2: Assumptions 10
- CUSTOMER GROWTH 10
- REVENUE INFLATION FACTORS 10
- EXPENSE INFLATION FACTORS 10

Section 3: Financial Plan 12
- INTRODUCTION 12
- OPERATING FUND CASH FLOW 12
  - Beginning Balance 12
  - Revenues 12
  - Revenue Requirements 13
  - Target Reserves 13
  - Debt Service Coverage Requirements 13
  - Indicated Water Service Revenue Adjustments 13

Section 4: Cost of Service 15
- INTRODUCTION 15
- COST OF SERVICE PROCESS 15
  - Project FY24 Revenue at Current Rates 15
  - Determine Test Year Revenue Requirement 15
  - Functionalize Revenue Requirement 16
  - Allocate Functionalized Costs to Cost Components 17
  - Customer Class Units of Service 18
  - Determine Customer Class Units of Service 19
  - Distribute Costs to Customer Classes 19
- COMPARISON OF FY25 COST OF SERVICE TO REVENUE AT CURRENT RATES 20

Section 5: Rate Design 22
- INTRODUCTION 22
- CURRENT RATES 22
- FY25 COST-OF-SERVICE RATES 23

List of Tables

Table 1: FY25 – FY29 Financial Plan Summary 2
Table 2: Comparison of Current and FY25 Cost-of-Service Rates 3
Table 3: Customer Growth 4
Table 4: Revenue Inflation Factors 4
Table 5: Expense Inflation Factors 5
Table 6: Beginning Fund Balances 6
Table 7: FY25 – FY29 Financial Plan Summary 8
Table 8: Projected FY25 Revenue Under Current Rates 1
Table 9: FY25 Revenue Requirement ($ millions) 2
Table 10: Functional Components 2
Table 11: Revenue Requirement Among Functional Components ($ millions) 3
Table 12: FY25 Allocated Revenue Requirement ($ millions) 4
Table 13: FY25 Units of Service [1] 5
Table 14: FY25 Unit Cost of Service 5
Table 15: FY25 Customer Class Cost of Service ($ millions) 6
Table 16: FY25 Comparison of Cost of Service to Revenue at Current Rates 6
Table 17: FY25 Comparison of Adjusted Cost of Service to Revenue at Current Rates 6
Table 18: Current Rates 8
Table 19: FY25 Cost-of-Service Rates 9
Table 20: Five-Year Rate Forecast, Alt 1 12
Table 21: Five-Year Rate Forecast - Alt 2 13
Table 22: Five-Year Rate Forecast - Alt 3 14

List of Figures

Figure 1: Residential Bill Impacts, 11,500 gallons 17

List of Appendices

Appendix A: Rate Schedules (FY25 – FY29)

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Executive Summary

INTRODUCTION

The City of Scottdale's (City) water utility provides water service to approximately 95,000 customers inside and outside the City. Scottsdale Water is financially self-sufficient, with funding for capital and operating requirements derived primarily from rates. Scottsdale Water authorized this study to ensure that an adequate level of revenue from water rates is maintained to finance Scottsdale Water's daily operations as well as future capital improvements and expansions. The study included the following:

- Development of a water financial plan for the five-year study period, Fiscal Year (FY) 25 to FY29
- Analysis of customer class cost of service
- Design of water rates for the test year of FY25

Raftelis used industry standard methodologies supported by the American Water Works Association (AWWA) *Principles of Water Rates, Fees, and Charges* M1 manual.

STUDY GOALS AND OBJECTIVES

Scottdale Water's overarching goals for this study were to develop long-term financial plans for the water utility while ensuring:

- Rate revenues are sufficient to meet annual operating expenses, debt service, and capital expenditures
- Capital projects are funded with the optimal mix of rate revenue and debt to minimize impacts to customers
- Reserve levels are maintained in accordance with annually adopted Comprehensive Financial Policies, industry best practices, and bond covenants for debt service coverage requirements
- Rates are based on a cost-of-service analysis that equitably recover the cost to provide service to customer classes

In addition to the cost-of-service rate design, Scottsdale Water identified specific pricing objectives to develop the rate alternatives presented in this study. These objectives were guided by two primary goals: revenue sufficiency and defensibility.

- ***Wise use of water***: In conjunction with other Scottdale Water conservation initiatives, water rates promote the wise use of discretionary water.
- ***Rate stability***: Annual rate adjustments produce sufficient revenue to meet annual revenue requirements. This includes determining the appropriate balance between rate increases and debt financing with marginal rate changes from year to year.
- ***Revenue stability***: Produce rates that maintain a steady stream of revenue during periods of water usage variability.
- ***Interclass equity***: Maintain equity between the customer classes (i.e., prevent one class from subsidizing another).

STUDY FINDINGS

The principal findings of this study are as follows:

- Projected water rate revenues should be sufficient to meet annual revenue requirements through the study period. Revenue requirements include operation and maintenance expenses, payments on existing and forecasted debt service, transfers, and rate-funded capital projects while maintaining reserve levels and debt service coverage. It is recommended that the water financial plan be updated annually to reflect current revenue and revenue requirements estimates. Table 1 summarizes the results of the financial plan. The results are based on data provided as of December 2023. Since that time, the City may have refined and reduced some forecasts which impact the results.

Table 1: FY25 – FY29 Financial Plan Summary

Description	FY25	FY26	FY27	FY28	FY29
Annual Revenue Adjustments	11.0%	11.0%	11.0%	11.0%	11.0%
Cumulative Adjustments	11.0%	23.2%	36.8%	51.8%	68.5%
Ending Op Fund Balance, $ mil	$21.2	$22.0	$22.9	$23.8	$24.6
Target Reserves, $ mil	20.4	21.2	22.0	22.9	23.8
Capital Reserves Balance, $ mil	112.5	74.8	50.1	15.3	57.9
Debt Service Coverage[1]	2.69	3.23	3.88	4.66	6.16

- The FY25 cost-of-service rates (FY25 rates) retain the existing rate structure: a monthly service charge that varies by meter size and a volume rate that increases by volume block. Table 2 shows the monthly base fee and volume rates for current FY24 and FY25 rates. Current rates recover approximately 23.1% of total rate revenue from the base fees, while FY25 cost of service rates recover 27.9% of total revenue from the base fees.

[1] Comprehensive Adopted Financial Policies, Policy 9 – Enterprise Funds: 9.07 Debt Coverage Ratio Target. Bond covenants may exist that require maintaining a minimum debt coverage ratio. In order to maintain the city's high bond rating, the city will recommend rates based on a target debt coverage ratio of at least 2.0 times for Water and Wastewater and 1.5 times for Aviation and Solid Waste. For financial planning purposes, the debt coverage ratios will be calculated without consideration of development fee revenues.

Table 2: Comparison of Current and FY25 Cost-of-Service Rates

Description	Current Rates	Alternate 1 (Across the Board Increases)	Alternative 2 (Cost of Service)	Alternative 3 (One Volumetric Rate)
Base Fees, $ per bill				
5/8”	$15.05	$16.71	$16.71	$16.71
3/4”	19.40	21.53	23.05	23.05
1”	27.55	30.58	35.74	35.74
1.5"	45.15	50.12	67.46	67.46
2"	60.20	66.82	105.53	105.53
3"	120.40	133.64	226.09	226.09
4"	188.20	208.90	403.74	403.74
6"	376.25	417.64	828.85	828.85
8"	526.75	584.69	1,526.79	1,526.79
Volume Rate, $ per kgal				
Residential				
Tier 1	$1.65	$1.83	$1.83	$1.70
Tier 2	3.10	3.44	3.43	3.23
Tier 3	4.25	4.72	4.70	4.42
Tier 4	5.70	6.33	6.31	5.95
Tier 5	7.05	7.83	7.80	7.30
Multifamily				
Tier 1	$1.65	$1.83	$1.52	$1.70
Tier 2	3.10	3.44	2.86	3.23
Tier 3	4.25	4.72	3.92	4.42
Tier 4	5.70	6.33	5.26	5.95
Commercial				
Tier 1	$1.65	$1.83	$1.67	$1.70
Tier 2	3.10	3.44	3.14	3.23
Tier 3	4.25	4.72	4.31	4.42
Tier 4	5.70	6.33	5.78	5.95

Note: kgal = 1,000 gallons

RELIANCE ON CITY-PROVIDED DATA

During this project, Scottsdale Water provided Raftelis with a variety of technical information, including cost and revenue data. Raftelis did not independently assess or test the accuracy of such data – historical or projected. Raftelis has relied on this data in the formulation of our findings and subsequent recommendations, as well as in the preparation of this report.

There are often differences between actual and projected data. Some of the assumptions used in this report will not be realized, and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the data or results projected in this report and the actual results achieved, and those differences may be material. As a result, Raftelis takes no responsibility for the accuracy of data or projections provided by or prepared on behalf of Scottsdale Water, nor do we have any responsibility for updating this report for events occurring after the date of this report.

Section 2: Assumptions

The assumptions outlined in this section are utilized to project the number of customer accounts, revenues, and expenses for future years. Changes in these assumptions could materially impact the results of the findings and conclusions. Scottsdale Water staff provided data on customer accounts and usage for FY21 through FY23, actual revenues and expenses for FY22, and budget revenues and expenses for FY23 and FY24. The remaining years of the study were projected based on assumptions shown in this section.

CUSTOMER GROWTH

Table 3 shows customer account growth projections for all customer classes based on discussions with Scottsdale Water. The water conservation savings factor is used to reflect customer reductions in consumption during the study period. Scottsdale Water provided additional consumption to be included in the projections for multifamily on Line 3 and commercial customers on Line 5.

Table 3: Customer Growth

Line No.	Description	FY25	FY26	FY27	FY28	FY29
1	Account growth	1.0%	1.0%	1.0%	1.0%	1.0%
2	Water conservation savings	99.0%	99.0%	99.0%	99.0%	99.0%
3	Multifamily (kgal)	8,675	21,290	1,314	--	--
4	Total multifamily (kgal)	**4,378,978**	**4,408,505**	**4,409,378**	**4,408,937**	**4,408,496**
5	Commercial (kgal)	50,126	142,885	92,773	22,266	--
6	Total Commercial(kgal)	**4,822,540**	**5,015,063**	**5,107,335**	**5,129,090**	**5,128,577**

Note: kgal = 1,000 gallons

REVENUE INFLATION FACTORS

Table 4 shows the revenue inflation factors used to project future miscellaneous revenues and calculate interest earnings. Projections conservatively assume a minor increase in miscellaneous, non-rate revenues throughout the study period. The reserve interest rate is used to calculate the interest earnings income based on projected fund balances and is based on conservative estimates.

Table 4: Revenue Inflation Factors

Description	FY25	FY26	FY27	FY28	FY29
Miscellaneous or other revenues	2.0%	2.0%	2.0%	2.0%	2.0%
Interest earnings	0.5%	0.5%	0.5%	0.5%	0.5%

EXPENSE INFLATION FACTORS

Table 5 shows the expense inflation factors used to project future operating and capital project expenses for the study period. These factors were determined with input from City staff.

Table 5: Expense Inflation Factors

Description	FY25	FY26	FY27	FY28	FY29
General	3.0%	3.0%	3.0%	3.0%	3.0%
Salary	5.0%	5.0%	5.0%	5.0%	5.0%
Benefits	5.0%	5.0%	5.0%	5.0%	5.0%
Utilities	7.5%	7.5%	7.5%	7.5%	7.5%
Chemicals	2.0%	2.0%	2.0%	2.0%	2.0%
Transfers	3.0%	3.0%	3.0%	3.0%	3.0%
Capital	3.0%	3.0%	3.0%	3.0%	3.0%

Section 3: Financial Plan

INTRODUCTION

Scottsdale Water is a self-supporting enterprise fund for the City. Scottsdale Water maintains three funds: the water development fee fund, the water resource fund, and the operating fund. The operating fund tracks activities associated with the daily operations and maintenance of the water utility. Water rates are based on the operating fund. The other two funds are associated with funding from new development and the growth-related capital projects. This study focuses on the operating fund because user rates and fees fund all expenditures.

The other two funds track sources and uses of funds associated with growth-related projects. Scottsdale Water has various funds for the water utility to track activities associated with impact fee revenues and growth-related projects separate from activities associated with the daily utility operations and maintenance. Scottsdale Water maintains distinct funds to monitor the revenue generated from Water Development and Water Resource fees. The difference between revenues and capital expenditures in these funds is subsidized using the operating fund.

The capital cash flow includes capital-related activities.

OPERATING FUND CASH FLOW

The operating fund cash flow tracks activities associated with funding annual operating revenues.

Beginning Balance

The cash balance includes required reserves and unrestricted carryover monies from previous years, which are transferred into the capital fund. The fund balance is projected to be $19.6 million at the beginning of FY24.

Table 6: Beginning Fund Balances

Description	FY24
Operating reserve, 25% of O&M	$19,579,406
Repair and Replacement, 2% of original cost assets	$17,726,530
Capital fund beginning balance	$116,695,229

Revenues

Operating revenue is generated from three main sources: water rate revenue, other revenue, and investment income. The forecasted water service revenue under current rates is based on the expected number of water accounts and billed volume for each customer class. On average, the revenue from current rates amounts to $128.9 million annually throughout the study period, making up approximately 94% of the total operating income.

In addition to water rate revenue, the City receives income from various other sources, including late charges, account initiation fees, non-potable water service charges, resale of water from the advanced water treatment facility, and miscellaneous sources. This additional revenue totals around $8.6 million annually, representing 6% of the total revenue. Notably, approximately $2.7 million of this $8.6 million comes from the resale of water from the advanced water treatment facility.

Moreover, the City foresees a 1% annual growth in accounts over the study period. Anticipating the water consumption associated with significant one-time developments, the planning department has provided a summary of forthcoming significant developments to estimate additional one-time commercial and multifamily accounts.

Revenue Requirements

The revenue requirements encompass various components, including operation and maintenance expenses (O&M), transfers like Advanced Water Treatment, Franchise Fees, and city transfers, debt service payments, as well as cash-funded capital expenditures. O&M, which covers personnel, materials, supplies, and indirect costs linked to collection and treatment expenses, amounts to an average of $86.5 million annually during the study period. On the other hand, the bond debt service averages $22.8 million annually throughout the study period, including payments for a proposed $100 million debt issuance in 2025.

The City has a comprehensive capital improvement plan that outline whether capital is funded by water rates, contractual funds, the development fee fund, or the water resource fund. Transfers from the operating fund are made to the water development fee fund and the water resource fee fund in cases where the annual capital expenditures exceed the fund's revenues. The average annual cash required to finance the rate-funded capital improvement program is $84.4 million for costs associated with the water fund. Additional transfers of a yearly average of $9.1 million are required to the water development and water resource fee funds. Franchise fees paid to the City, transfers to the Advanced Water Treatment Plant, and citywide cost allocation transfers collectively average $14.9 million annually.

Target Reserves

The City has established two distinct reserves to safeguard the financial stability of the water utility and prepare for unforeseen expenses or disruptions to revenue streams. This proactive approach to maintaining ample reserves helps prevent the utility from hastily adjusting rates in reaction to unexpected events. The City ensures an operating reserve amounting to 25% of annual operation and maintenance (O&M) expenses, occasionally denoted as equivalent to 90 days of O&M expenses. Additionally, Raftelis modeled a capital reserve of $17.7 million, representing 2% of the book value of the asset list.[2]

Debt Service Coverage Requirements

Most lenders require that the borrower maintain a minimum debt service coverage (DSC) ratio, where the DSC is defined as net revenues divided by the annual debt service. Net revenues are defined as operating revenues excluding development impact fee revenues less O&M expenses. O&M expenses exclude depreciation expenses. The City's revenue bonds require the water utility to maintain a minimum DSC ratio of 1.25, and the City has a policy to maintain a coverage ratio of 2.00.

Indicated Water Service Revenue Adjustments

Water rate revenue should be sufficient to meet revenue requirements, finance the capital improvement program, maintain adequate reserves, and debt service coverage. The City has identified specific policy reserve requirements for the water utility. These include an operating reserve equal to 90 days of operating expenses and a capital reserve of 2% of original cost fixed assets. These amounts provide a reasonable operating allowance for sound water utility operations and meet revenue cycle interruptions or unanticipated capital expenditures. Annual adjustments of 11.0% are necessary each year from FY25 to FY29. Revenue increases are effective on November 1 each year.

[2] Comprehensive Adopted Financial Policies, Policy 9 – Enterprise Funds: 9.05 Water and Wastewater Asset Replacement Reserve. The city will maintain a "Water and Wastewater Asset Replacement Reserve" in its Enterprise Fund as stated in Policy 2 to provide funding for the repair and maintenance of critical assets.

Table 7: FY25 – FY29 Financial Plan Summary

Description	FY25	FY26	FY27	FY28	FY29
Annual Revenue Adjustments	11.0%	11.0%	11.0%	11.0%	11.0%
Cumulative Adjustments	11.0%	23.2%	36.8%	51.8%	68.5%
Ending Op Fund Balance, $ mil	$21.2	$22.0	$22.9	$23.8	$24.6
Target O&M Reserves, $ mil	20.4	21.2	22.0	22.9	23.8
Capital Reserves Balance, $ mil	112.5	74.8	50.1	15.3	57.9
Debt Service Coverage[3]	2.69	3.23	3.88	4.66	6.16

[3] Comprehensive Adopted Financial Policies, Policy 9 – Enterprise Funds: 9.07 Debt Coverage Ratio Target. Bond covenants may exist that require maintaining a minimum debt coverage ratio. In order to maintain the city's high bond rating, the city will recommend rates based on a target debt coverage ratio of at least 2.0 times for Water and Wastewater and 1.5 times for Aviation and Solid Waste. For financial planning purposes, the debt coverage ratios will be calculated without consideration of development fee revenues.

Section 4: Cost of Service

INTRODUCTION

Equitable water rates fairly recover the cost of service from each customer class. Determination of cost of service considers water use, the rate of use, and number of customers. The cost-of-service analysis is conducted for a test year considered representative of the period in which resultant rates are expected to be in effect. The year FY25 was selected as the test year for this study.

COST OF SERVICE PROCESS

The cost-of-service process is a method to assign costs based on each customer class's proportionate share of water flow characteristics and the number of customers. The cost-of-service analysis consists of the following seven steps:

1. Project FY24 rate revenue at current rates
2. Determine test year revenue requirement
3. Functionalize revenue requirement
4. Allocate functionalized costs to cost components
5. Determine customer class units of service
6. Distribute costs to customer classes
7. Design rates to recover class cost of service and total revenue requirement

Project FY24 Revenue at Current Rates

Raftelis projected FY25 revenue at current rates using detailed billing records provided by the City. Revenue projections are based on the current number of customers by meter size and class, projected use per account, and growth in the number of accounts by class forecasted for that year. The FY25 revenue at current rates is shown below. The projection of bills and volume shown in this table also serves as the basis for the FY25 units of service and calculation of the customer class revenue requirement. Table 8 shows the FY25 projected bills, billed volume, and rate revenue.

Table 8: Projected FY25 Revenue Under Current Rates

Customer Class	Bills	Volume (kgal)	Revenue ($ million)
Residential	1,006,790	13,377,142	$73.6
Multifamily	55,232	4,343,864	25.5
Commercial	74,059	4,824,440	29.0
Fire Service	20,724	0	.04
Total	**1,156,806**	**22,545,446**	**$128.1**

Determine Test Year Revenue Requirement

The revenue requirement shown in Table 9 below shows the level of revenue required from rates with the FY25 revenue adjustment.

Table 9: FY25 Revenue Requirement ($ millions)

Item	Operating	Capital	Total
Operation and Maintenance Expenses	$81.5	-	$81.5
Debt Service	-	24.0	24.0
Capital Improvements	-	106.3	106.3
Total Expenditures	**$81.5**	**$130.3**	**$211.8**
Non-Rate Revenue Offsets			
Other Operating Income	$8.6	-	8.6
Bond Issuance	-	100.0	100.0
Change in Fund Balance	-	($34.8)	(34.8)
Total Non-Rate Revenue Offsets	**$8.6**	**$45.5**	**$55.2**
Net FY25 Revenue Requirement	**$77.5**	**$64.6**	**$142.2**

Functionalize Revenue Requirement

Water systems comprise several facilities (unit processes or functions) designed and operated to collect, treat, and distribute water to customers. The separation of costs into functional components provides a means for distributing costs to customer classes based on their responsibility in the system. The O&M revenue requirement can be functionalized based on the line item descriptions in the budget. Water system assets served as a reasonable basis for functionalizing annual capital costs. Annual capital projects vary by cost and type on an annual basis. Functionalizing annual capital based on the actual capital program can shift cost allocations, resulting in swings in the cost of service rates. Because the percent of costs by function in an asset listing does not vary as much over time, proportionately allocating the capital revenue requirement based on assets provides a smooth and predictable method for allocating costs. Table 10 shows the functional cost components.

Table 10: Functional Components

Unit Process	Unit Process
• Source of Supply	• Meters and Services
• Pumping	• Customer Billing
• Wells/Treatment	• Fire Protection
• Treated Storage	• All Other Infrastructure
• Transmission	• All Other
• Distribution	

Table 11 shows the FY 2025 O&M revenue requirement allocated to functional components. The allocation of functional costs was determined by City staff. The basic premise supporting the functionalization process is to assign an expense to a facility or facilities that have the most impact on those costs. Raftelis provided guidance on this approach but ultimately relied on the City's best judgment in assigning the costs. Once these expenses are functionalized, they can be allocated based on their function or how they are designed to operate in the system. The O&M revenue requirement totals $81.5 million.

Table 11: Revenue Requirement Among Functional Components ($ millions)

Functional Component	Cost
Source of Supply	$5.0
Pumping	8.2
Wells/Treatment	35.7
Treated Storage	1.3
Transmission	1.5
Distribution	5.7
Meters and Services	6.6
Customer Billing	1.3
Fire Protection	0.1
All Other Infrastructure	9.1
All Other	7.0
Total	**$81.5**

Allocate Functionalized Costs to Cost Components

Once costs have been separated into cost categories by function, they can be further allocated to cost components. Allocating costs to cost components provides a means of assigning the functionalized expenses based on the design and functional parameters that characterize each water system expense. Cost components correspond to the unique demand characteristics of the customer classes to recover costs from the customers who cause the utility to incur them.

The allocation methodology used in this study is the base extra-capacity method, which is the most common allocation methodology employed for water utilities throughout Arizona and the West. This methodology incorporates the following standard cost components: supply, base, maximum day demand, maximum hour demand, fire protection, and customer services. For example, water treatment plants are designed and operated to meet maximum day demands. The functional costs associated with the treatment plant are allocated to the base and maximum day components. This split of costs is based on the percent base demands of the maximum day demands and the remainder to the maximum day demand cost component.

Whereas the functional O&M costs can be directly allocated to cost components, allocating capital costs includes one additional step. The allocation of system assets to functional cost components provides the basis for allocating annual capital costs. Cost of service is generally allocated to cost components that reflect the design and functional parameters of the associated facility. A detailed listing aids in allocating the annual capital revenue requirement to specific cost components or a combination of cost components. This allocation is based on that facility's particular function or design parameter. Although the City's detailed asset listing does not specifically identify the functional area of each asset, Raftelis reviewed each asset and assigned it a particular function to the extent possible. This functionalization was used to develop the cost component allocation percentages. General plant assets not specifically assigned are allocated in proportion to all other plant assets.

Meters and services are allocated using equivalent meter ratios. Equivalent meter ratios allow for allocating the fixed cost of providing this capacity to customers based on their potential demand. Equivalent meter units in this study are based on American Water Works Association (AWWA) -rated hydraulic capacities and are calculated to represent the potential demand on the water system relative to a base meter size. AWWA capacity ratios are calculated by dividing the capacity of each meter size by the capacity of a ¾-inch meter, the base meter size in this

study. For example, the capacity of a 1-inch meter is divided by the capacity of a ¾" (50/30) to derive the 1-inch meter capacity ratio of 1.67.

Customer and private fire costs are allocated based on the quantity, such as total bills and number of meters. Indirect costs are reallocated in proportion to all other costs. Table 12 summarizes the allocated revenue requirement. The allocated revenue requirement is distributed to customer classes based on their proportionate share of total units of service.

Table 12: FY25 Allocated Revenue Requirement ($ millions)

Description	Supply	Base	Max Day	Max Hour	Meters	Customer	Private Fire	Indirect	Total
O&M Expense	$6.93	$37.90	$15.74	$2.76	$6.28	$1.20	$0.10	$6.65	$77.54
Capital Costs	8.08	36.72	13.95	2.40	1.40	0.00	0.38	1.69	64.62
Adjustments	0.94	4.65	0.19	(1.76)	4.68	0.07	(0.42)	(8.34)	0.00
Net Rev. Req.	**$15.95**	**$79.24**	**$29.88**	**$3.40**	**$12.36**	**$1.28**	**$0.06**	**$0.00**	**$142.16**

Customer Class Units of Service

Customers of a water utility are often identified according to customer class. Each customer class has unique water demands and usage characteristics. Because the cost of service is based on the concept of proportionality, customer service characteristics for each customer class must be analyzed to distribute the functionalized and allocated system revenue requirements based on their respective demand profiles.

The peaking factors for each customer class were calculated using the City's detailed billing data for FY 2021 and FY 2022. The multi-family, commercial/industrial/outside city, irrigation, and temporary construction maximum day and maximum hour peaking factors are each calculated considering their maximum month and the average month demands. The City does not have daily demands from customers, so peak demands must be estimated using class data and system peaking data. The following equation is used to estimate the maximum day and maximum hour peaking factors.

Class Peaking Factor = (Class Average Day of Max Month ÷ Class Average Day) x (System Max Day ÷ System Average Day of Max Month)

The class maximum day peaking factor is multiplied by the ratio of the system max hour to system max day demands.

Fire protection units are based on one simultaneous fire event lasting 4 hours at 4,000 gallons per minute. These units of service are allocated to private fire and public fire based on the number of equivalent hydrants. Table 13 summarizes the customer class units of service.

Table 13: FY25 Units of Service [1]

Customer Class	Annual Demand (Kgal)	Max Day Demand Factor	Max Day Extra Capacity gpd	Max Hour Demand Factor	Max Day Hour Capacity Gpd	Bills	¾" Meter Equivalent
Residential	13,377,142	1.35	12,804	1.17	6,092	1,006,790	165,844
Multifamily	4,343,864	1.31	3,731	1.16	1,926	55,232	27,516
Commercial	4,824,440	1.50	6,551	1.18	2,435	74,059	36,981
Total	**22,545,446**		**23,086**		**10,453**	**1,136,081**	**230,340**

[1] Includes inside City and outside City.

Determine Customer Class Units of Service

The unit cost of service is the share of the allocated revenue requirement by cost component divided by the units of service for each. The unit costs for each cost component are used to determine the customer class cost of service. Table 14 shows the development of the unit cost of service by cost component.

Table 14: FY25 Unit Cost of Service

Customer Class	Supply	Annual Demand	Max Day	Max Hour	Meters	Customer	Fire	Indirect	Total
Revenue Requirement, $ Millions									
O&M Expense	$6.93	$37.9	$15.74	$2.76	$6.28	$1.20	$0.10	$6.65	$77.54
Capital Costs	8.08	36.72	13.95	2.40	1.40	0.00	0.38	1.69	64.63
Adjustments [1]	0.94	4.65	0.19	(1.76)	4.68	0.07	(0.42)	(8.34)	0
Revenue Requirement	**$15.95**	**$79.24**	**$29.88**	**$3.40**	**$12.36**	**$1.28**	**$0.06**	**0**	**$142.16**
Units of Service	22,545,446	22,545,446	23,086	10,453	230,340	1,136,081	1,727	-	-
Unit Cost of Service, $ per unit [2]									
	$ per Kgal	$ per Kgal	$ per gpd	$ per gpd	$ per eq. Meter	$ per bill	$ per Eq Hydrant		
O&M Expense	$0.31	$1.68	$681.61	$264.27	$2.27	$1.06	$4.85	-	-
Capital Costs	0.36	1.63	604.40	229.22	0.51	0.00	18.26	-	-
Adjustments	.04	.21	8.23	(168.65)	1.69	.07	(20.33)	-	-
Total Unit Costs	**$0.71**	**$3.51**	**$1,294.24**	**$324.85**	**$4.47**	**$1.12**	**$2.78**	**-**	**-**

[1] Costs allocated to the Indirect cost component are re-allocated in proportion to all other cost components.
[2] An equivalent meter is equal to the number of meters in the system stated on a 5/8" equivalency basis

Distribute Costs to Customer Classes

The cost of service process is based on the concept of proportionality. Allocated costs must be distributed by the units of service for each customer class. This distribution is the product of the customer class units of service in Table 13 by the unit costs in Table 14. The customer class cost of service is shown in Table 15.

Table 15: FY25 Customer Class Cost of Service ($ millions)

Customer Class	Supply (Kgal)	Annual Demand (Kgal)	Max Day	Max Hour	Meters	Customer	Fire	Total
Residential	$9.5	$47.0	$16.6	$2.0	$8.9	$1.1	$0.0	$85.1
Multifamily	3.1	15.3	4.8	0.6	1.5	0.1	0	25.3
Commercial	3.4	17.0	8.5	0.8	2.0	0.1	0	31.7
Fire Service	0.0	0.0.	0.0	0.0	0.0	0.0	0.1	0.1
Total	**$16.0**	**$79.2**	**$29.9**	**$3.4**	**$12.4**	**$1.3**	**$0.1**	**$142.2**

COMPARISON OF FY25 COST OF SERVICE TO REVENUE AT CURRENT RATES

Table 16 shows the comparison of FY25 cost of service to revenue at current rates for each customer class. The change in each customer class' cost is a product of two components: 1) the functionalization and allocation of the revenue requirement and 2) the distribution of these costs to customer classes based on their units of service.

Table 16: FY25 Comparison of Cost of Service to Revenue at Current Rates

Class	FY25 Cost of Service	FY24 Revenue Under Current Rates	Change - $	Change - %
Residential	$85,063,607	$73,642,623	$11,420,985	15.5%
Multifamily	25,333,183	25,478,575	(145,392)	-0.6%
Commercial	31,706,944	28,952,163	2,754,781	9.5%
Fire Service	57,696	41,449	16,247	39.2%
Total	**$142,161,430**	**$128,114,809**	**$14,046,621**	**11.0%**

In order to avoid rate decreases, followed by increases, City staff provided direction that the cost of service for each class should be adjusted to keep cost recovery at least equal to existing rates. Table 17 shows the adjusted cost of service.

Table 17: FY25 Comparison of Adjusted Cost of Service to Revenue at Current Rates

Class	FY25 Cost of Service	FY24 Revenue Under Current Rates	Change - $	Change - %
Residential	$84,957,694	$73,642,623	$11,315,071	15.4%
Multifamily	25,478,575	25,478,575	0	0.0%
Commercial	31,667,465	28,952,163	2,715,302	9.4%
Fire Service	57,696	41,449	16,247	39.2%
Total	**$142,161,430**	**$128,114,809**	**$14,046,621**	**11.0%**

Section 5: Rate Design

INTRODUCTION

In the development of water rate schedules, a basic consideration is to establish equitable charges to customers commensurate with the cost of providing service. The only method of assessing equitable water rates would be determining each customer's bill based on their unique service requirements. Since this is impractical, schedules of rates are usually designed to meet average conditions for groups (classes) of customers having similar service requirements. Rates should be reasonably straightforward in application and subject to as few misinterpretations as possible.

CURRENT RATES

The City's existing rate structure consists of a monthly service charge and volumetric rates that vary by class. Table 18 lists the current rates and structures. Current base fees recover approximately 22.9% of total rate revenue.

Table 18: Current Rates

Description	Current Rates
Base Fees, $ per bill	
5/8"	$15.05
3/4"	19.40
1"	27.55
1.5"	45.15
2"	60.20
3"	120.40
4"	188.20
6"	376.25
8"	526.75
Volume Rate, $ per kgal	
Residential	
Tier 1	$1.65
Tier 2	3.10
Tier 3	4.25
Tier 4	5.70
Tier 5	7.05
Multifamily/Commercial	
Tier 1	$1.65
Tier 2	3.10
Tier 3	4.25
Tier 4	5.70

FY25 COST-OF-SERVICE RATES

The cost of service rates retains the existing structure. The base fee recovers approximately 22.9% of total rate revenue. Table 19 shows the monthly base fees by meter size, the O&M, and capital volume rates.

Table 19: FY25 Cost-of-Service Rates

Description	Current Rates	Alternate 1 (Across the Board Increases)	Alternative 2 (Cost of Service)	Alternative 3 (One Volumetric Rate)
Base Fees, $ per bill				
5/8"	$15.05	$16.71	$16.71	$16.71
3/4"	19.40	21.53	23.05	23.05
1"	27.55	30.58	35.74	35.74
1.5"	45.15	50.12	67.46	67.46
2"	60.20	66.82	105.53	105.53
3"	120.40	133.64	226.09	226.09
4"	188.20	208.90	403.74	403.74
6"	376.25	417.64	828.85	828.85
8"	526.75	584.69	1,526.79	1,526.79
Volume Rate, $ per kgal				
Residential				
Tier 1	$1.65	$1.83	$1.83	$1.70
Tier 2	3.10	3.44	3.43	3.23
Tier 3	4.25	4.72	4.70	4.42
Tier 4	5.70	6.33	6.31	5.95
Tier 5	7.05	7.83	7.80	7.30
Multifamily				
Tier 1	$1.65	$1.83	$1.52	$1.70
Tier 2	3.10	3.44	2.86	3.23
Tier 3	4.25	4.72	3.92	4.42
Tier 4	5.70	6.33	5.26	5.95
Commercial				
Tier 1	$1.65	$1.83	$1.67	$1.70
Tier 2	3.10	3.44	3.14	3.23
Tier 3	4.25	4.72	4.31	4.42
Tier 4	5.70	6.33	5.78	5.95

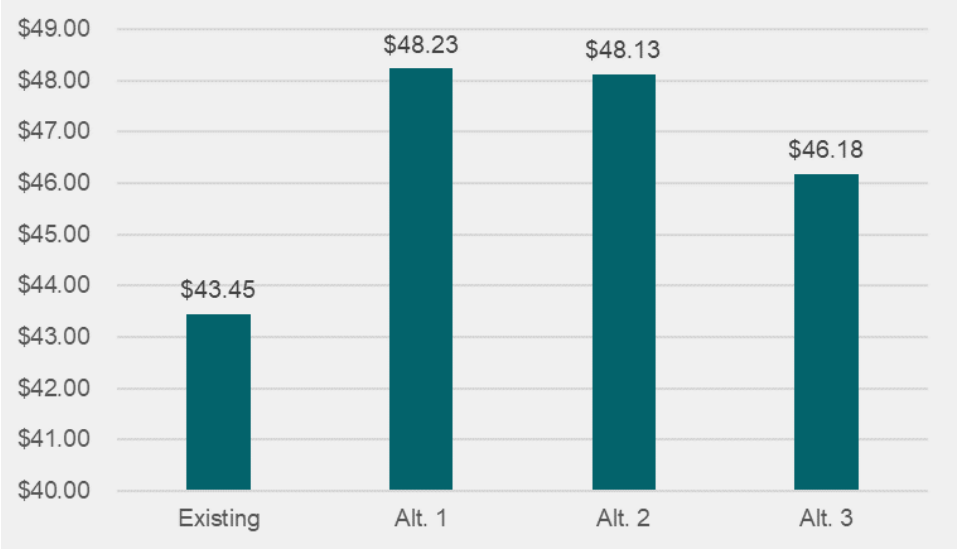
Note: kgal = 1,000 gallons

Figure 1 outlines the customer bill impacts for existing rates compared to the rate design alternatives for a single-family residential customer with a 5/8-inch meter using 11,500 gallons per month. Because of the impacts between the current structure and the alternatives, Scottsdale Water may consider implementation of structural changes over multiple periods of time.

The increased revenue requirement placed in the base fee is driven by the inclusion of the cost of water-capital component. The inclusion of the capital component, a fixed cost based on contractual allocation, achieves a greater level of revenue stability. The rate of base fee increase, from the 5/8-inch meter size to larger meter sizes, is driven by a shift to align with AWWA meter capacities.

While the study results reflect structural changes in a single year, Scottsdale Water may elect to change its structure over multiple years to ease the amount of change occurring in any specific meter size or customer class.

Figure 1: Residential Bill Impacts, 11,500 gallons



APPENDIX A:

Rate Schedules (FY25 – FY29)

Table 20: Five-Year Rate Forecast, Alt 1

Alt 1 (Across the Board Increases)					
Customer Class	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**
SFR					
Tier 1	$1.83	$2.03	$2.26	$2.50	$2.78
Tier 2	$3.44	$3.82	$4.24	$4.71	$5.22
Tier 3	$4.72	$5.24	$5.81	$6.45	$7.16
Tier 4	$6.33	$7.02	$7.80	$8.65	$9.60
Tier 5	$7.83	$8.69	$9.64	$10.70	$11.88
Multifamily Residential					
Tier 1	$1.83	$2.03	$2.26	$2.50	$2.78
Tier 2	$3.44	$3.82	$4.24	$4.71	$5.22
Tier 3	$4.72	$5.24	$5.81	$6.45	$7.16
Tier 4	$6.33	$7.02	$7.80	$8.65	$9.60
Commercial					
Tier 1	$1.83	$2.03	$2.26	$2.50	$2.78
Tier 2	$3.44	$3.82	$4.24	$4.71	$5.22
Tier 3	$4.72	$5.24	$5.81	$6.45	$7.16
Tier 4	$6.33	$7.02	$7.80	$8.65	$9.60
Potable Monthly Meter Charges					
Meter Size	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**
5/8"	$16.71	$18.54	$20.58	$22.85	$25.36
3/4"	$21.53	$23.90	$26.53	$29.45	$32.69
1"	$30.58	$33.94	$37.68	$41.82	$46.42
1-1/2"	$50.12	$55.63	$61.75	$68.54	$76.08
2"	$66.82	$74.17	$82.33	$91.39	$101.44
3"	$133.64	$148.34	$164.66	$182.78	$202.88
4"	$208.90	$231.88	$257.39	$285.70	$317.13
6"	$417.64	$463.58	$514.57	$571.17	$634.00
8"	$584.69	$649.01	$720.40	$799.64	$887.60
Private Fire Monthly Meter Charges					
Line Size	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**
5/8"	$2.22	$2.46	$2.74	$3.04	$3.37
3/4"	$2.22	$2.46	$2.74	$3.04	$3.37
1"	$2.22	$2.46	$2.74	$3.04	$3.37
1-1/2"	$2.22	$2.46	$2.74	$3.04	$3.37
2"	$2.22	$2.46	$2.74	$3.04	$3.37
3"	$2.22	$2.46	$2.74	$3.04	$3.37
4"	$2.22	$2.46	$2.74	$3.04	$3.37
6"	$2.22	$2.46	$2.74	$3.04	$3.37
8"	$2.22	$2.46	$2.74	$3.04	$3.37

Table 21: Five-Year Rate Forecast - Alt 2

Alt 2 (Cost of Service)					
Customer Class	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**
SFR					
Tier 1	$1.83	$2.03	$2.25	$2.50	$2.77
Tier 2	$3.43	$3.81	$4.23	$4.69	$5.21
Tier 3	$4.70	$5.22	$5.79	$6.43	$7.14
Tier 4	$6.31	$7.00	$7.77	$8.63	$9.57
Tier 5	$7.80	$8.66	$9.61	$10.67	$11.84
Multifamily Residential					
Tier 1	$1.52	$1.69	$1.88	$2.08	$2.31
Tier 2	$2.86	$3.18	$3.53	$3.91	$4.34
Tier 3	$3.92	$4.36	$4.83	$5.37	$5.96
Tier 4	$5.26	$5.84	$6.48	$7.20	$7.99
Commercial					
Tier 1	$1.67	$1.86	$2.06	$2.29	$2.54
Tier 2	$3.14	$3.49	$3.87	$4.30	$4.77
Tier 3	$4.31	$4.79	$5.31	$5.90	$6.54
Tier 4	$5.78	$6.42	$7.12	$7.91	$8.78
Potable Monthly Meter Charges					
Meter Size	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2028**
5/8"	$16.71	$18.54	$20.58	$22.85	$25.36
3/4"	$23.05	$25.59	$28.40	$31.52	$34.99
1"	$35.74	$39.67	$44.04	$48.88	$54.26
1-1/2"	$67.46	$74.89	$83.12	$92.27	$102.42
2"	$105.53	$117.14	$130.03	$144.33	$160.21
3"	$226.09	$250.96	$278.56	$309.20	$343.22
4"	$403.74	$448.16	$497.45	$552.17	$612.91
6"	$828.85	$920.02	$1,021.23	$1,133.56	$1,258.25
8"	$1,526.79	$1,694.74	$1,881.16	$2,088.08	$2,317.77
Private Fire Monthly Meter Charges					
Line Size	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2028**
5/8"	$2.78	$3.09	$3.43	$3.81	$4.23
3/4"	$2.78	$3.09	$3.43	$3.81	$4.23
1"	$2.78	$3.09	$3.43	$3.81	$4.23
1-1/2"	$2.78	$3.09	$3.43	$3.81	$4.23
2"	$2.78	$3.09	$3.43	$3.81	$4.23
3"	$2.78	$3.09	$3.43	$3.81	$4.23
4"	$2.78	$3.09	$3.43	$3.81	$4.23
6"	$2.78	$3.09	$3.43	$3.81	$4.23
8"	$2.78	$3.09	$3.43	$3.81	$4.23

Table 22: Five-Year Rate Forecast - Alt 3

Alt 3 (One Volumeteric Rate)					
Customer Class	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**
SFR					
Tier 1	$1.70	$1.89	$2.09	$2.32	$2.58
Tier 2	$3.23	$3.58	$3.98	$4.41	$4.90
Tier 3	$4.42	$4.90	$5.44	$6.04	$6.71
Tier 4	$5.95	$6.60	$7.33	$8.13	$9.03
Tier 5	$7.30	$8.11	$9.00	$9.99	$11.09
Multifamily Residential					
Tier 1	$1.70	$1.89	$2.09	$2.32	$2.58
Tier 2	$3.23	$3.58	$3.98	$4.41	$4.90
Tier 3	$4.42	$4.90	$5.44	$6.04	$6.71
Tier 4	$5.95	$6.60	$7.33	$8.13	$9.03
		$0.00	$0.00	$0.00	$0.00
Commercial					
Tier 1	$1.70	$1.89	$2.09	$2.32	$2.58
Tier 2	$3.23	$3.58	$3.98	$4.41	$4.90
Tier 3	$4.42	$4.90	$5.44	$6.04	$6.71
Tier 4	$5.95	$6.60	$7.33	$8.13	$9.03
Potable Monthly Meter Charges					
Meter Size	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**
5/8"	$16.71	$18.54	$20.58	$22.85	$25.36
3/4"	$23.05	$25.59	$28.40	$31.52	$34.99
1"	$35.74	$39.67	$44.04	$48.88	$54.26
1-1/2"	$67.46	$74.89	$83.12	$92.27	$102.42
2"	$105.53	$117.14	$130.03	$144.33	$160.21
3"	$226.09	$250.96	$278.56	$309.20	$343.22
4"	$403.74	$448.16	$497.45	$552.17	$612.91
6"	$828.85	$920.02	$1,021.23	$1,133.56	$1,258.25
8"	$1,526.79	$1,694.74	$1,881.16	$2,088.08	$2,317.77
Private Fire Monthly Meter Charges					
Line Size	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**
5/8"	$2.78	$3.09	$3.43	$3.81	$4.23
3/4"	$2.78	$3.09	$3.43	$3.81	$4.23
1"	$2.78	$3.09	$3.43	$3.81	$4.23
1-1/2"	$2.78	$3.09	$3.43	$3.81	$4.23
2"	$2.78	$3.09	$3.43	$3.81	$4.23
3"	$2.78	$3.09	$3.43	$3.81	$4.23
4"	$2.78	$3.09	$3.43	$3.81	$4.23
6"	$2.78	$3.09	$3.43	$3.81	$4.23
8"	$2.78	$3.09	$3.43	$3.81	$4.23