

# **County Water District of Billing Heights, Montana**

## **Water Financial Plan, Cost-of-Service, Rate, and System Development Fee Study**

Final Report / July 17, 2023

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July 17, 2023  
Peyton Brookshire, District Engineer  
County Water District of Billings Heights  
1540 Popelka Drive  
Billings, MT 59105

**Subject: Water Financial Plan, Cost-of-Service, Rate, and System Development Fee Study**

Dear Mr. Brookshire:

Raftelis Financial Consultants, Inc. (Raftelis) is pleased to provide this Final Water Financial Plan, Cost-of-Service, Rate, and System Development Fee Study Report (Report) for the County Water District of Billings Heights, Montana (District). The Report summarizes the key study findings and recommendations proposed for adoption by the District in 2023.

The major objectives of the study include:

- Develop separate water financial plans for the 10-year Study Period.
- Evaluate separate water rate revenue adjustments for the Study Period necessary to fund annual revenue requirements, maintain adequate cash reserves, and provide appropriate debt service coverage.
- Complete a separate water customer class cost-of-service analysis using a single (FY 2023-24) test-year.
- Propose base and volume rates by customer class for FY 2023-24 effective August 1, 2023.
- Complete a comprehensive evaluation of the District's capital recovery fees assessed to new developments, including alternative assessment approaches, and propose changes effective August 1, 2023.

It has been a pleasure working with the District. On behalf of the Raftelis team, we thank you, Josh Simpson, Interstate Engineering team members Lowell Cutshaw, Brad Boehm, and Eric Ler for their support, data development, insights, interim reviews, and overall assistance as part of the Study.

Sincerely,  
***RAFTELIS FINANCIAL CONSULTANTS, INC.***



**Andrew Rheem**  
*Senior Manager*

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- APPENDIX C: FY 2023-24 Rate Recommendations
- APPENDIX D: System Development Fee

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# 1. Executive Summary

The County Water District of Billing Heights (District or Heights) retained Raftelis Financial Consultants, Inc. (Raftelis) to complete a comprehensive financial plan, cost-of-service, rate, and system development fee (SDF) study (Study). The purpose of the Study was to develop financial plans from Fiscal Year (FY<sup>1</sup>) 2022-23 through FY 2030-31 (Study Period) and water rate and SDF structures consistent with District objectives. The District requested that Raftelis complete the following major objectives:

- » Develop financial plans for the Study Period.
- » Evaluate water rate revenue adjustments for the Study Period necessary to fund annual revenue requirements, maintain adequate cash reserves, and provide appropriate debt service coverage.
- » Complete a comprehensive evaluation of the District's SDFs, annexation fees, and related one-time capital recovery fees assessed to new development.
- » Complete customer class cost-of-service analysis using a single (FY 2023-24) test-year.
- » Propose water rates by customer class for FY 2023-24 effective August 1, 2023.

Our report to the District contains seven sections as follows:

- » Section 1 – Executive Summary
- » Section 2 – Introduction
- » Section 3 – Utility Background, City of Billings, Customer Data, & Growth
- » Section 4 – Financial Plan
- » Section 5 – Water Cost-of-Service
- Section 6 – FY 2023-24 Rates
- » Section 7 - System Development Fees

The report contains four appendices including the water and wastewater financial plan, FY 2023-24 test-year cost-of-service analysis, FY 2023-24 water and sewer rate design recommendations, water and sewer SDF calculations, rate, and SDF survey information.

- » Appendix A contains financial plan results and related data inputs and assumptions.
- » Appendix B contains cost-of-service results for the FY 2023-24 test-year.
- » Appendix C contains rate design alternatives and recommendations.
- » Appendix D contains SDF calculations, inputs, and recommendations.

The financial plans are organized around a total fund with separate operations and capital subfunds. The rate revenue requirements represent the cost of providing service and include O&M expenses, debt service obligations, and other cash inflows and outflows.

All capital costs are assigned to the capital subfund, where funding is provided from SDF revenues and other one-time capital recovery fees, interest income, and transfers from the operations subfund, net loan

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<sup>1</sup> Refers to the year at the end of the fiscal year (e.g., FY 2023-24 is the period ending June 30, 2022).

proceeds, and grants (subject to award). The only expenses in the capital improvement subfund are capital improvement expenditures.

The financial plan evaluates the adequacy of system revenues (adjusted for customer and demand-related growth) to:

- » Fund annual O&M expenses, debt service and capital expenditures, and
- » Maintain the following financial performance thresholds or targets:
  - Exceed debt service coverage (DSC) ratio of at least 1.30 times maximum annual debt service<sup>2</sup>.
  - Exceed water fund cash reserve targets of:
    - 25% (90 days) of annual O&M expenses PLUS
    - \$0.5 million capital reserve.

Figure 1-1 summarizes proposed water rate revenue increases during the Study Period that are necessary to fund annual expenditures and meet financial performance criteria. Following the presentations of the proposed multi-year financial plan in May and June 2023, Raftelis and the District identified \$6.3 million in District investments that had not been incorporated into the multi-year financial plan. When including these investments, the financial plan was updated with reductions to projected debt issuances and lower overall annual rate revenue increases over the Study Period as shown in Figure 4-2. The proposed FY 2023-24 was not modified with lower projected rate increases starting in FY 2024-25.

**Figure 1-1: Projected Annual Water Rate Revenue Increases**

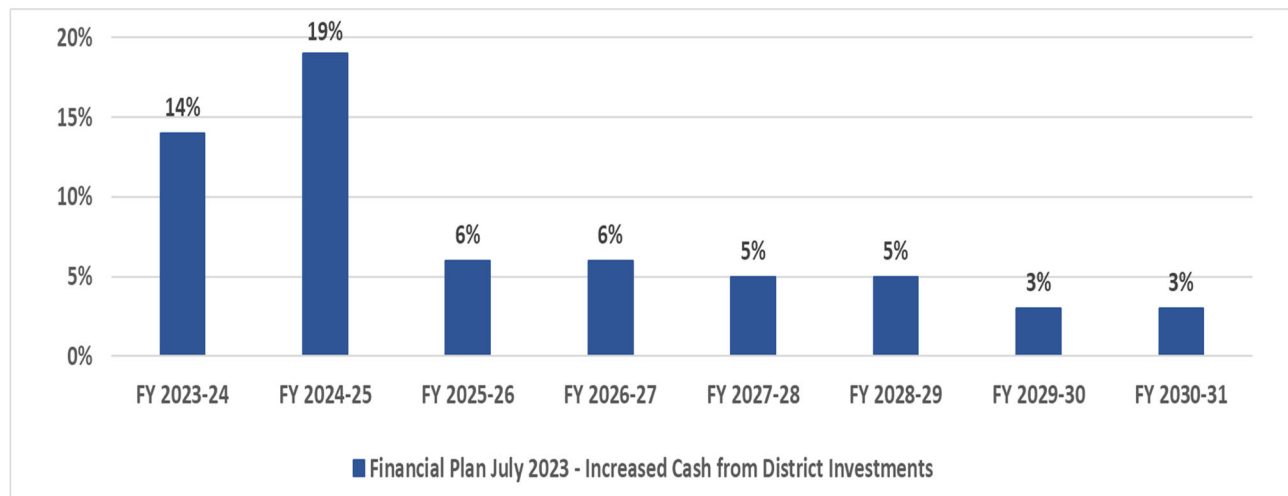
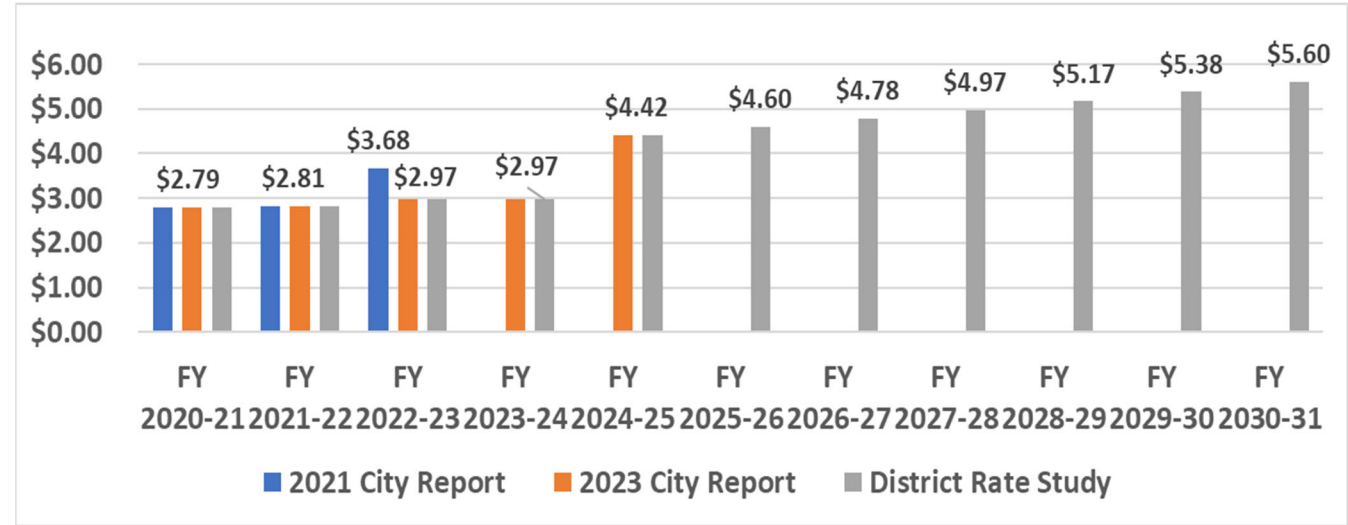


Figure 1-2 summarizes the projected City water rate per 1,000 gallons included in this rate study report through FY 2030-31. Also shown are the actual City treated water rates assessed to the District for the period of FY 2020-21 through FY 2023-24, projected rates for FY 2022-23 and FY 2023-24 that were part of a 2021

<sup>2</sup> Existing District loan covenants establish debt service coverage requirements require a DSC requirement 1.10 times the maximum annual debt service of current debt service and debt proposed to be issued.

City of Billings rate study proposal, and projected rates for FY 2023-24 and FY 2024-25 that were part of a 2023 City rate study proposal.

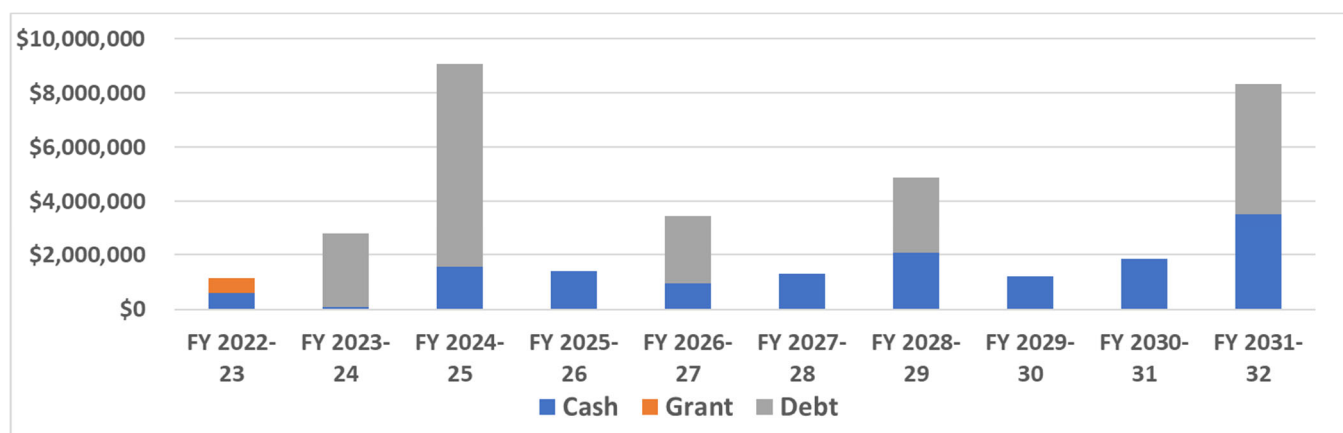
Figure 1-2: Actual and Projected City Water Rate per 1,000 Gallons



The projected annual water rate revenue increases within this study reflect a proposed 48.8% increase in the City’s treated water rate increasing the current \$2.97 per 1,000 gallons to \$4.42 per 1,000 gallons to assessed to the District effective July 1, 2024. After the City’s public hearing and adoption of the proposed FY 2023-24 and FY 2024-25 rates documented within the City’s 2023 rate report, the City informed the District that they are reviewing previously adopted FY 2024-25 District water rates and will be modifying the proposed rates. The City would like the District’s input and involvement with the rate review, but it’s unclear as of June 2023 the results of the rate update, so the multi-year rate recommendations maintain the City adopted rates increasing 48.8% effective July 1, 2024 until the District has updated information. If the City’s rate adjustments are lower than previously adopted, which seems likely, the District can update the multi-year financial plan and projected rates starting in FY 2024-25 and/or adjust the anticipated external debt issuances over the multi-year financial planning period sufficient to exceed financial planning thresholds.

The financial plan and capital funding incorporate the inflated CIP amounts based on the anticipated timing of the projects and an assumed capital inflation rate of 7.0% applied starting in FY 2023-24 and FY 2024-25 and decreasing to 3.0% annual inflation starting FY 2025-26 through the balance of the Study Period. The CIP reflects the separate study completed by Interstate Engineering and prioritized capital improvements by fiscal year. Figure 1-3 shows water capital projects totaling \$35.4 million comprised of \$20.3 in projected new debt, \$0.5 million in grants, and \$14.6 million cash-funded CIP by year from FY 2022-23 through FY 2031-32. The District will continue to apply for grant funding to reduce the cash and debt funding capital requirements.

**Figure 1-3: Water Capital Projects and Projected Capital Funding**



Raftelis worked with District staff to evaluate alternative rate structures and recommend monthly fixed and volume rates by customer class. The proposed rates include a fixed charge increasing by meter size and include different volumetric rate by customer classes for Residential, Commercial, and Irrigation-Only customers which transition closer to customer class cost of service while increasing overall user charges by 14%.

Appendix D contains additional details related to the recommended District rates. Tables 1-1, 1-2, and 1-3 summarize current and proposed monthly charge combined with the \$1.30 service line fee and volume rates to be effective August 1, 2023. Current District volume water rates include a tiered rate structure with a minimum monthly allowance of 3,300 gallons and increasing volume rates that apply to all customer classes and meter sizes. Proposed Residential customer volume rates include a tiered rate structure where the minimum monthly allowance is eliminated. Proposed Commercial and Irrigation-Only customer volume rates reflect separate uniform rates per 1,000 gallons of water use.

**Table 1-1: Current and Proposed FY 2023-24 Water Base Charges**

Meter Size	Current (1)	Proposed (1)
<b>¾-inch and less</b>	\$22.04	\$22.30
<b>1-inch</b>	23.60	30.70
<b>1 ½-inch</b>	25.69	53.80
<b>2-inch</b>	31.47	81.10
<b>3-inch</b>	74.03	154.60
<b>4-inch</b>	89.65	154.60
<b>6-inch</b>	144.72	467.50
<b>8-inch</b>	168.23	742.60
(1) Includes service line repair fee of \$1.30 per month.		

Following the December 2022 presentation, Raftelis worked with District staff to update the proposed FY 2023-24 rates to reflect feedback and adjustments resulting in a single alternative FY 2023-24 rates. The following recommendations are integrated within one or more alternatives:

- » Eliminate the minimum water allowance within the fixed monthly service charge.

- » Charge at least as much per 1,000 gallons as the City charges the District for treated water.
- » Separate Residential, Commercial, and Irrigation-only Customers into separate classes rate setting and cost recovery.
- » Improve customer class cost of service recovery amongst the established classes.
- » Update Ancillary and non-rate charges and fees to fully recover the costs of District services.

**Table 1-2: Current Volume Water Rates**

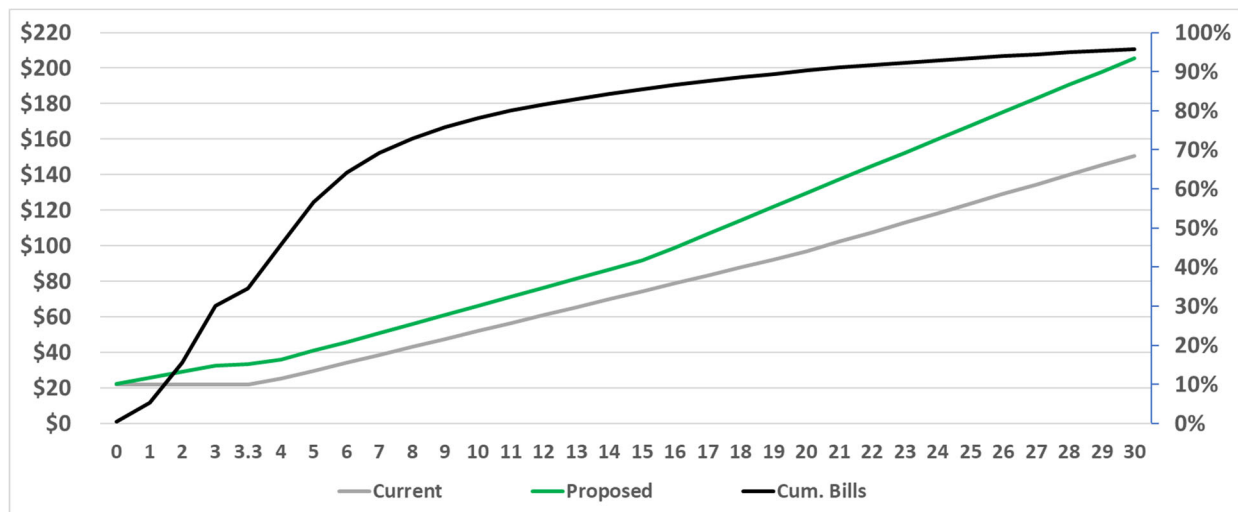
Customer Class	Description	Water Allocation	Rate per 1,000 gal.
<b>Residential</b>	Tier 1	0 – 3,300	\$0.00
<b>Residential</b>	Tier 2	3,301 – 20,000	4.48
<b>Residential</b>	Tier 3	20,001 – 50,000	5.38
<b>Residential</b>	Tier 4	Over 50,000	6.48

**Table 1-3: Proposed Volume Water Rates**

Customer Class	Description	Water Allocation	Rate per 1,000 gal.
<b>Residential</b>	Tier 1	0 – 4,000	\$3.38
<b>Residential</b>	Tier 2	4,001 – 15,000	5.07
<b>Residential</b>	Tier 3	15,001 – 40,000	7.61
<b>Residential</b>	Tier 4	Over 40,000	10.13
<b>Non-Residential</b>	Uniform	All Use	4.24
<b>Water Retailers</b>	Uniform	All Use	4.24
<b>Irrigation-Only</b>	Uniform	All Use	7.00

Figure 1-4 summarizes residential customer with a ¾-inch meter size and less monthly under current and proposed monthly charges and volume rates for each 1,000 gallon increment. The additional line on the second axis tracks the cumulative number of monthly bills for the same customers as water use increases at each 1,000 gallon increment.

**Figure 1-4: Typical Monthly Water Residential Bill Impact**



Raftelis a survey of comparable water utilities compared to the District’s current and proposed monthly bills using rates effective July 1, 2023. Figure 1-5 shows the monthly bills for a ¾-inch water customer meter using 10,000 gallons for this survey group.

Figure 1-5: Residential Monthly Water Bill Survey

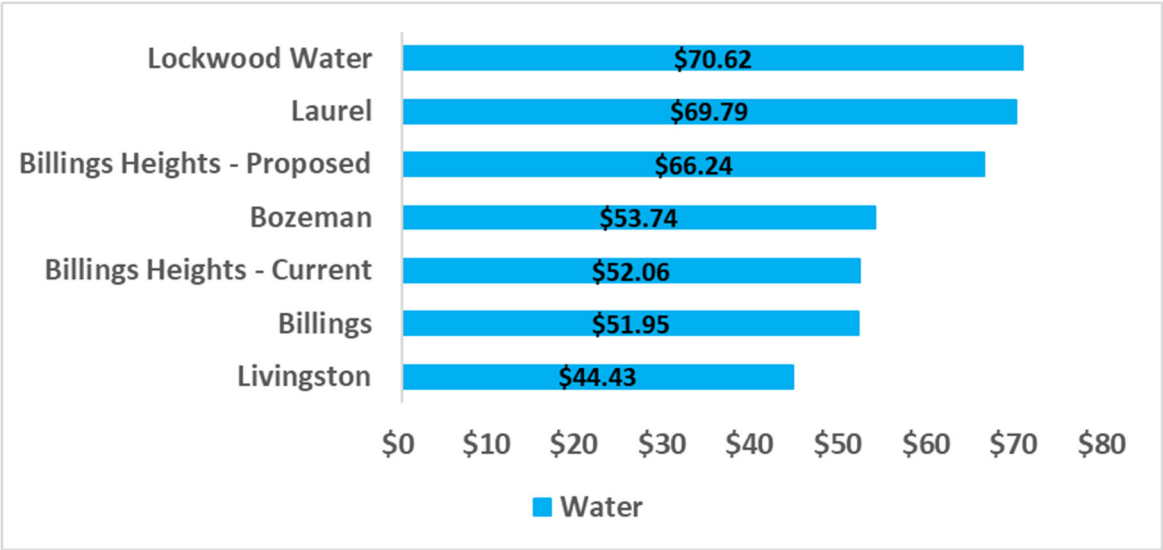
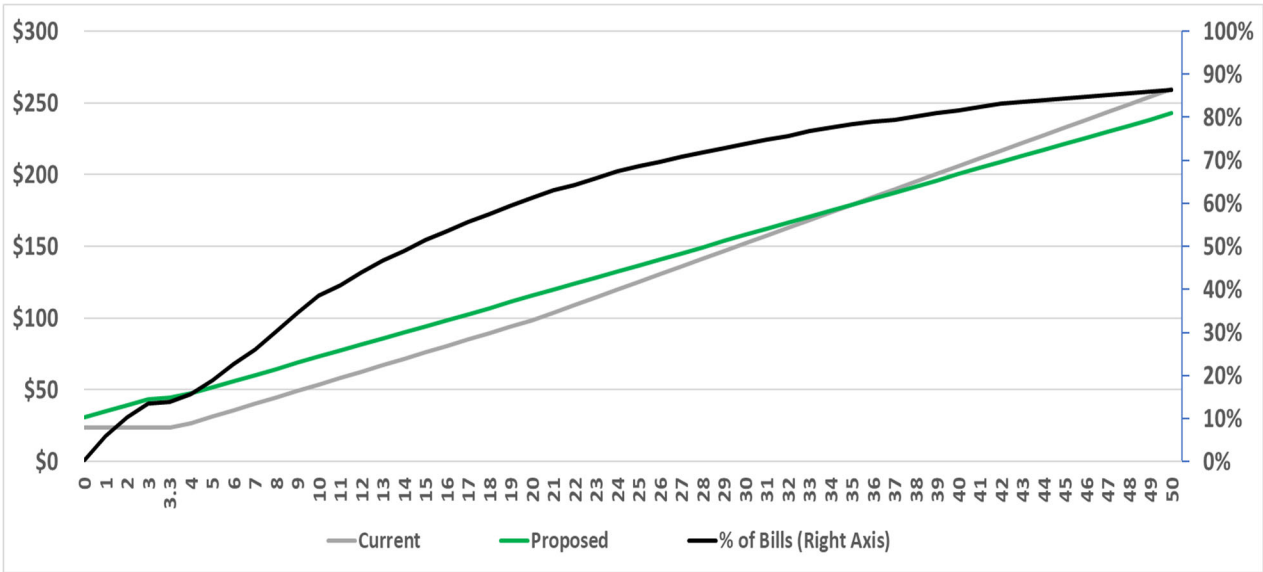


Figure 1-6 summarizes for commercial customers with a 1-inch meter size and less monthly under current and proposed monthly charges and volume rates for each 1,000 gallon increment. The additional line on the second axis tracks the cumulative number of monthly bills for the same customers as water use increases.

Figure 1-6: Monthly Commercial 1-inch Water Meter Customer Bill Comparison



SDFs are one-time capital recovery fees assessed to new or increased development. In growing utilities, such as the District, SDF receipts can provide a significant portion of required CIP funding and/or debt repayment

of external debt financing providing upfront funding. The District has historically assessed separate Annexation / Buy-in Fee and Service Connection Fees increasing by meter size. The Annexation / Buy-In Fee is assessed either per acre or per square foot as summarized in Table 1-4. Service Connection fees are assessed by meter size as summarized in Table 1-5.

**Table 1-4: Current Service Connection Fee by Meter Size**

Meter Size	Proposed
3/4-inch	\$1,830
1-inch	3,660
1 ½-inch	7,320
2-inch	11,714
4-inch	46,120
6-inch	146,411
8-inch	256,220

**Table 1-5: Current Annexation Fee**

Description	Annexation Fee	Assessment Basis
<b>Assessment 1</b>	\$10,148	Per Acre
<b>Assessment 2</b>	\$0.233	Per Square Foot

Raftelis proposes that the District:

- » Eliminate the Annexation / Buy-In and the Service Connection Fees and consolidate to a single capital recovery fee and implement:
  - SDFs increasing by meter size.
  - Establish a different Service Connection Fee which recovers the cost of the meter as well as District meter installation costs.
- » Index the SDF annually for inflation between more comprehensive updates.
- » Complete comprehensive SDF updates as dictated by the capital plan and/or system capacity for new development.
- » Update the adopted Service Connection Fee annually for changes in meter costs as well as District installation cost increases.
- » Implement a new administrative Annexation Fee to recover the District's incurred costs for administrative and procedural activities associated with processing the annexation.

Table 1-6 summarizes proposed water SDFs increasing by meter size<sup>3</sup>.

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<sup>3</sup> Developments that previously paid the annexation fee will receive a credit of \$2,500 per ¼-acre developed if the annexation fee was paid per acre or \$0.058 per square foot if the annexation fee was paid per square foot.

**Table 1-6: Proposed FY 2023-24 SDFs by Meter Size**

Meter Size	Proposed
3/4-inch	\$4,900
1-inch	8,167
1 ½-inch	16,333
2-inch	26,133
4-inch	52,267
6-inch	163,333
8-inch	261,333

Figure 1-7 shows a SDF comparison of the current and proposed District one-time capital recovery fees against those similar one-time time fees assessed to nearby and regional water utilities for a residential ¾-inch meter connection<sup>4</sup>.

**Figure 1-7: Residential ¾-inch Meter SDF Survey Comparison**

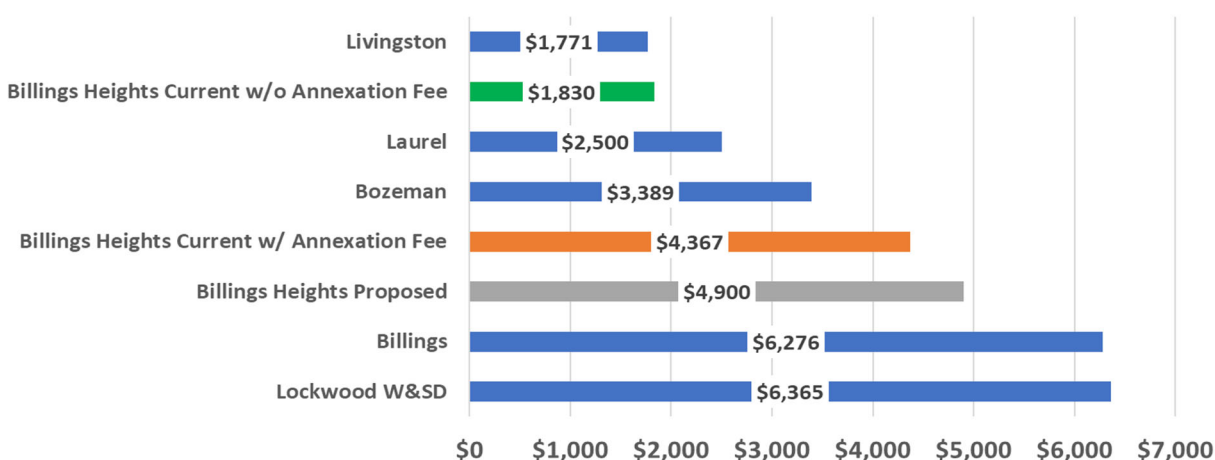


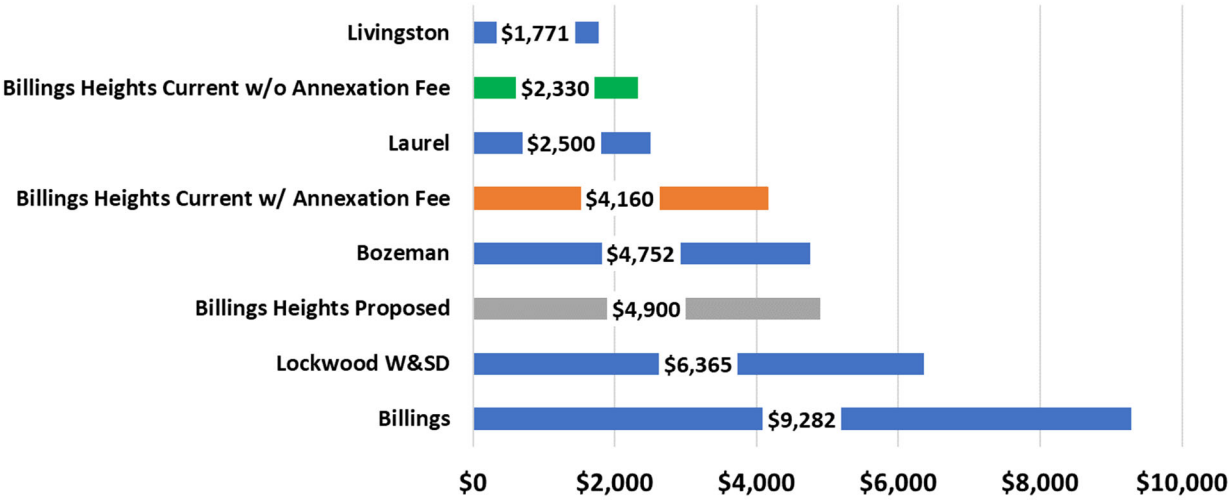
Figure 1-8 shows a Similar comparison for commercial ¾-inch SDFs for the same water utilities<sup>5</sup>.

<sup>4</sup> For purposes of the survey, a residential connection is assumed to require a ¾-inch water meter, 0.25 acre lot, 2,000 square foot developed structure with 3 bedrooms.

<sup>5</sup> For purposes of the survey, a commercial connection is assumed to require a ¾-inch water meter and develop a 10,000 square foot developed structure.



Figure 1-8: Commercial 3/4-inch Meter SDF Survey Comparison



## 2. Introduction

### 2.1. Study Overview

The County Water District of Billing Heights (District or Heights) retained Raftelis Financial Consultants, Inc. (Raftelis) to complete a comprehensive financial plan, cost-of-service, rate, and system development fee (SDF) study (Study). The purpose of the Study was to develop financial plans from Fiscal Year (FY<sup>6</sup>) 2022-23 through FY 2030-31 (Study Period) and water rate and SDF structures consistent with District objectives. The District requested that Raftelis complete the following major objectives:

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- » Complete a comprehensive evaluation of the District's SDFs, annexation fees, and related one-time capital recovery fees assessed to new development.
- » Complete customer class cost-of-service analysis using a single (FY 2023-24) test-year.
- » Propose water rates by customer class for FY 2023-24 effective August 1, 2023.

The report contains four appendices including the water and wastewater financial plan, FY 2023-24 test-year cost-of-service analysis, FY 2023-24 water and sewer rate design recommendations, water and sewer SDF calculations, rate, and SDF survey information.

- » Appendix A contains financial plan results and related data inputs and assumptions.
- » Appendix B contains cost-of-service results for the FY 2023-24 test-year.
- » Appendix C contains rate design alternatives and recommendations.
- » Appendix D contains SDF calculations, inputs, and recommendations.

### 2.2. Acknowledgements

On behalf of the project team, we would like to acknowledge the commitment and contributions provided by the District Board, District Staff, and Interstate team members in completing this project. In particular, we would like to recognize the District staff of Peyton Brookshire and Josh Simpson and Interstate team members Lowell Cutshaw, Brad Boehm, and Eric Ler for their support, data development, insights, interim reviews, and overall assistance as part of the Study.

### 2.3. Reliance on District Provided Data

During this project, the District and Interstate provided Raftelis with a variety of technical information from capital improvement program, assets, operational to audited and unaudited financial reports, meter, billing data, and revenue data. Raftelis assessed the information for errors and reasonableness but did not independently assess or test for the accuracy of such data, historic or projected. We have relied on this data

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<sup>6</sup> Refers to the year at the end of the fiscal year (e.g., FY 2023-24 is the period ending June 30, 2024).

in the formulation of our findings and subsequent recommendations, as well as in the preparation of this report.

As is often the case, there will be 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 actual results achieved; these differences may be material. As such, we take no responsibility for the accuracy of data or projections provided by or prepared on behalf of the District, nor do we have any responsibility for updating this report for events occurring after the date of this report.

# 3. Utility Background, Water Use & Growth

The District maintains a water system which consists of large and small main water distribution pipelines, pumping facilities, treated water storage reservoirs, fire hydrants, customer meters, administrative service center, and miscellaneous facilities, equipment, and vehicles. The District receives treated water services from the City delivered through a single master metered service connection.

Interstate completed a master planning and CIP study evaluation of the Districts water system documented within a separate report presented to the District Board in December 2022.

## 3.1. Customer Bills, Use and Revenues

The District currently serves approximately 6,000 customers amongst Residential, Commercial, Water Retailers, Irrigation-Only, Standby Fire customer classifications or groupings. Table 3-1 summarizes projected FY 2022-23 customer accounts and water use by customer class and meter size grouping based on FY 2019-20 and FY 2020-21 water use information and accounts adjusted for customer growth.

**Table 3-1: Projected FY 2022-23 Water Customer Data**

Customer Class	Meter Size	Bills	% of Total Bills	Billed Use (1,000 gals)	% of Billed Use	Revenue	% of Revenue
Residential	¾-inch and less	61,874	85.9%	428,984	54.3%	2,675,440	54.9%
Residential	1-inch and greater	4,494	6.2%	61,049	7.7%	352,025	7.2%
Commercial	¾-inch and less	1,864	2.6%	23,750	3.0%	138,945	2.9%
Commercial	1-inch and greater	3,404	4.7%	216,363	27.4%	1,331,915	27.3%
Water Retailers	All	60	0.1%	23,067	2.9%	149,621	3.1%
Irrigation-Only	All	<u>324</u>	<u>0.5%</u>	<u>36,612</u>	<u>4.7%</u>	<u>223,985</u>	<u>4.6%</u>
Total	All	72,020	100.0%	789,825	100.0%	\$4,871,931	100.0%

Table 3-2 details projected water use by tier in 1,000 gallons the percent of the class-based use for the same tiers incorporated within the Study analysis and projected water user charges revenues.

**Table 3-2: Projected FY 2022-23 Water Use by Tier and Volume Revenues**

Class / Tier	Water Use by Tier (1,000 gals)	% of Water Use by Tier	Volume Revenue by Tier	% of Volume Revenue by Tier
<b>Residential</b>				
Tier 1	164,478	33.6%	\$0	0.0%
Tier 2	237,878	48.5%	1,065,696	68.6%
Tier 3	72,813	14.9%	391,733	25.2%
Tier 4	<u>14,864</u>	<u>3.0%</u>	<u>96,321</u>	<u>6.2%</u>
Subtotal	490,033	100.0%	1,553,750	100.0%
<b>Commercial</b>				
Tier 1	15,169	6.3%	\$0	0.0%
Tier 2	49,210	20.5%	220,459	16.9%
Tier 3	46,904	19.5%	252,341	19.3%
Tier 4	<u>128,831</u>	<u>53.7%</u>	<u>834,825</u>	<u>63.85%</u>
Subtotal	240,113	100.0%	1,307,625	100.0%
<b>Irrigation-Only</b>				
Tier 1	975	2.7%	\$0	0.0%
Tier 2	4,355	11.9%	19,512	9.0%
Tier 3	5,637	15.4%	30,329	14.0%
Tier 4	<u>25,644</u>	<u>70.0%</u>	<u>166,176</u>	<u>76.9%</u>
Subtotal	36,612	100.0%	216,017	100.0%
<b>Water Retailers</b>				
Tier 1	186	0.8%	\$0	0.0%
Tier 2	804	3.5%	3,600	2.5%
Tier 3	1,440	6.2%	7,747	5.3%
Tier 4	<u>20,637</u>	<u>89.5%</u>	<u>133,725</u>	<u>92.2%</u>
Subtotal	23,067	100.0%	145,072	100.0%
<b>All</b>				
Tier 1	180,808	22.9%	\$0	0.0%
Tier 2	292,247	37.0%	1,309,267	40.6%
Tier 3	126,794	16.1%	682,150	21.2%
Tier 4	<u>189,976</u>	<u>24.1%</u>	<u>1,231,047</u>	<u>38.2%</u>
Subtotal	789,825	100.0%	3,222,464	100.0%

## 3.2. Growth Assumptions

Annual water growth for District residential, commercial customers, and irrigation-only customers are projected to grow 1.36% in FY 2023-24 and 1.45% annually starting in FY 2024-25. Table 3-3 shows accounts by meter size and customer class in FY 2022-23 incorporating projected growth.

**Table 3-3: Accounts by Meter Size to start FY 2022-23**

Customer Type	Residential	Commercial	Water Retailers	Irrigation-Only	Total
<b>¾-inch and less</b>	5,156	155	0	6	5,311
<b>1-inch</b>	343	134	1	12	490
<b>1 ½-inch</b>	23	68	0	6	97
<b>2-inch</b>	4	46	1	3	54
<b>3-Inch</b>	1	8	0	0	9
<b>4-Inch</b>	3	16	2	0	21
<b>6-Inch</b>	0	9	1	0	10
<b>8-Inch</b>	<u>0</u>	<u>3</u>	<u>0</u>	<u>0</u>	<u>3</u>
<b>Total</b>	5,530	439	5	27	6,002

## 4. Financial Plan

The multi-year financial plan, supporting worksheets and calculations, revenue projections, and assumptions are detailed in Appendix A. The financial plans are organized around a total fund with separate operations and capital subfunds. The rate revenue requirements represent the cost of providing service and include O&M expenses, debt service obligations, and other cash inflows and outflows.

All capital costs are assigned to the capital subfund, where funding is provided from SDF revenues and other one-time capital recovery fees, interest income, and transfers from the operations subfund, net loan proceeds, and grants (subject to award). The only expenses in the capital improvement subfund are capital improvement expenditures.

The financial plan evaluates the adequacy of system revenues (adjusted for customer and demand-related growth) to:

- » Fund annual O&M expenses, debt service and capital expenditures, and
- » Maintain the following financial performance thresholds or targets:
  - Exceed debt service coverage (DSC) ratio of at least 1.30 times maximum annual debt service<sup>7</sup>.
  - Exceed water fund cash reserve targets of
    - 25% (90 days) of annual O&M expenses PLUS
    - \$0.5 million capital reserve

Raftelis recommends that the District establish rates and fees to exceed a DSC ratio of at least 1.30 times the maximum annual debt service. The DSC ratio target is applied to outstanding debt and debt projected to be issued over the Study Period to fund capital projects. At present, the District is required to maintain a minimum debt service coverage of 1.10 times maximum annual debt service on the outstanding water debt obligations. As debt service payments are made and/or new debt is issued, the maximum annual debt service for each fiscal year may change based on the total debt then outstanding. This requirement is based on the gross revenues of the system which include all income, charges, and revenues derived directly or indirectly by the District from the operation and use of the water system, including rates, charges, and other fees such as SDFs less annual O&M expenses. For planning purposes, as revenues include both one-time SDFs and weather and growth dependent sales that may fluctuate year-over-year, Raftelis recommends the more conservative DSC ratio target minimum for rate setting purposes.

Raftelis recommends that the District maintain a cash reserve target equal to 25% of O&M expenses plus maintaining the existing policy of \$0.5M in minimum cash reserves as reserved for capital projects. The District should review cash reserve policies periodically and adjust reserve policies when warranted to mitigate the risk of unplanned operational contingencies, capital expenses, and potential fluctuations in volume sales revenue.

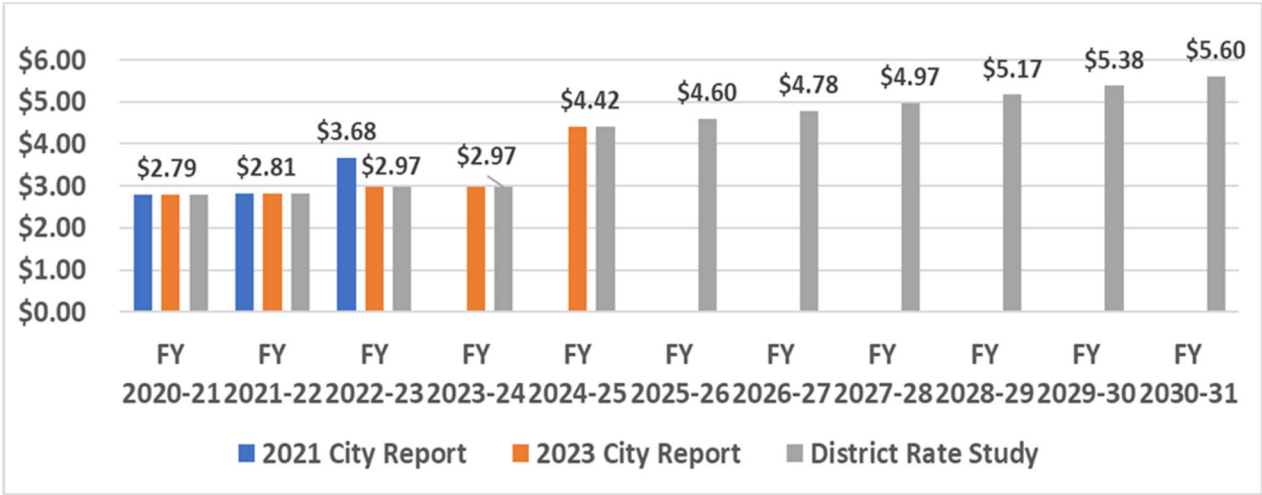
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<sup>7</sup> Existing District loan covenants establish debt service coverage requirements require a DSC requirement 1.10 times the maximum annual debt service of current debt service and debt proposed to be issued.

### 4.1. Financial Plan Results Under Different City Rates

Figure 4-1 summarizes the projected City water rate per 1,000 gallons included in this rate study report through FY 2030-31. Also shown are the actual City treated water rates assessed to the District for the period of FY 2020-21 through FY 2023-24, projected rates for FY 2022-23 and FY 2023-24 that were part of a 2021 City of Billings rate study proposal, and projected rates for FY 2023-24 and FY 2024-25 that were part of a 2023 City rate study proposal.

Figure 4-1: Actual and Projected City Water Rate per 1,000 Gallons



The projected annual water rate revenue increases within this study reflect a proposed 48.8% increase in the City’s treated water rate increasing the current \$2.97 per 1,000 gallons to \$4.42 per 1,000 gallons to assessed to the District effective July 1, 2024. After the City’s public hearing and adoption of the proposed FY 2023-24 and FY 2024-25 rates from the City’s 2023 rate report, the City informed the District that they are reviewing previously adopted FY 2024-25 District water rates and will be modifying the proposed rates. The City would like the District’s input and involvement with the rate review, but it’s unclear as of July 2023 what the results of the rate update may be, so the multi-year rate recommendations maintain the City adopted rates increasing 48.8% effective July 1, 2024 until the District has updated information. If the City’s rate adjustments are lower than previously adopted, which seems likely, the District can update the multi-year financial plan and projected rates starting in FY 2024-25 and/or adjust the anticipated external debt issuances over the multi-year financial planning period sufficient to exceed financial planning thresholds.

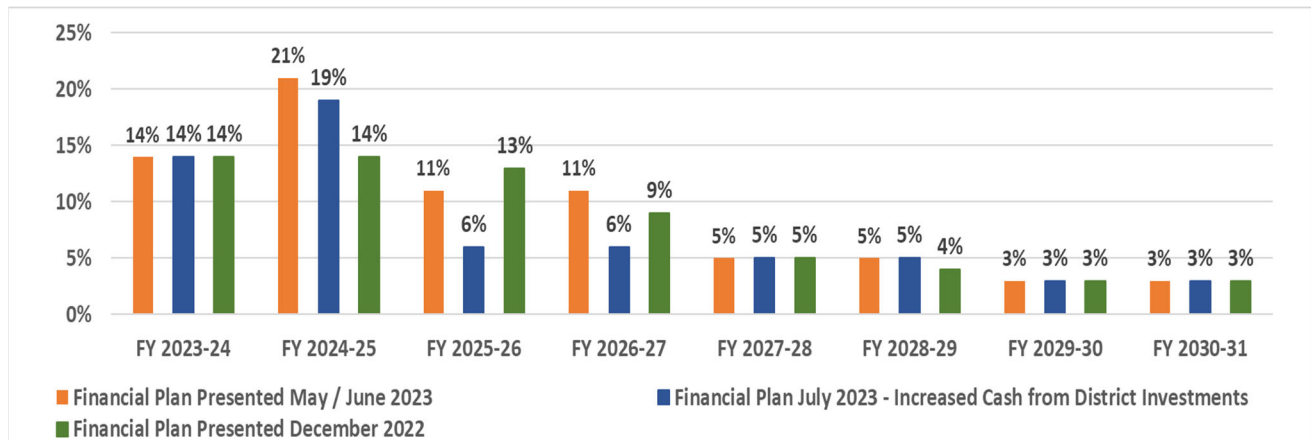
Figure 4-2 summarizes proposed water rate revenue increases during the Study Period that are necessary to fund annual expenditures and meet financial performance criteria. Following the presentations of the proposed multi-year financial plan in May and June 2023, Raftelis and the District identified \$6.3 million in District investment that had not been incorporated into the multi-year financial plan. When including these investments<sup>8</sup>, the financial plan was updated with reductions to projected debt issuances and lower overall

<sup>8</sup> The District’s has funds invested within various Certificates of Deposits with varying maturity dates in 2023 through 2026.



annual rate revenue increases through the Study period as shown in Figure 4-2. The proposed FY 2023-24 was not modified with changes starting in FY 2024-25.

**Figure 4-2: Projected Annual Water Rate Revenue Increases**



Water rate increases are anticipated to be effective August 1<sup>st</sup> of each fiscal year adjusting revenues for 11-months of the 12-month fiscal year.

If system revenues are not adequate to fund annual expenditures and exceed financial performance requirements, the following four variables are used to balance the financial plan:

- » Draw down accumulated reserves to fund annual expenditures until funds are depleted.
- » Issue debt to fund a portion of annual capital improvements.
- » Increase user charges.
- » Delay and defer annual capital improvements.

While rate revenue increases are currently projected annually over the Study Period, adjustments may be necessary depending on future CIP expenditures, system growth, water use patterns, inflation, and regulatory requirements. At a minimum, annual reviews as part of the budget process should be used to periodically assess the condition of the water and sewer funds to determine the necessity of future rate revenue adjustments. A comprehensive update is recommended every three to five years unless a major event dictates more frequent updates.

## 4.2. Financial Plan Results Under Proposed Rates

The proposed water rate revenue increases during the Study Period are necessary to fund annual expenditures as projected annually and detailed in Appendix A and to meet financial performance criteria. The proposed FY 2023-24 water rates, which are based on a 14.0% overall rate revenue adjustment, are detailed in Section 6 of this report. It should be noted that these increases do not necessarily equate to the overall rate revenue increases for a specific customer class or individual customer.

Figure 4-3 shows the end-of-fiscal year cash balance and reserves for the water fund. The cash reserve targets are exceeded each year of the Study Period when including the approximate \$6.3 million in District invested funds.

Figure 4-3: Projected Total Water Fund End-of-Year Cash Balances and Reserve Targets

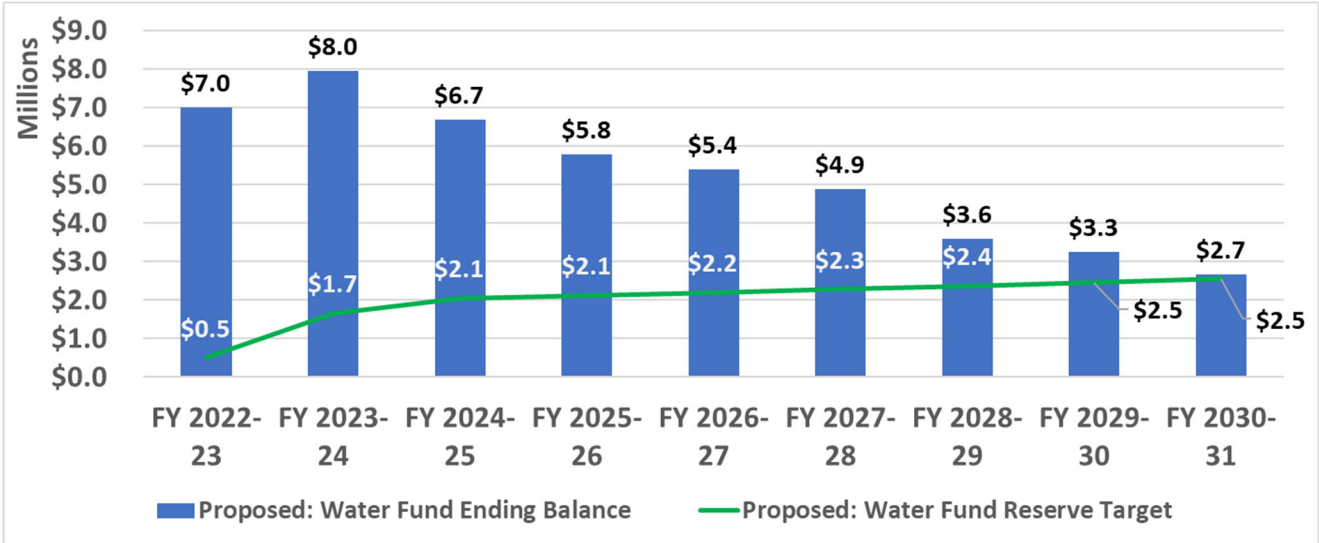
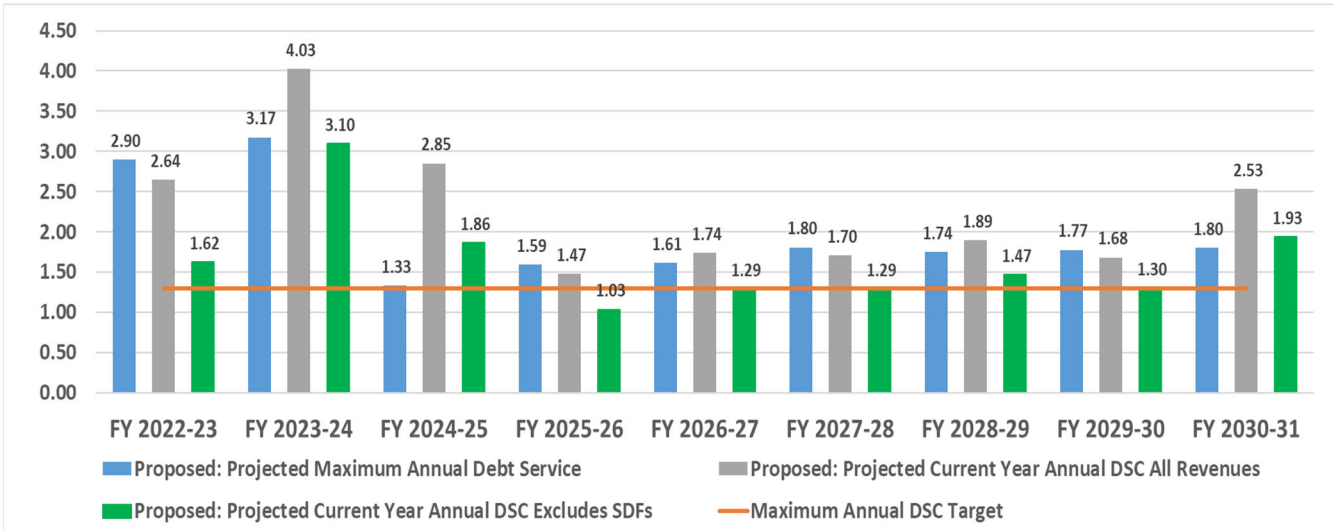


Figure 4-4 shows the projected maximum annual debt service and the target maximum annual DSC ratio requirement for rate setting. Also shown are annual DSC including all revenues and the same measure excluding one-time SDFs for each year of the Study Period. Annual DSC including SDF revenues is above target and minimum legal requirements while maximum annual DSC just above the target in FY 2024-25 and above the target all other years of the Study Period. The annual DSC excluding SDF revenues is just under or above the minimum DSC of 1.30 in all years of the Study Period except FY 2025-26.

Figure 4-4: Projected Maximum Annual and Annual DSC Results



#### 4.2.1.1. Total Water Fund

All water fund revenues and expenditures are summarized on page A-1. For financial planning purposes, Raftelis developed two different subfunds within the water fund: an operations subfund and a capital improvement subfund as previously discussed.

A total water fund balance of approximately \$6.93 million was available as of July 1, 2022, including a cash reserve minimum of \$0.50 million, leaving \$6.43 million as unrestricted cash although much of this amount is invested by the District in CDs and is not readily available. Raftelis proposes creating a new operating reserve effective in FY 2023-24 equal 90-days of annual O&M expenses as previously discussed. The combined operating and capital reserve increases as O&M increases annually with end-of-year cash balances projected to be above the reserve target annually throughout the Study Period.

#### 4.2.1.2. Revenues

Water user charge revenues starting in FY 2022-23 were projected by Raftelis using detailed historic billing data from FY 2019-20 and FY 2020-21, adjusted for growth. Projections for the remainder of the study period are adjusted based on customer growth and developed in a variety of worksheets included in pages A-14 through A-23 as summarized in total on page A-5.

Water user charge revenue is projected to be \$4.84 million in FY 2022-23, \$5.53 million in FY 2023-24 and is projected to increase to \$9.49 million by FY 2030-31 reflecting customer growth and projected annual rate revenue increases summarized in Figure 4-1 under the July 2023 plan. Proposed water rates for FY 2023-24 are discussed in Section 6 with subsequent fiscal year revenue projections based on across-the-board rate revenue increases effective for 11-months of the 12-month fiscal year.

The forecasted SDF receipts reflect the customer account growth assumptions previously discussed. Customers previously pre-paid capital recovery fees based on previous District policies will not be assessed SDFs and SDF revenues reflect 50% of the new connections being assessed SDFs<sup>9</sup>. The District will also assess a connection fee to recover the costs of the meter which increases by meter size and District staff personnel costs associated with the installation and inspection of the meter and service line connection. Proposed water SDFs are discussed in greater detail in Section 7 of this report. SDF revenue is projected to range from \$0.25 million in FY 2023-24 to \$0.35 million in FY 2030-31 incorporating proposed changes to SDFs effective August 1, 2023 and adjusted annually for inflation. Absent SDF revenues, user charge revenues would need to be higher than is projected.

The District has historically assessed separate Annexation / Buy-in Fee and System Development Fees. The Annexation / Buy-In Fee is assessed per acre for residential customers and per square foot for non-residential customers while the System Development Fee is assessed by meter size. Raftelis proposes that the District eliminate both one-time fees and replace them with the proposed SDF, Connection Fee, and administrative Annexation Fee.

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<sup>9</sup> Developments that previously paid the annexation fee will receive a credit of \$2,500 per ¼-acre developed if the annexation fee was paid per acre or \$0.058 per square foot if the annexation fee was paid per square foot.

The financial plan includes Annexation Fee/ Buy-in Fee revenue projected for FY 2022-23 of \$0.19 million falling to \$0 following the discontinuance of the fee effective August 1, 2023. New developments subject to annexation will be required to extend water lines to their development and dedicate the facilities to the District upon completion as a condition of the Annexation consistent with current District requirements. The new administrative Annexation Fee will be assessed for the District staff time and expenses associated with annexation processes, including filing with the County and the estimated District staff time and expenses associated with this activity and included in the ancillary and non-rate revenues proposed to be effective August 1, 2023.

The water fund has other miscellaneous fee and charge revenues from the following fees:

- Private fire line standby monthly charges
- Flushing / Testing
- Hydrant
- Turn on / turn off
- Establishing service
- Service line repair
- Install / inspection
- Plan review
- Tapping
- Annexation fee (new administrative process fee)
- Frozen meter

Combined miscellaneous revenues, which excludes interest and investment income, averages \$122,000 in FY 2023-24 per year adjusted for 2.0% inflation throughout the Study Period. The water fund miscellaneous revenues are listed in detail on page A-24.

The District also earns interest income based on cash balances invested in a variety of interest earning financial instruments. Interest earnings are projected based on the start of year cash balance and an interest earnings rate of 2.0% in FY 2023-24 declining to 1.5% in FY 2024-25, and then to 1.0% in FY 2025-26 through the balance of the Study Period.

#### **4.2.1.3. Operations and Maintenance**

Page A-8 summarizes projected utility O&M expenditures over the Study Period. Projected O&M expenditures are based on the District's line-item FY 2022-23 budget of \$4.48 million and adjusted for anticipated cost increases and District cost inflation and increases to the City's water rate. The annual O&M expenses FY 2023-24 are projected to be \$4.65 million, increasing to \$6.20 million in FY 2024-25 and to \$8.20 million by FY 2030-31.

The following annual cost inflations are assumed for O&M expense categories over the Study Period.

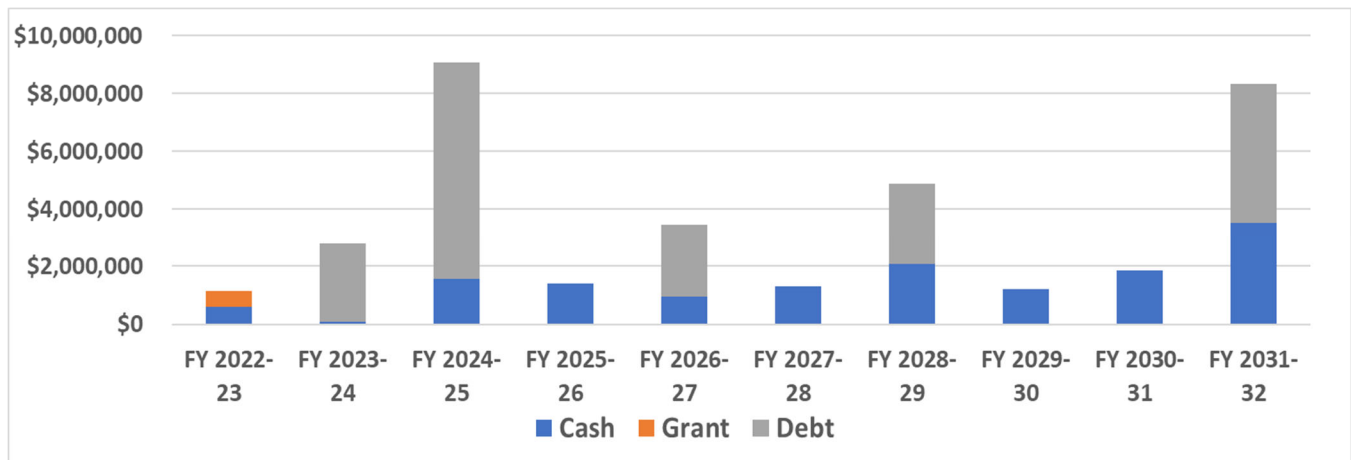
- » City treatment water rate increases:
  - FY 2023-24 of 0.0%.
  - FY 2024-25 of 48.8%.
  - FY 2025-26 through FY 2030-31 of 4.0% per fiscal year.

- » District O&M of 4.0% in FY 2023-24 through FY 2030-31 following increases in FY 2022-23.

#### 4.2.1.4. Capital Improvement Projects

The financial plan and capital funding incorporate the inflated CIP amounts based on the anticipated timing of the projects and an assumed capital inflation rate of 7.0% applied starting in FY 2023-24 and FY 2024-25 and decreasing to 3.0% annual inflation starting FY 2025-26 through the balance of the Study Period. The CIP reflects the separate study completed by Interstate Engineering and prioritized capital improvements by fiscal year. Figure 4-5 shows the water capital projects from FY 2022-23 through FY 2031-32 totaling \$35.4 million comprised of \$20.3 million in projected new debt, \$0.5 million in grants, and \$14.6 million cash-funded CIP by year.

**Figure 4-5: Water Capital Projects and Projected Capital Funding**



Major CIP incorporate design in the first year and construction in the second year except for the Northwest Transmission Main which shows construction of two fiscal years. Major CIP or those with more than \$1.00 in total costs include the following individual projects:

- » Northwest Transmission Line of \$12.30 million in FY 2022-23 through FY 2024-25.
- » 4 Million Gallon Ox Bow Reservoir of \$7.80 million in FY 2030-31 through FY 2031-32.
- » Bitterroot Loop Access Under Highway 312 of \$4.10 million in FY 2027-28 through FY 2028-29.
- » Aging Watermain Program of \$3.34 million in FY 2027-28 through FY 2030-31
- » Bitterroot from Barrett to Mary of \$1.79 million in FY 2025-26 through FY 2026-27.
- » Reservoir Management System of \$1.38 million in FY 2024-25 through FY 2025-26.

The District should continue to pursue grant funding opportunities although the projected capital funding is not reliant upon grants that have not been awarded limiting it to a FY 2022-23 of \$535,000 awarded to the District.

#### 4.2.1.5. Debt and Debt Service

The District has three existing debt obligations all issued through the Montana Water Revolving Fund (WRF) loan program. These debt obligations include:

- » WRF loan 11238R to be retired in 2031.
- » WRF loan Bond C to be retired in 2036.
- » Oxbow WRF loan 17389 to be retired in 2038.

Five additional debt issues are projected in FY 2023-24 through FY 2031-32 as summarized below.

- » FY 2023-24 of \$2.70 million.
- » FY 2024-25 of \$7.50 million.
- » FY 2026-27 of \$2.50 million.
- » FY 2028-29 of \$2.80 million.
- » FY 2031-32 of \$4.80 million.

Projected debt is assumed at a 30-year term. Issuance costs of 1.5% of the total loan and a debt service reserve equal to one annual debt service payment funded from cash reserves to conservatively fund these requirements and not included within the amount of the debt issuance. Interest rates assume 2.5% in FY 2023-24 and FY 204-25 increasing to an interest rate of 5.0% for FY 2026-27, FY 2028-29, and FY 2031-32 loans.

# 5. Cost-of-Service Analysis

Raftelis completed a cost-of-service analysis for a FY 2023-24 test-year to identify customer base, and extra capacity costs. Detailed calculations are presented in Appendix B.

## 5.1. Overview of the Water Cost-of-Service Process

The purpose of a cost-of-service study is to allocate the water utility revenue requirement to each customer class in direct proportion to the demands they impose on the utility system. To accomplish this objective, Raftelis conducted a detailed analysis of customer water consumption characteristics and engaged in a multi-step cost allocation process. The procedures followed by Raftelis were based on the industry standard "base-extra capacity method" of cost allocations as published by the American Water Works Association in the Seventh Edition of the Manual of Water Supply Practices M1, Principles of Water Rates, Fees, and Charges.

The primary steps in the water cost-of-service study process include the following which essentially functionalize, allocate and distribute the defined or net revenue requirements of the water utility:

- » **Costs and Demand:** Determining the test-year revenue requirement and forecast billed water consumption.
- » **Cost Functionalization:** Functionalizing the O&M, capital, and non-rate revenue components of the revenue requirement. This process results in the assignment of costs to the specific water utility functional activities they are incurred to perform.
- » **Cost Allocation:** Allocating the functionalized O&M, capital, and non-rate revenue components of the revenue requirement to specific cost parameters such as base demand, maximum day demand, and maximum hour demand. This process results in the assignment of costs to the specific types of water service they are incurred to serve.
- » **Units of Service:** Determining the customer class units of service for each cost parameter based on metrics such as annual average day billed usage, maximum day and maximum hour extra capacity demand, the number of equivalent meters, and annual number of water bills.
- » **Unit Cost-of-Service:** Determining the utility-wide unit cost-of-service for each cost parameter. The unit cost-of-service is determined by dividing the revenue requirement assigned to each cost parameter by its associated utility-wide units of service.
- » **Customer Class Revenue Requirements:** Distributing the total revenue requirement by multiplying the customer class specific units of service for each cost parameter by the associated utility-wide unit cost-of-service.

## 5.2. FY 2023-24 Revenue Requirement

The FY 2023-24 financial plan revenue requirement of \$5.19 million consists of \$4.65 million in O&M expenses and \$0.54 million in capital costs. These costs are increased by \$0.39 to \$5.58 reflecting a reduction of \$0.29 in non-rate revenues and increase of \$0.69 due to an increase in cash reserves. as summarized in Table 5-1 and detailed on page C-1 .

**Table 5-1: Water Fund Revenue Requirements**

Description	FY 2023-24 Cost-of- Service
O&M Expenses	\$4.65 M
Capital Costs	0.54 M
Other Cash (Inflows) / Outflows	(0.30 M)
Increase (Decrease) in Cash Reserves	<u>0.69 M</u>
<b>Water User Charge Revenues</b>	<b>\$5.58 M</b>

Water user charge revenues of \$5.58 million are incorporated within the rate development as the amount to be generated for the FY 2023-24 test year if user charges were in place for the full 12-months of the fiscal year.

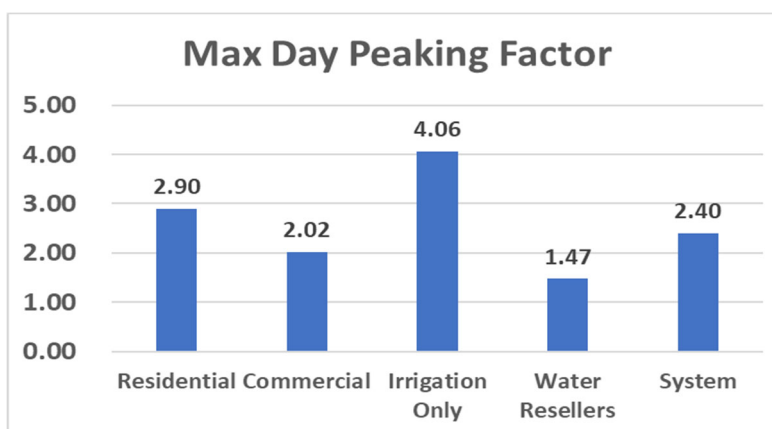
### 5.3. Customer Class Peaking Factors

A water utility system cannot be designed, constructed, or operated merely to meet the average daily demands imposed by customers. Instead, it must be designed, constructed, and operated to meet total system maximum day and maximum hour peak demands imposed by customers. These peak demands occur on a single day or for a single hour each year and are significantly greater than typical average day demands. The maximum day to average day demand peaking factor of 2.40 and a maximum hour to average day demand peaking factor of 3.84 are higher than actual results to incorporate some design contingency for planning. This was reviewed with District and Interstate staff and was deemed reasonable.

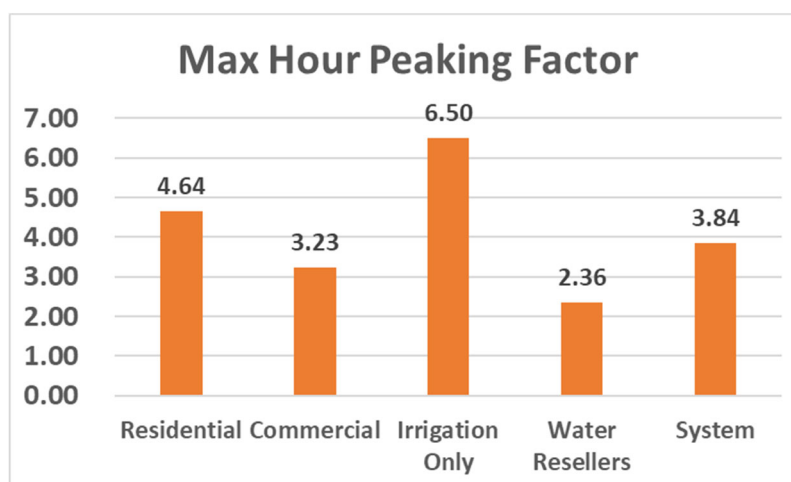
The approach used by Raftelis to estimate customer maximum day and maximum hour peaking factors is like that described in Appendix A of the AWWA Manual M1. Raftelis utilized FY 2019-20 through FY 2020-21 detailed customer billing data, adjusted as previously discussed, and the results of this process are shown in Figures 5-1 and 5-2. Actual maximum month to average month peaking factors over the 24-month period were 2.35 times the average month water demand. These estimated peaking factors were used by Raftelis to establish the maximum day and maximum hour extra capacity units of service for each customer class as used in the cost-of-service study analysis. These extra capacity units of service are a key driver of the allocation of the revenue requirement for each customer class.



**Figure 5-1: Customer Class Maximum Day Peaking Factors**



**Figure 5-2: Customer Class Maximum Hour Peaking Factors**



Due to the peak demands they impose on a water utility system, customer classes that have higher maximum day and maximum hour peaking factors generally make a large proportional contribution to the coincident peak demands experienced by a utility, i.e., place greater summer season demands on the system. As a result, through the cost-of-service process, they are allocated a larger proportional share of the water utility revenue requirement.

## 5.4. Cost of Service Study Results

The goal of a cost-of-service study is to implement user charges that equitably recover the cost of providing service to each customer class. Thus, the critical question the cost-of-service study process attempts to answer is: do the user charge revenues collected from each customer class under existing rate structures correspond to the cost of providing service? If the answer to this question is no, it indicates that one or more customer classes are not making a fair and equitable contribution to the utility's overall revenue recovery and subsidizing other customer classes.

Customer classes include additional separated customer groupings of customers that were evaluated (e.g., irrigation-only) separately for the cost-of-service analysis. Some of these customer groups were consolidated for the purpose of rate setting.

As shown in Table 5-2, the projected FY 2023-24 user charge revenue recovery for each water customer class does not match the calculated FY 2023-24 cost-of-service. Specifically, residential, and irrigation-only customers are paying too little and commercial customers are paying too much relative to the indicated cost-of-service. The District's rate structure includes system-wide water volume rates irrespective of customer class and meter size and was not established based on different customer classes. The result is more usage and revenue from larger water users on average compared to residential customers. Residential and irrigation-only customers as customer classes exhibit higher peak period use to average month usage patterns as compared to the commercial customer class.

Table 5-2 shows the results of the FY 2023-24 cost-of-service analysis aggregating the classes into their respective current rate structure designations.

**Table 5-2: FY 2023-24 Cost-of-Service Results**

<b>Customer Class</b>	<b>Cost-of-Service</b>	<b>Revenue Under Existing Rates</b>	<b>Difference Revenue (\$)</b>	<b>Difference in Revenue (%)</b>
<b>Residential</b>	\$4.06 M	\$2.99 M	\$1.07 M	36.1%
<b>Commercial</b>	1.15 M	1.54 M	(0.39) M	(25.3%)
<b>Water Retailers</b>	0.09 M	0.15 M	(0.06) M	(43.2%)
<b>Irrigation-Only</b>	<u>0.29 M</u>	<u>0.22 M</u>	<u>0.07 M</u>	28.5%
<b>Total</b>	<b>\$5.59 M</b>	<b>4.90 M</b>	<b>\$0.69 M</b>	<b>14.0%</b>

## 6. Rate Design

The water user charge design process allows utility governing bodies to determine how they wish to recover the cost-of-service study-derived revenue requirement from rates from each customer class. Generally, utility governing bodies have significant discretion to achieve specific financial, water conservation or public policy objectives via the water rate design process. Raftelis and District staff reviewed various rate design alternatives that achieve the required revenue requirement for the water utility.

Raftelis developed two rate alternatives for the FY 2023-24 test-year that were “revenue-neutral”, meaning the same level of revenue as calculated in the financial plan is projected to be generated under each alternative. These alternatives were presented to the District Board in December 2022.

Following the December 2022 presentation, Raftelis worked with District staff to update the proposed FY 2023-24 rates to reflect feedback and adjustments resulting in a single alternative FY 2023-24 rates. The following recommendations are integrated within the proposed rates:

- » Eliminate the minimum water allowance within the fixed monthly service charge.
- » Charge at least as much per 1,000 gallons as the City charges the District for treated water.
- » Separate Residential, Commercial, and Irrigation-only Customers into separate classes rate setting and cost recovery.
- » Improve customer class cost of service recovery amongst the established classes.
- » Update Ancillary and non-rate charges and fees to fully recover the costs of District services.

### 6.1. Existing Rates

The existing water rate structure includes a base charge that increases by meter size and a service line repair fee that is the same for all meter sizes applicable to all customer classes and system-wide tiered volumetric charges. Tables 6-1 and 6-2 detail the District’s current rates.

**Table 6-1: Current Base Charge and Service Line Repair Fee**

Meter Size	Current Base Charge	Service Line Repair Fee	Total
<b>¾-inch and less</b>	\$20.74	\$1.30	\$22.04
<b>1-inch</b>	22.30	1.30	23.60
<b>1 ½-inch</b>	24.39	1.30	25.69
<b>2-inch</b>	30.17	1.30	31.47
<b>3-inch</b>	72.73	1.30	74.03
<b>4-inch</b>	88.35	1.30	89.65
<b>6-inch</b>	143.42	1.30	144.72
<b>8-inch</b>	166.93	1.30	168.23

**Table 6-2: Current Volume Water Rates**

Customer Class	Description	Water Allocation	Rate per 1,000 gal.
All	Tier 1	0 – 3,300	\$0.00
All	Tier 2	3,301 – 20,000	4.48
All	Tier 3	20,001 – 50,000	5.38
All	Tier 4	Over 50,000	6.48

## 6.2. Proposed FY 2023-24 Rates

The proposed rates maintain the existing monthly base rates increasing by meter size and include different volumetric rate by customer classes for Residential, Commercial, and Irrigation-Only which transition closer to customer class cost of service while increasing overall user charges by 14.0%.

The proposed rates achieve system-wide cost-of-service rates in FY 2023-24 and improve customer class cost-of-service recovery for each customer class and future rate adjustments will be necessary to achieve full customer class cost-of-service recovery. Appendix D includes more detailed information related to the proposed FY 2023-24 rates. Table 6-3 presents the current water rates compared to the proposed monthly service charge increasing by meter size.

**Table 6-3: Current and Proposed FY 2023-24 Water Base Charges**

Meter Size	Current (1)	Proposed (1)
<b>¾-inch and less</b>	\$22.04	\$22.30
<b>1-inch</b>	23.60	30.70
<b>1 ½-inch</b>	25.69	53.80
<b>2-inch</b>	31.47	81.10
<b>3-inch</b>	74.03	154.60
<b>4-inch</b>	89.65	154.60
<b>6-inch</b>	144.72	467.50
<b>8-inch</b>	168.23	742.60
(1) Includes service line repair fee of \$1.30 per month.		

Table 6-4 presents the current water rates compared to the proposed monthly service charge increasing by meter size. Residential customers are proposed to have a 4-tier inclining block rate structure. Commercial and irrigation-only customers are proposed to have uniform volume rate per 1,000 gallons of water use.

**Table 6-4: Proposed Volume Water Rates**

Customer Class	Description	Water Allocation	Rate per 1,000 gal.
<b>Residential</b>	Tier 1	0 – 4,000	\$3.38
<b>Residential</b>	Tier 2	4,001 – 15,000	5.07
<b>Residential</b>	Tier 3	15,001 – 40,000	7.61
<b>Residential</b>	Tier 4	Over 40,000	10.13
<b>Non-Residential</b>	Uniform	All Use	4.24
<b>Water Retailers</b>	Uniform	All Use	4.24
<b>Irrigation-Only</b>	Uniform	All Use	7.00

Table 6-5 shows the results of the FY 2023-24 cost-of-service analysis compared to revenue under the proposed rates by customer class.

**Table 6-5: FY 2023-24 Cost-of-Service Results**

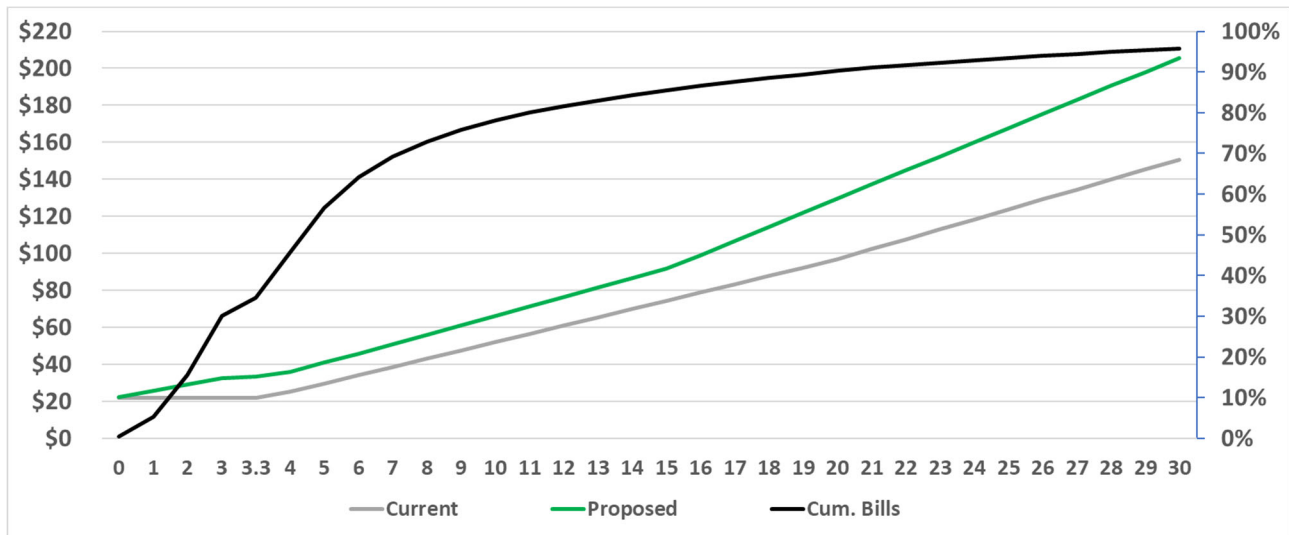
Customer Class	Cost-of-Service	Revenue Under Proposed Rates	Difference Revenue (\$)	Difference in Revenue (%)
<b>Residential</b>	\$4.06 M	\$3.97 M	\$0.09 M	2.4%
<b>Non-Residential</b>	1.15 M	1.33 M	(0.18) M	(15.4%)
<b>Water Retailers</b>	0.09 M	0.11 M	(0.02) M	(27.6%)
<b>Irrigation-Only</b>	<u>0.29 M</u>	<u>0.29 M</u>	<u>0.00 M</u>	(2.0%)
<b>Total</b>	<b>\$5.59 M</b>	<b>\$5.70 M</b>	<b>\$0.11 M</b>	<b>2.0%</b>

The proposed rates are designed to recover customer class cost of service results for irrigation-only customers while significantly reducing the subsidy provided by commercial customers to residential customers as a class. The District may wish to continue to reduce the subsidy between Residential and Commercial customer classifications as part of future rate evaluations. Proposed rates generate an approximate \$110,000 or 2.0% more in revenue beyond the FY 2023-24 test-year cost-of-service as the rates were intended to incorporate revenues recovered through a separate \$1.30 per month service line repair fee.

### 6.3. Customer Monthly Bill Comparisons

Figure 6-1 summarizes residential customer with a ¾-inch meter size and less monthly under current and proposed monthly charges and volume rates for each 1,000 gallon increment. The additional line on the second axis tracks the cumulative number of monthly bills for the same customers as water use increases.

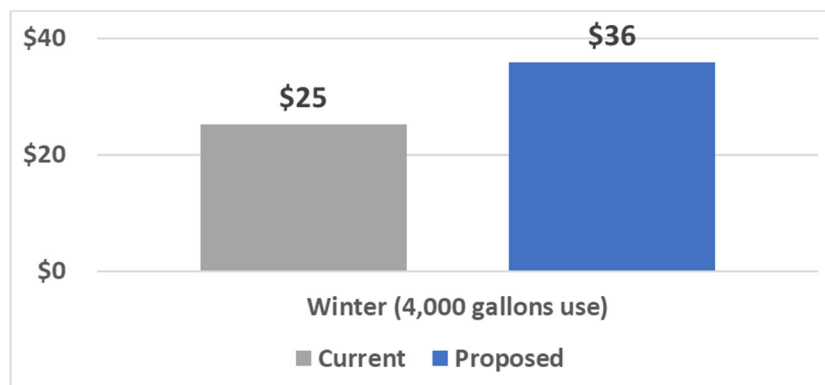
**Figure 6-1: Typical Monthly Water Residential Bill Impact**



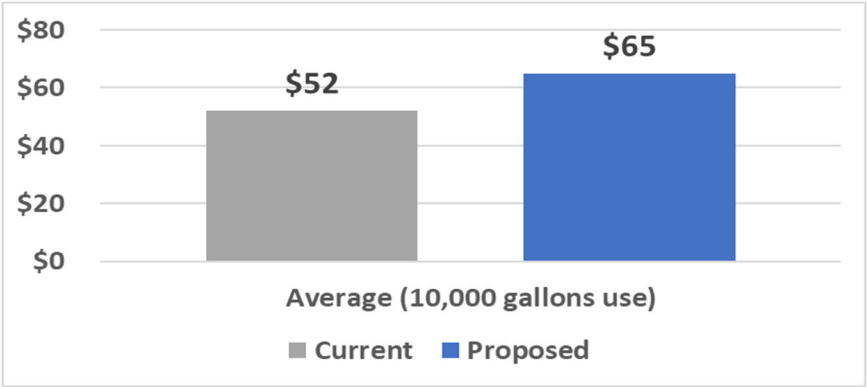
Figures 6-2, 6-3, 6-4, and 6-5 shows residential  $\frac{3}{4}$ -inch meter size and less monthly bills under current and proposed monthly charges and volume rates at:

- 4,000 gallons (winter bill)
- 10,000 gallons (average annual bill)
- 15,000 gallons (summer bill)
- 30,000 gallons (higher summer bill)

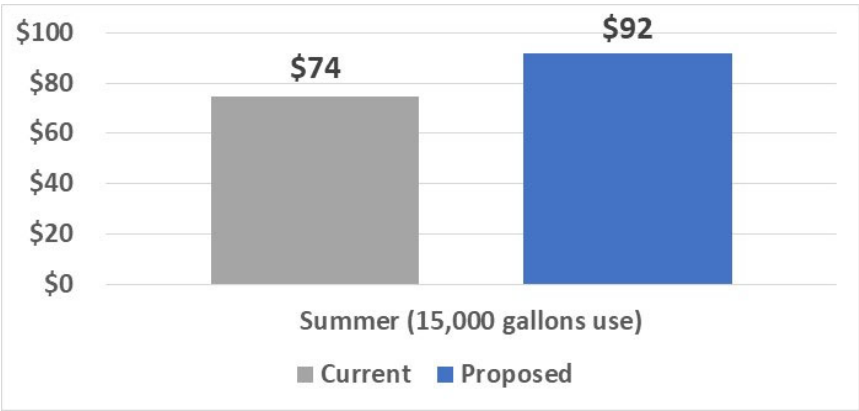
**Figure 6-2: Monthly Water Residential Bill Impact –  $\frac{3}{4}$ -Inch Meter, 4,000 Gallons**



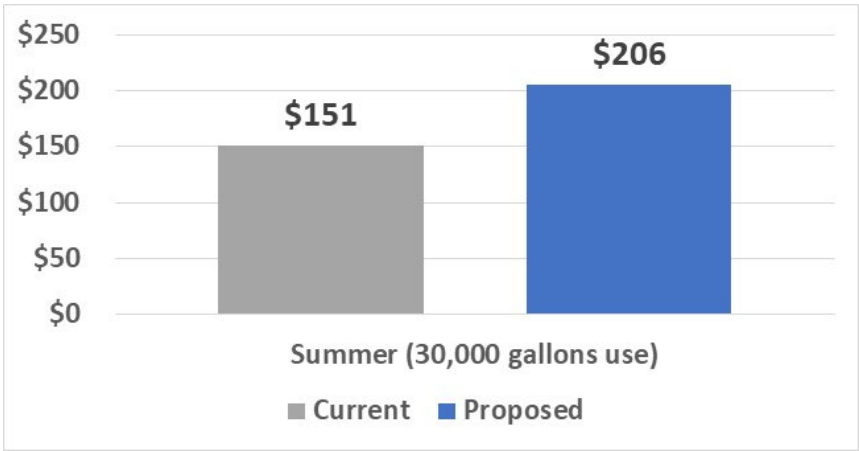
**Figure 6-3: Monthly Water Residential Bill Impact – ¾-Inch Meter, 10,000 Gallons**



**Figure 6-4: Monthly Water Residential Bill Impact – ¾-Inch Meter and 15,000 Gallons**



**Figure 6-5: Monthly Water Residential Bill Impact – ¾-Inch Meter and 25,000 Gallons**



Raftelis a survey of comparable water utilities compared to the District’s current and proposed monthly bills using rates effective July 1, 2023. Figure 6-6 shows the monthly bills for a ¾-inch water customer meter using 10,000 gallons for this survey group.

**Figure 6-6: Residential Monthly Water Bill Survey**

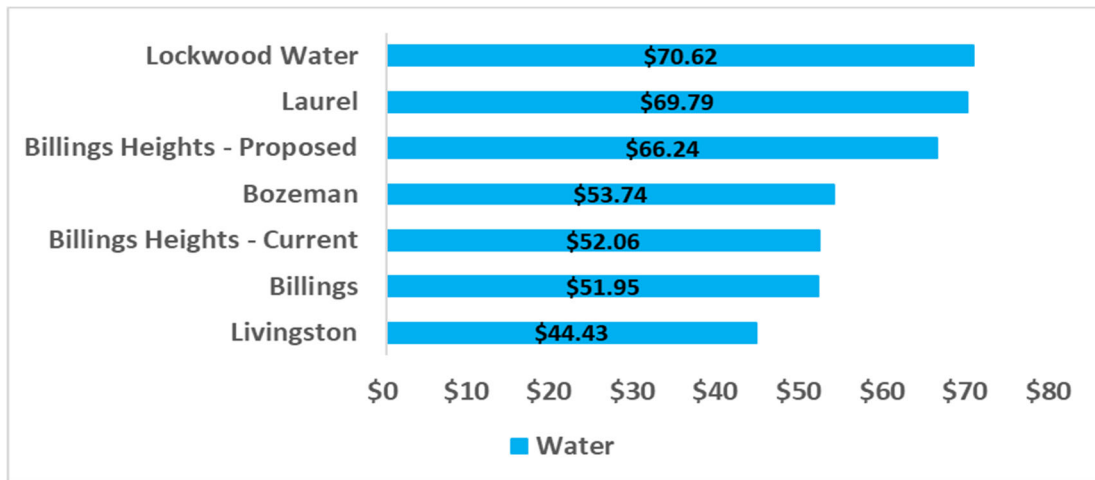
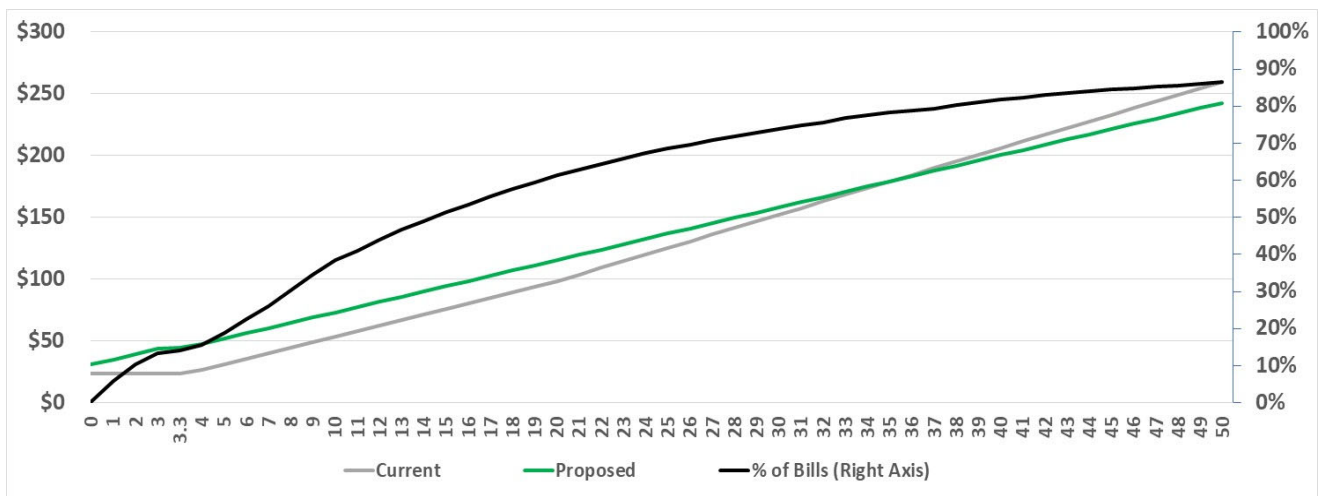


Figure 6-7 summarizes for commercial customers with a 1-inch meter size and less monthly under current and proposed monthly charges and volume rates for each 1,000 gallon increment. The additional line on the second axis tracks the cumulative number of monthly bills for the same customers as water use increases.

**Figure 6-7: Monthly Commercial 1-inch Water Meter Customer Bill Comparison**

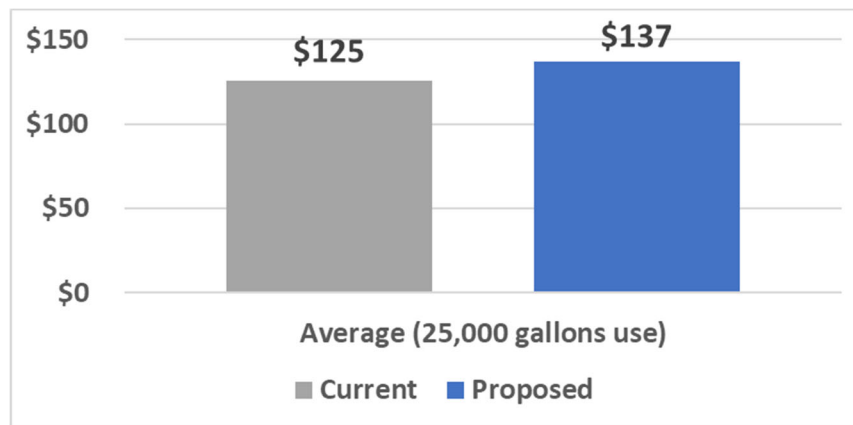


Figures 6-8 and 6-9 show monthly bills for commercial 1-inch meter size under current and proposed monthly charges and volume rates at:

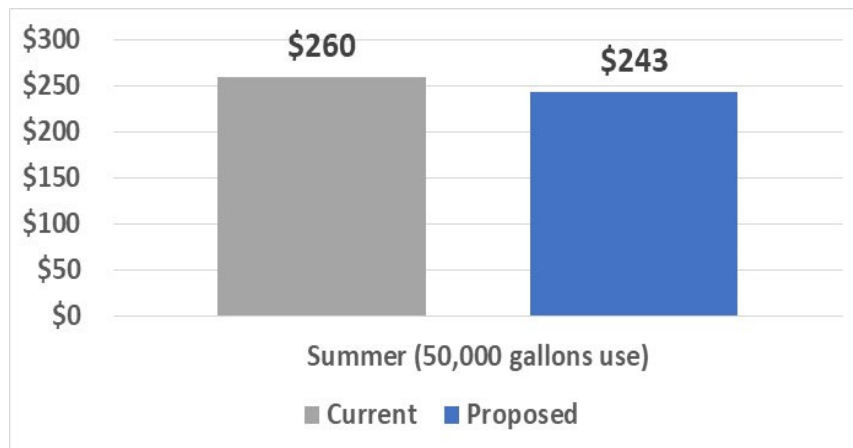
- 25,000 gallons (average monthly bill) and
- 50,000 gallons (higher usage bill)



**Figure 6-8: Monthly Water Commercial Bill Impact – 1-Inch Meter and 25,000 Gallons**



**Figure 6-9: Monthly Water Commercial Bill Impact – 1-Inch Meter and 50,000 Gallons**



Figures 6-10 and 6-11 show monthly bills for irrigation-only 1-inch meter size under current and proposed monthly charges and volume rates at:

- 50,000 gallons (average monthly bill)
- 100,000 gallons (higher usage bill)

Figure 6-10: Monthly Water Irrigation-Only Bill Impact – 1-Inch Meter and 50,000 Gallons

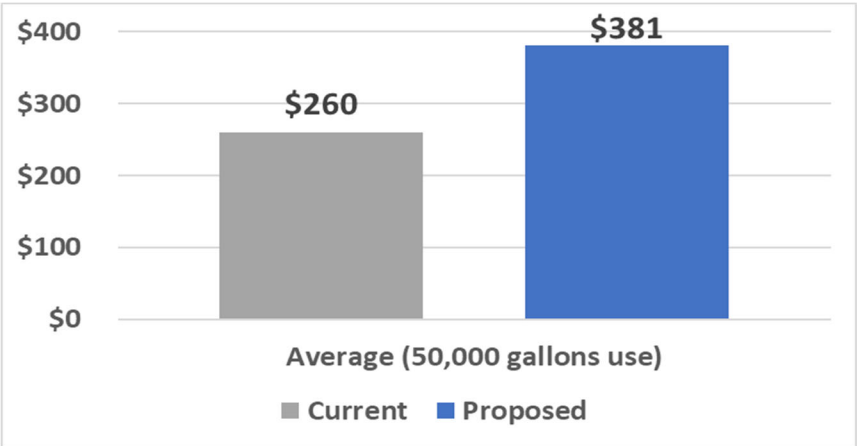
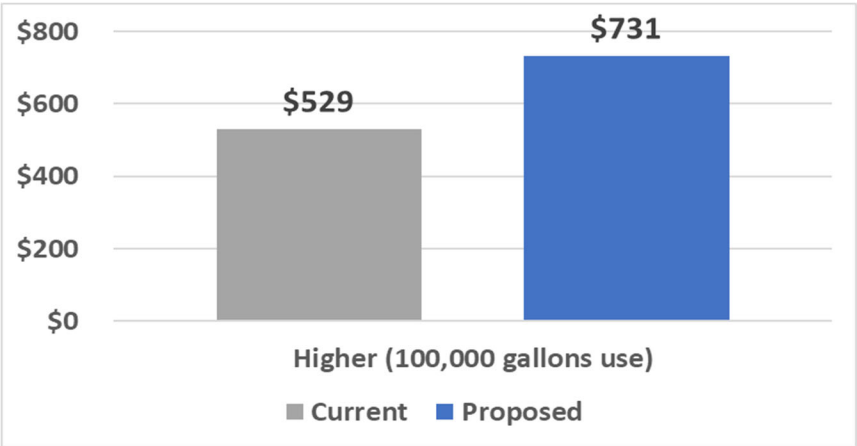


Figure 6-11: Monthly Water Irrigation-Only Bill Impact – 1-Inch Meter and 100,000 Gallons



## 7. SDFs

In growing communities such as the District, SDF receipts can provide a significant portion of required CIP funding and/or debt repayment of external debt financing providing upfront funding. As a result, the determination of SDFs and the projection of the future SDF receipts is a critical part of the financial planning process discussed in Section 4 of this Report.

SDFs are also referred to as system development charges, plant investment fees, SDFs, tap fees, and a variety of other terms. As described in the AWWA M1, these fees compensate a community for the cost of acquiring, constructing, and extending infrastructure to support new development:

"A system development charge (SDC) is a one-time charge paid by a new water system customer for system capacity. It is also assessed to existing customers requiring increased system capacity. The receipts from this charge are used to finance the development of capacity-related water facilities and are an important funding/financing source for growth-related or capacity-related water facilities."

There are several legal standards that define the design and application of SDFs. For example, SDFs cannot pay for O&M expenses but may fund capital and repay debt service obligations. There must also be a rational nexus between the SDFs paid by new development and the costs such fees are used to pay for. This means that SDF receipts are dedicated for infrastructure expansion required by new development. In addition, SDFs must be proportional to a new development's share of growth-related infrastructure costs.

### 7.1. Proposed SDFs

The District assesses separate a one-time service connection fee increasing by meter size and an Annexation / Buy-in fee per acre or per square foot. Table 7-1 details the service connection fee. Table 7-2 shows the Annexation / Buy-In fee assessment schedule.

**Table 7-1: Current Service Connection Fee by Meter Size**

Meter Size	Proposed
3/4-inch	\$1,830
1-inch	3,660
1 ½-inch	7,320
2-inch	11,714
4-inch	46,120
6-inch	146,411
8-inch	256,220

**Table 7-2: Current Annexation Fee**

Description	Fee	Assessment Basis
<b>Assessment 1</b>	\$10,148	Per Acre
<b>Assessment 2</b>	\$0.233	Per Square Foot

Raftelis proposes that the District:

- » Eliminate the Annexation / Buy-In and the Service Connection Fees and consolidate to a single capital recovery fee and implement:
  - SDFs increasing by meter size.
  - Establish a different Service Connection Fee which recovers the cost of the meter as well as District meter installation costs.
- » Index the SDF annually for inflation between more comprehensive updates.
- » Complete comprehensive SDF updates as dictated by the capital plan and/or system capacity for new development.
- » Update the adopted Service Connection Fee annually for changes in meter costs as well as District installation cost increases.
- » Implement a new administrative Annexation Fee to recover the District's incurred costs for administrative and procedural activities associated with processing the annexation.

Raftelis recommends the Incremental method as the basis for the unit cost of facilities benefiting new development. Raftelis evaluated each of all the three standard calculation methodologies, but the unit cost under the Incremental method best represents the cost of capacity benefiting new development. The District does not have a treatment plant or treatment infrastructure with treated water reservoirs limiting capacity to serve new developments. An expansion of the treated water storage reservoir is included in the medium term.

Table 7-3 summarizes the proposed water SDF increasing by meter size<sup>10</sup>. As the District assesses separate a one-time service connection fee increasing by meter size and an Annexation / Buy-in fee per acre or per square foot so a direct comparison between the current and proposed SDFs is difficult due to the differences in assessment.

**Table 7-3: Proposed FY 2023-24 SDF by Meter Size**

Meter Size	Proposed
3/4-inch	\$4,900
1-inch	8,167
1 ½-inch	16,333
2-inch	26,133
4-inch	52,267
6-inch	163,333
8-inch	261,333

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<sup>10</sup> Developments that previously paid the annexation fee will receive a credit of \$2,500 per ¼-acre developed if the annexation fee was paid per acre or \$0.058 per square foot if the annexation fee was paid per square foot.

## **7.2. Calculation Methodologies**

The three primary industry accepted methodologies for calculating water SDFs are the Buy-In, Incremental Cost, and Hybrid or Combined approaches. Depending on the unique circumstances of the utility in question, the use of one or more of these approaches results in a conceptually defensible and fundamentally equitable method for recovering the cost of system capacity additions required to serve new development.

### **7.2.1. BUY-IN METHODOLOGY**

The buy-in method is typically used by utility systems with existing available capacity to meet the long-term demands imposed by new development. This method estimates the value of a unit of system capacity based upon customer equity in existing capacity-related assets. Thus, the resulting SDF reflects the proportional cost of a new customer's share of existing system capacity. Under the buy-in method, the cost of existing capacity-related facilities is generally estimated based on current replacement cost.

### **7.2.2. INCREMENTAL COST METHODOLOGY**

The incremental cost method focuses on the cost of the additional capacity-related assets required to serve new customers. The incremental cost method is most appropriate for utility systems that do not have existing available capacity to serve growth. The resulting SDF reflects the proportional cost of each new customer's share of future system capacity. As such, the incremental cost method is most appropriately used when a utility has a well-defined capital improvement program or utility master plan.

### **7.2.3. HYBRID METHODOLOGY**

In addition to the Buy-in and Incremental methods, it is also common for many water utilities to use a combination of these two approaches. This combined "hybrid" approach is often used when a utility has some existing system capacity to accommodate growth but will also be required to construct additional new capacity in the future. For example, assume that a water utility has adequate treatment capacity to accommodate long-term demand growth but that it has a shortage of backbone transmission main and pumping capacity. In such a situation, it may be appropriate to utilize the equity buy-in method to calculate that portion of the SDFs associated with existing facilities and the incremental cost method to calculate that portion of the SDFs related to planned capacity additions.

### **7.2.4. STEPS IN THE WATER SDF CALCULATION PROCESS**

Calculating an SDF requires a multi-step process which begins with the valuation of capacity-related facilities. The second step in the SDF calculation process is to determine the appropriate units of capacity to use in the calculation. In many cases, the fundamental unit of capacity is defined as single family residential maximum day or annual average day water demand. This is the approach used by Raftelis to calculate the District's SDFs.

The third step in the SDF calculation process is to determine the unit cost of capacity. This is achieved by dividing capacity-related costs by the appropriate units of capacity. Finally, an assessment schedule is developed to reflect the demand relationships between various types of customers, land uses and meter sizes. Table 7-4 summarizes these steps for each SDF calculation methodology.

**Table 7-4: Steps in the Water SDF Calculation Process**

Step	Buy-In	Incremental Cost	Hybrid
<b>#1: Asset Valuation</b>	<b>Estimate value of existing assets</b>	<b>Estimate value of future growth-related asset additions</b>	<b>Estimate value of existing assets and future growth-related asset additions</b>
<b>#2: Units of Capacity</b>	<b>Determine units of existing capacity</b>	<b>Estimate future capacity unit additions</b>	<b>Determine existing units of capacity and future capacity unit additions</b>
<b>#3: Unit Cost of Capacity</b>	<b>Calculate unit cost of existing capacity</b>	<b>Calculate unit cost of incremental capacity additions</b>	<b>Calculate unit cost of combined existing and future capacity additions</b>
<b>#4: Assessment Schedule</b>	<b>Determine the SDF assessment schedule</b>		

## 7.3. SDF Calculation

Raftelis calculated maximum supportable water SDFs per  $\frac{3}{4}$ -inch water meter equivalent or ERU. Table 7-5 summarizes the maximum supportable water SDF of \$4,579 per ERU.

**Table 7-5: Maximum Supportable Water SDF Calculation**

Description	Calculation
Growth-Related Capital	\$20.04 M
Net Present Value of Future Interest	4.33 M
Total for SDF Calculation	\$24.37 M
Total for SDF Calculation	\$24.37 M
Treatment Capacity – Gallons per Day	<u>3,000,000</u>
Unit Cost of Capacity - \$ / gal.	\$8.12
Unit Cost of Capacity - \$ / gal.	\$ 8.12
Peak Day Design Capacity – gal / ERU	<u>X 560</u>
SDF per ERU	\$4,550

The District has anticipated expansionary water capital improvements of \$20.04 million through FY 2031-32 in addition to available capacity within existing water infrastructure. District and Interstate team members developed the multi-year CIP and prioritized capital improvements. The following project comprise the growth-related and SDF eligible capital improvements:

- » Northwest Transmission Line - 90% expansionary with \$9.90 million.
- » 4 Million Gallon Ox Bow Reservoir - 100% expansionary with \$5.50 million.
- » Bitterroot Loop Access Under Highway - 80% expansionary with \$2.56 million.
- » Portions of other prioritized capital improvements comprise the balance of \$2.08 million.

NPV of interest totaling \$4.49 million is included in the SDF calculation. The NPV of interest incorporates the growth-related portion of the five future debt issuances. Table 7-6 summarizes the elements.

**Table 7-6: Projected Debt and Growth Portion of NPV Interest**

Series	Debt Issue Amount	NPV of Interest	% Growth	Growth Portion of NPV Interest
2024	\$10.20 M	\$3.24 M	90%	\$2.91 M
FY 2026-27	2.50 M	0.48 M	50%	0.24 M
FY 2028-29	2.80 M	0.48 M	80%	0.39 M
FY 2031-32	5.30 M	0.79 M	100%	0.79 M

Figure 7-1 shows a SDF comparison of the current and proposed District one-time capital recovery fees against those similar one-time time fees assessed to nearby and regional water utilities for a residential  $\frac{3}{4}$ -inch meter connection<sup>11</sup>. These are as of July 1, 2023 and include changes to one-time capital recovery fees as of July 1, 2023, including implementation of a different structure for the City for residential developments.

**Figure 7-1: Residential  $\frac{3}{4}$ -inch Meter SDF Survey Comparison**

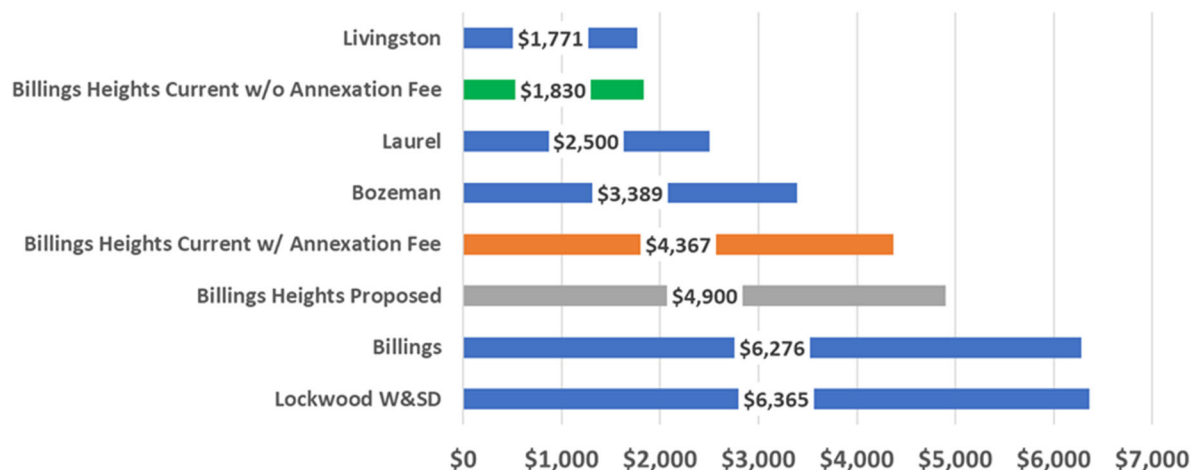
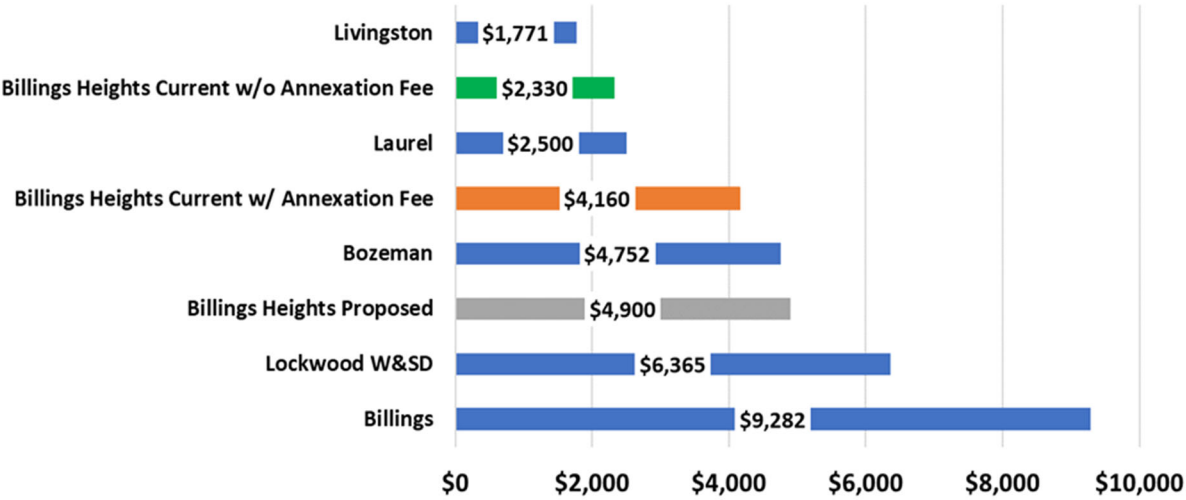


Figure 7-2 shows a Similar comparison for commercial  $\frac{3}{4}$ -inch SDFs for the same water utilities<sup>12</sup>.

<sup>11</sup> For purposes of the survey, a residential connection is assumed to require a  $\frac{3}{4}$ -inch water meter, 0.25 acre lot, 2,000 square foot developed structure with 3 bedrooms.

<sup>12</sup> For purposes of the survey, a commercial connection is assumed to require a  $\frac{3}{4}$ -inch water meter and develop a 10,000 square foot developed structure.

Figure 7-2: Commercial 3/4-inch Meter SDF Survey Comparison





APPENDIX A:

**FINANCIAL PLAN**

Billings Heights Water District  
Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
Decision Criteria Dashboard

Description	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
<b>Operating Fund</b>									
Months Increase is Effective in First Year	11	11	11	11	11	11	11	11	11
Annualized Percentage Increase	0.0%	14.0%	19.0%	6.0%	6.0%	5.0%	5.0%	3.0%	3.0%
Cumulative Increase	0.0%	14.0%	35.7%	43.8%	52.4%	60.0%	68.1%	73.1%	78.3%
Typical Residential Monthly Bill (1) (3/4-inch, 10 KGAL)	\$52.06	\$66.24	\$78.83	\$83.56	\$88.57	\$93.00	\$97.65	\$100.58	\$103.59
Cumulative Typical Residential Monthly Bill Increase		\$14.18	\$26.77	\$31.50	\$36.51	\$40.94	\$45.59	\$48.52	\$51.54
<b>Operating Fund Ending Balance</b>	\$6,509,106	\$7,196,156	\$6,190,429	\$5,280,362	\$4,889,840	\$4,375,229	\$3,085,691	\$2,754,442	\$2,169,205
Target	0	1,163,200	1,550,400	1,624,300	1,699,900	1,780,100	1,865,000	1,954,400	2,048,900
Operating Fund Above / Below Target	6,509,106	6,032,956	4,640,029	3,656,062	3,189,940	2,595,129	1,220,691	800,042	120,305
<b>Combined Water Enterprise Fund</b>									
Combined Water Fund Ending Balance	\$7,009,106	\$7,952,486	\$6,690,429	\$5,780,362	\$5,389,840	\$4,875,229	\$3,585,691	\$3,254,442	\$2,669,205
Target	500,000	1,663,200	2,050,400	2,124,300	2,199,900	2,280,100	2,365,000	2,454,400	2,548,900
Combined Fund Above / Below Target	6,509,106	6,289,286	4,640,029	3,656,062	3,189,940	2,595,129	1,220,691	800,042	120,305
<i>Current Year Debt Service Coverage - All Revenues</i>	2.64	4.03	2.85	1.47	1.74	1.70	1.89	1.68	2.53
<i>Current Year Debt Service Coverage - Excludes SDF and Buy-In Fees</i>	1.62	3.10	1.86	1.03	1.29	1.29	1.47	1.30	1.93
<b>Legal Debt Service Coverage - Max. Annual Debt Service and All Revenues</b>	2.90	3.17	1.33	1.59	1.61	1.80	1.74	1.77	1.80
<i>Target Debt Service Coverage</i>	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
<b>Capital Fund</b>									
Grants / Forgivable Principal for Capital	535,182	0	0	0	0	0	0	0	0
SRF Issuance Proceeds	0	2,700,000	7,500,000	0	2,500,000	0	2,800,000	0	0
USDA-RD Bond Proceeds	0	0	0	0	0	0	0	0	0
<i>Annual CIP</i>	1,150,000	2,796,654	9,065,064	1,413,622	3,456,401	1,305,489	4,885,502	1,200,368	1,850,828
Ending Capital Fund Balance	\$500,000	\$756,330	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000
Target	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000
Capital Fund Above / Below Target	0	256,330	0	0	0	0	0	0	0

Billings Heights Water District  
Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
Combined Water Enterprise Fund

Line No.	Description	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
		\$	\$	\$	\$	\$	\$	\$	\$	\$
<b>1</b>	<b>Sources of Funds</b>									
<b>2</b>	Revenue from Existing Water Service Rates	4,842,501	4,901,120	4,960,618	5,021,009	5,082,306	5,144,523	5,207,672	5,271,769	5,336,827
<b>3</b>	Additional Water Sales Revenue Required	0	628,977	1,679,417	2,165,125	2,627,988	3,056,558	3,509,165	3,831,143	4,154,880
<b>4</b>	Total Water Service Rate Revenue	4,842,501	5,530,097	6,640,036	7,186,134	7,710,295	8,201,081	8,716,838	9,102,912	9,491,707
<b>5</b>	Miscellaneous Revenue	232,451	252,389	232,522	188,904	182,272	180,882	178,302	168,022	164,907
<b>6</b>	SRF Loan Proceeds	0	2,700,000	7,500,000	0	2,500,000	0	2,800,000	0	0
<b>7</b>	USDA-RD Loan Proceeds	0	0	0	0	0	0	0	0	0
<b>8</b>	Grants for Capital	535,182	0	0	0	0	0	0	0	0
<b>9</b>	System Development Service/Fire Line Fee	187,407	95,534	96,449	96,449	98,279	99,194	101,939	103,769	104,684
<b>10</b>	Annexation Buy-In Fee / Proposed PIF Revenue	187,737	247,450	264,772	280,815	289,240	306,511	318,657	328,216	347,453
<b>11</b>	Grants for Operations	0	0	0	0	0	0	0	0	0
<b>12</b>	Service Line Repair Fee	93,625	95,013	96,421	97,851	99,302	100,774	102,269	103,786	105,326
<b>13</b>	Investment Income	5,476	10,000	11,345	5,000	5,000	5,000	5,000	5,000	5,000
<b>14</b>	<b>Total Sources</b>	<b>6,084,379</b>	<b>8,930,483</b>	<b>14,841,544</b>	<b>7,855,153</b>	<b>10,884,386</b>	<b>8,893,442</b>	<b>12,223,004</b>	<b>9,811,705</b>	<b>10,219,078</b>
<b>15</b>	<b>Uses of Funds</b>									
<b>16</b>	Operation and Maintenance Expense	4,482,696	4,652,697	6,201,491	6,497,227	6,799,462	7,120,581	7,459,973	7,817,493	8,195,754
<b>17</b>	Debt Service									
<b>18</b>	Existing - SRF	368,125	368,253	366,215	367,038	366,665	367,103	367,333	367,360	0
<b>19</b>	Proposed - SRF	0	0	0	487,332	487,332	614,880	614,880	757,734	757,734
<b>20</b>	Proposed - USDA-RD	0	0	0	0	0	0	0	0	0
<b>21</b>	Total Debt Service	368,125	368,253	366,215	854,370	853,997	981,983	982,213	1,125,094	757,734
<b>22</b>	Debt Service Reserve and Issuance Expense	0	169,500	470,832	0	165,048	0	184,854	0	0
<b>23</b>	Total Capital Expenditures	1,150,000	2,796,654	9,065,064	1,413,622	3,456,401	1,305,489	4,885,502	1,200,368	1,850,828
<b>24</b>	<b>Total Uses</b>	<b>6,000,821</b>	<b>7,987,103</b>	<b>16,103,602</b>	<b>8,765,219</b>	<b>11,274,908</b>	<b>9,408,053</b>	<b>13,512,542</b>	<b>10,142,955</b>	<b>10,804,315</b>
<b>25</b>	Annual Surplus (Deficiency)	83,558	943,380	(1,262,057)	(910,066)	(390,522)	(514,611)	(1,289,538)	(331,249)	(585,238)
<b>26</b>	<b>Beginning Balance</b>	<b>6,925,548</b>	<b>7,009,106</b>	<b>7,952,486</b>	<b>6,690,429</b>	<b>5,780,362</b>	<b>5,389,840</b>	<b>4,875,229</b>	<b>3,585,691</b>	<b>3,254,442</b>
<b>27</b>	<b>Ending Balance Before Target Reserves</b>	<b>7,009,106</b>	<b>7,952,486</b>	<b>6,690,429</b>	<b>5,780,362</b>	<b>5,389,840</b>	<b>4,875,229</b>	<b>3,585,691</b>	<b>3,254,442</b>	<b>2,669,205</b>
<b>28</b>	Target Reserves	500,000	1,663,200	2,050,400	2,124,300	2,199,900	2,280,100	2,365,000	2,454,400	2,548,900
<b>29</b>	<b>Ending Balance Less Target Reserves</b>	<b>6,509,106</b>	<b>6,289,286</b>	<b>4,640,029</b>	<b>3,656,062</b>	<b>3,189,940</b>	<b>2,595,129</b>	<b>1,220,691</b>	<b>800,042</b>	<b>120,305</b>
<b>30</b>	Annualized Water Service Revenue Increase	0.0%	14.0%	19.0%	6.0%	6.0%	5.0%	5.0%	3.0%	3.0%
<b>31</b>	Typical Residential Monthly Bill (1) (3/4-inch, 10 KGAL)	\$52.06	\$64.94	\$78.58	\$87.22	\$96.82	\$101.66	\$106.74	\$109.94	\$113.24
<b>32</b>	Maximum Annual Debt Service (Exsting and Proposed)	\$368,253	\$497,253	\$855,585	\$854,692	\$982,240	\$982,240	\$1,125,094	\$1,125,094	\$1,125,094
<b>33</b>	Current Year Debt Service Coverage - All Revenues	2.64	4.03	2.85	1.47	1.74	1.70	1.89	1.68	2.53
<b>34</b>	Current Year Debt Service Coverage - Excludes SDF and Buy-	1.62	3.10	1.86	1.03	1.29	1.29	1.47	1.30	1.93
<b>35</b>	Legal Debt Service Coverage - Max. Annual Debt Service anc	2.90	3.17	1.33	1.59	1.61	1.80	1.74	1.77	1.80

**Billings Heights Water District**  
**Water Financial Plan, Cost of Service, Rate, and System Development Fee Study**  
**Operating Fund Cash Flow Analysis**

Line No.	Description	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
		\$	\$	\$	\$	\$	\$	\$	\$	
<b>1</b>	<b>Sources of Funds</b>									
<b>2</b>	Revenue from Existing Water Service Rates	4,842,501	4,901,120	4,960,618	5,021,009	5,082,306	5,144,523	5,207,672	5,271,769	5,336,827
<b>3</b>	Additional Water Sales Revenue Required	0	628,977	1,679,417	2,165,125	2,627,988	3,056,558	3,509,165	3,831,143	4,154,880
<b>4</b>	Total Water Service Rate Revenue	4,842,501	5,530,097	6,640,036	7,186,134	7,710,295	8,201,081	8,716,838	9,102,912	9,491,707
<b>5</b>	Miscellaneous Revenue	232,451	252,389	232,522	188,904	182,272	180,882	178,302	168,022	164,907
<b>6</b>	Service Line Repair Fee	93,625	95,013	96,421	97,851	99,302	100,774	102,269	103,786	105,326
<b>7</b>	Grants for Operating Expenses	0	0	0	0	0	0	0	0	0
<b>8</b>	<b>Total Sources</b>	<b>5,168,577</b>	<b>5,877,499</b>	<b>6,968,979</b>	<b>7,472,889</b>	<b>7,991,868</b>	<b>8,482,738</b>	<b>8,997,408</b>	<b>9,374,720</b>	<b>9,761,940</b>
<b>9</b>	<b>Uses of Funds</b>									
<b>10</b>	Operation and Maintenance Expense	4,482,696	4,652,697	6,201,491	6,497,227	6,799,462	7,120,581	7,459,973	7,817,493	8,195,754
<b>11</b>	<b>Debt Service</b>									
<b>12</b>	Existing - SRF	368,125	368,253	366,215	367,038	366,665	367,103	367,333	367,360	0
<b>13</b>	Proposed - SRF	0	0	0	487,332	487,332	614,880	614,880	757,734	757,734
<b>14</b>	Proposed - USDA-RD	0	0	0	0	0	0	0	0	0
<b>15</b>	Total Debt Service	368,125	368,253	366,215	854,370	853,997	981,983	982,213	1,125,094	757,734
<b>16</b>	Debt Service Reserve and Issuance Expense	0	169,500	470,832	0	165,048	0	184,854	0	0
<b>17</b>	Transfer To Capital Fund	186,646	0	936,169	1,031,359	563,882	894,785	1,659,906	763,382	1,393,690
<b>18</b>	<b>Total Uses of Funds</b>	<b>5,037,467</b>	<b>5,190,450</b>	<b>7,974,707</b>	<b>8,382,955</b>	<b>8,382,390</b>	<b>8,997,349</b>	<b>10,286,946</b>	<b>9,705,969</b>	<b>10,347,178</b>
<b>19</b>	Annual Surplus (Deficiency)	131,110	687,050	(1,005,728)	(910,066)	(390,522)	(514,611)	(1,289,538)	(331,249)	(585,238)
<b>20</b>	<b>Beginning Balance</b>	<b>6,377,996</b>	<b>6,509,106</b>	<b>7,196,156</b>	<b>6,190,429</b>	<b>5,280,362</b>	<b>4,889,840</b>	<b>4,375,229</b>	<b>3,085,691</b>	<b>2,754,442</b>
<b>21</b>	<b>Ending Balance</b>	<b>6,509,106</b>	<b>7,196,156</b>	<b>6,190,429</b>	<b>5,280,362</b>	<b>4,889,840</b>	<b>4,375,229</b>	<b>3,085,691</b>	<b>2,754,442</b>	<b>2,169,205</b>
<b>22</b>	<b>Target Operating Reserves</b>	<b>0</b>	<b>1,163,200</b>	<b>1,550,400</b>	<b>1,624,300</b>	<b>1,699,900</b>	<b>1,780,100</b>	<b>1,865,000</b>	<b>1,954,400</b>	<b>2,048,900</b>
<b>23</b>	Annual Water Service Revenue Increase	0.0%	14.0%	19.0%	6.0%	6.0%	5.0%	5.0%	3.0%	3.0%
<b>24</b>	Cumulative Revenue Increase	0.0%	14.0%	35.7%	43.8%	52.4%	60.0%	68.1%	73.1%	78.3%

**Billings Heights Water District**  
**Water Financial Plan, Cost of Service, Rate, and System Development Fee Study**  
**Water Service Rate Revenue - Including Revenue from Proposed Increases**

Line				2023	2024	2025	2026	2027	2028	2029	2030	2031
No.	Description			FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
				\$	\$	\$	\$	\$	\$	\$	\$	
1	Revenue from Existing Water Service Rates			4,842,501	4,901,120	4,960,618	5,021,009	5,082,306	5,144,523	5,207,672	5,271,769	5,336,827
		Actual	Months									
	Year	Percent	in									
		Increase	Effect									
2	FY 2022-23	0.0%	11	0	0	0	0	0	0	0	0	0
3	FY 2023-24	14.0%	11		628,977	694,487	702,941	711,523	720,233	729,074	738,048	747,156
4	FY 2024-25	19.0%	11			984,931	1,087,551	1,100,828	1,114,304	1,127,982	1,141,865	1,155,957
5	FY 2025-26	6.0%	11				374,633	413,679	418,744	423,884	429,101	434,396
6	FY 2026-27	6.0%	11					401,958	443,868	449,317	454,847	460,460
7	FY 2027-28	5.0%	11						359,410	396,896	401,781	406,740
8	FY 2028-29	5.0%	11							382,013	421,871	427,077
9	FY 2029-30	3.0%	11								243,630	269,058
10	FY 2030-31	3.0%	11									254,036
11	Total Additional Revenue			0	628,977	1,679,417	2,165,125	2,627,988	3,056,558	3,509,165	3,831,143	4,154,880
12	Total Water Service Revenue			4,842,501	5,530,097	6,640,036	7,186,134	7,710,295	8,201,081	8,716,838	9,102,912	9,491,707

Billings Heights Water District  
Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
Total Revenue

Line No	Customer Class	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
		\$	\$	\$	\$	\$	\$	\$	\$	\$
<b>1</b>	<b>Fire Line</b>									
<b>2</b>	B - 1 1/2"	437	437	437	437	437	437	437	437	437
<b>3</b>	C - 2"	2,011	2,011	2,011	2,011	2,011	2,011	2,011	2,011	2,011
<b>4</b>	E - 4"	22,941	22,941	22,941	22,941	22,941	22,941	22,941	22,941	22,941
<b>5</b>	F - 6"	17,701	17,701	17,701	17,701	17,701	17,701	17,701	17,701	17,701
<b>6</b>	FIRE LINE	7,338	7,338	7,338	7,338	7,338	7,338	7,338	7,338	7,338
<b>7</b>	L - 8" + 6"	7,418	7,418	7,418	7,418	7,418	7,418	7,418	7,418	7,418
<b>8</b>	M-2" + 2"	1,543	1,543	1,543	1,543	1,543	1,543	1,543	1,543	1,543
<b>9</b>	M-8" + 8"	4,806	4,806	4,806	4,806	4,806	4,806	4,806	4,806	4,806
<b>10</b>	<b>Subtotal: Fire Line</b>	<b>64,195</b>	<b>64,195</b>	<b>64,195</b>	<b>64,195</b>	<b>64,195</b>	<b>64,195</b>	<b>64,195</b>	<b>64,195</b>	<b>64,195</b>
<b>11</b>	<b>Water - Residential</b>									
<b>12</b>	00 - RES 5/8"	1,538,392	1,561,468	1,584,890	1,608,663	1,632,793	1,657,285	1,682,144	1,707,377	1,732,987
<b>13</b>	01 - RES 3/4"	1,056,611	1,072,460	1,088,547	1,104,875	1,121,448	1,138,270	1,155,344	1,172,674	1,190,264
<b>14</b>	02 - RES 1"	263,064	267,010	271,015	275,080	279,206	283,394	287,645	291,960	296,339
<b>15</b>	04 - RES 1 1/2"	37,987	38,557	39,136	39,723	40,318	40,923	41,537	42,160	42,793
<b>16</b>	05 - RES 2"	21,835	22,162	22,495	22,832	23,175	23,522	23,875	24,233	24,597
<b>17</b>	06 - RES 3"	1,048	1,048	1,048	1,048	1,048	1,048	1,048	1,048	1,048
<b>18</b>	07 - RES 4"	22,249	22,249	22,249	22,249	22,249	22,249	22,249	22,249	22,249
<b>19</b>	<b>Water - Commercial</b>									
<b>20</b>	C0 - COM 5/8"	41,381	42,001	42,631	43,271	43,920	44,579	45,247	45,926	46,615
<b>21</b>	C1 - COM 3/4"	95,142	96,569	98,017	99,488	100,980	102,495	104,032	105,592	107,176
<b>22</b>	C2 - COM 1"	228,962	232,397	235,883	239,421	243,012	246,658	250,357	254,113	257,925
<b>23</b>	C4 - COM 1 1/2"	294,044	298,455	302,931	307,475	312,088	316,769	321,520	326,343	331,238
<b>24</b>	C5 - COM 2"	330,529	335,487	340,520	345,627	350,812	356,074	361,415	366,836	372,339
<b>25</b>	C6 - COM 3"	176,767	176,767	176,767	176,767	176,767	176,767	176,767	176,767	176,767
<b>26</b>	C7 - COM 4"	122,749	122,749	122,749	122,749	122,749	122,749	122,749	122,749	122,749
<b>27</b>	C8 - COM 6"	146,855	146,855	146,855	146,855	146,855	146,855	146,855	146,855	146,855
<b>28</b>	C9-COM 8"	27,584	27,584	27,584	27,584	27,584	27,584	27,584	27,584	27,584
<b>29</b>	<b>Irrigation</b>									
<b>30</b>	5/8"	2,568	2,568	2,568	2,568	2,568	2,568	2,568	2,568	2,568
<b>31</b>	3/4"	20,694	20,694	20,694	20,694	20,694	20,694	20,694	20,694	20,694
<b>32</b>	1"	54,250	54,250	54,250	54,250	54,250	54,250	54,250	54,250	54,250
<b>33</b>	1 1/2"	101,554	101,554	101,554	101,554	101,554	101,554	101,554	101,554	101,554
<b>34</b>	2"	44,498	44,498	44,498	44,498	44,498	44,498	44,498	44,498	44,498
<b>35</b>	<b>Water Retailer</b>									
<b>36</b>	1"	456	456	456	456	456	456	456	456	456
<b>37</b>	2"	28,283	28,283	28,283	28,283	28,283	28,283	28,283	28,283	28,283
<b>38</b>	4"	63,906	63,906	63,906	63,906	63,906	63,906	63,906	63,906	63,906
<b>39</b>	6"	56,897	56,897	56,897	56,897	56,897	56,897	56,897	56,897	56,897
<b>40</b>	<b>Subtotal: Water</b>	<b>4,778,306</b>	<b>4,836,925</b>	<b>4,896,423</b>	<b>4,956,814</b>	<b>5,018,111</b>	<b>5,080,327</b>	<b>5,143,477</b>	<b>5,207,574</b>	<b>5,272,632</b>
<b>41</b>	<b>Total</b>	<b>4,842,501</b>	<b>4,901,120</b>	<b>4,960,618</b>	<b>5,021,009</b>	<b>5,082,306</b>	<b>5,144,523</b>	<b>5,207,672</b>	<b>5,271,769</b>	<b>5,336,827</b>

**Billings Heights Water District**  
**Water Financial Plan, Cost of Service, Rate, and System Development Fee Study**  
**Capital Fund Cash Flow Analysis**

Line No.	Description	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
		\$	\$	\$	\$	\$	\$	\$	\$	\$
<b>1</b>	<b>Sources of Funds</b>									
<b>2</b>	Transfer From Operating Fund	186,646	0	936,169	1,031,359	563,882	894,785	1,659,906	763,382	1,393,690
<b>3</b>	SRF Loan Proceeds	0	2,700,000	7,500,000	0	2,500,000	0	2,800,000	0	0
<b>4</b>	USDA-RD Loan Proceeds	0	0	0	0	0	0	0	0	0
<b>5</b>	Grants for Capital	535,182	0	0	0	0	0	0	0	0
<b>6</b>	System Development Service/Fire Line Fee	187,407	95,534	96,449	96,449	98,279	99,194	101,939	103,769	104,684
<b>7</b>	Annexation Buy-In Fee / Proposed PIF Revenue	187,737	247,450	264,772	280,815	289,240	306,511	318,657	328,216	347,453
<b>8</b>	Investment Income	5,476	10,000	11,345	5,000	5,000	5,000	5,000	5,000	5,000
<b>9</b>	<b>Total Sources</b>	<b>1,102,448</b>	<b>3,052,984</b>	<b>8,808,734</b>	<b>1,413,622</b>	<b>3,456,401</b>	<b>1,305,489</b>	<b>4,885,502</b>	<b>1,200,368</b>	<b>1,850,828</b>
<b>10</b>	<b>Uses of Funds</b>									
<b>11</b>	Capital Projects	1,150,000	2,796,654	9,065,064	1,413,622	3,456,401	1,305,489	4,885,502	1,200,368	1,850,828
<b>12</b>	Transfer To Operating Fund	0	0	0	0	0	0	0	0	0
<b>13</b>	<b>Total Uses</b>	<b>1,150,000</b>	<b>2,796,654</b>	<b>9,065,064</b>	<b>1,413,622</b>	<b>3,456,401</b>	<b>1,305,489</b>	<b>4,885,502</b>	<b>1,200,368</b>	<b>1,850,828</b>
<b>14</b>	Annual Surplus (Deficiency)	(47,552)	256,330	(256,330)	0	0	0	0	0	0
<b>15</b>	<b>Beginning Balance</b>	<b>547,552</b>	<b>500,000</b>	<b>756,330</b>	<b>500,000</b>	<b>500,000</b>	<b>500,000</b>	<b>500,000</b>	<b>500,000</b>	<b>500,000</b>
<b>16</b>	<b>Ending Balance</b>	<b>500,000</b>	<b>756,330</b>	<b>500,000</b>	<b>500,000</b>	<b>500,000</b>	<b>500,000</b>	<b>500,000</b>	<b>500,000</b>	<b>500,000</b>
<b>17</b>	<i>Minimum Cash Reserve</i>	<i>500,000</i>	<i>500,000</i>	<i>500,000</i>	<i>500,000</i>	<i>500,000</i>	<i>500,000</i>	<i>500,000</i>	<i>500,000</i>	<i>500,000</i>
<b>18</b>	<i>Total Target Capital Reserve</i>	<i>500,000</i>	<i>500,000</i>	<i>500,000</i>	<i>500,000</i>	<i>500,000</i>	<i>500,000</i>	<i>500,000</i>	<i>500,000</i>	<i>500,000</i>

**Billings Heights Water District**  
**Water Financial Plan, Cost of Service, Rate, and System Development Fee Study**  
**Annual Revenue from System Development Fees**

Line		Annual Revenue								
No	Customer Class	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
		\$	\$	\$	\$	\$	\$	\$	\$	\$
1	Water									
2	00 - RES 5/8"	95,167	48,499	49,414	49,414	50,329	51,244	52,159	53,074	53,989
3	01 - RES 3/4"	43,923	22,877	22,877	22,877	23,792	23,792	23,792	24,707	24,707
4	02 - RES 1"	18,301	9,151	9,151	9,151	9,151	9,151	10,981	10,981	10,981
5	04 - RES 1 1/2"	0	0	0	0	0	0	0	0	0
6	05 - RES 2"	0	0	0	0	0	0	0	0	0
7	06 - RES 3"	0	0	0	0	0	0	0	0	0
8	07 - RES 4"	0	0	0	0	0	0	0	0	0
9	C0 - COM 5/8"	1,830	915	915	915	915	915	915	915	915
10	C1 - COM 3/4"	1,830	915	915	915	915	915	915	915	915
11	C2 - COM 1"	7,320	3,660	3,660	3,660	3,660	3,660	3,660	3,660	3,660
12	C4 - COM 1 1/2"	7,321	3,660	3,660	3,660	3,660	3,660	3,660	3,660	3,660
13	C5 - COM 2"	11,714	5,857	5,857	5,857	5,857	5,857	5,857	5,857	5,857
14	C6 - COM 3"	0	0	0	0	0	0	0	0	0
15	C7 - COM 4"	0	0	0	0	0	0	0	0	0
16	C8 - COM 6"	0	0	0	0	0	0	0	0	0
17	C9-COM 8"	0	0	0	0	0	0	0	0	0
18	Total	187,407	95,534	96,449	96,449	98,279	99,194	101,939	103,769	104,684



Billings Heights Water District  
 Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
 Water Historical & Budget Operating Expense Input

Line No.	Account	Title	Inflation Coding	Actual	Estimated	Budget	Projected							
				FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
				\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
1	7500	Water Purchased		2,694,434	2,811,601	2,844,229	2,946,949	4,442,585	4,684,474	4,931,133	5,194,911	5,475,117	5,771,555	6,086,785
2	6900	Uncategorized Expenses		0	15,836	17,103	17,103	17,103	17,103	17,103	17,103	17,103	17,103	17,103
3	8009	Labor		561,835	587,693	592,160	617,120	635,634	654,703	674,344	694,574	715,411	736,874	758,980
4	8012	Directors Fee		15,850	11,400	11,400	12,312	12,681	13,062	13,454	13,857	14,273	14,701	15,142
5	8015	Payroll Taxes		46,490	65,267	54,853	59,241	61,018	62,849	64,734	66,676	68,677	70,737	72,859
6	8030	Ret. Benefits		56,296	54,084	55,840	60,307	62,117	63,980	65,900	67,877	69,913	72,010	74,171
7	8040	Insurance		233,471	297,219	353,141	350,153	360,658	371,477	382,622	394,100	405,923	418,101	430,644
8	8200	Supplies		103,145	104,822	136,619	142,084	146,347	150,737	155,259	159,917	164,715	169,656	174,746
9	8300	Purchased Services		370,917	689,600	375,895	402,745	417,325	431,439	446,088	461,275	477,043	493,402	510,371
10	8400	Building Materials		14,233	13,786	20,714	22,371	23,043	23,734	24,446	25,179	25,935	26,713	27,514
11	8500	Fixed Charges		16,481	20,128	18,950	20,466	21,080	21,712	22,364	23,035	23,726	24,438	25,171
12	8800	Other		1,349	961	1,792	1,846	1,901	1,958	2,017	2,077	2,139	2,204	2,270
13	Total Operating & Maintenance Expense			4,114,502	4,672,398	4,482,696	4,652,697	6,201,491	6,497,227	6,799,462	7,120,581	7,459,973	7,817,493	8,195,754

Billings Heights Water District  
Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
Purchased Water Costs

Line No.	Description	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
1	Previous Year Historical Water Purchases (1)	1,000,570	957,653	992,239	1,005,110	1,018,364	1,031,618	1,045,254	1,059,017	1,072,780
2	<b>Growth % New Accounts</b>	3.14%	1.31%	1.30%	1.32%	1.30%	1.32%	1.32%	1.30%	1.32%
3	Increased Water Purchases Due to Growth	31,423	12,586	12,871	13,254	13,254	13,636	13,763	13,763	14,146
4	Increase (Decrease) in Water Purchases Due to Increases / C	(74,340)	22,000	0	0	0	0	0	0	0
5	Total Change in Water Purchases	(42,917)	34,586	12,871	13,254	13,254	13,636	13,763	13,763	14,146
6	Previous Year Historical Water Purchases (1)	1,000,570	957,653	992,239	1,005,110	1,018,364	1,031,618	1,045,254	1,059,017	1,072,780
7	Projected Annual Water Purchases - KGAL	957,653	992,239	1,005,110	1,018,364	1,031,618	1,045,254	1,059,017	1,072,780	1,086,926
8	Change in Water Purchases - KGAL	(42,917)	34,586	12,871	13,254	13,254	13,636	13,763	13,763	14,146
9	Change in Water Purchases - %	-4.3%	3.6%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%
<b>City Water Purchase Costs</b>										
10	Projected Annual Water Purchases - KGAL	957,653	992,239	1,005,110	1,018,364	1,031,618	1,045,254	1,059,017	1,072,780	1,086,926
11	Water Purchase Cost per KGAL	\$2.97	\$2.97	\$4.42	\$4.60	\$4.78	\$4.97	\$5.17	\$5.38	\$5.60
12	Annual Water Purchase Costs	\$2,844,229	\$2,946,949	\$4,442,585	\$4,684,474	\$4,931,133	\$5,194,911	\$5,475,117	\$5,771,555	\$6,086,785

Billings Heights Water District  
 Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
 Water FY 2022-23 through FY 2031-32 Capital Improvement Plan (Inflated)

Line No.	Account	Title	Growth Related	Non-Growth Related	Listed Priority	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	Total
						\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
1		Capital Inflation				0.0%	7.0%	7.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
2		Compounded Inflation				0.0%	7.0%	14.5%	17.9%	21.5%	25.1%	28.9%	32.7%	36.7%	40.8%	
3	CIP-01	Northwest Transmission Main	90%	10%	4	\$970,000	\$2,717,503	\$8,602,902	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$12,290,405
4	CIP-02	Bitterroot Loop Across Highway 312	80%	20%	4	0	0	0	0	0	326,372	3,773,547	0	0	0	4,099,920
5	CIP-03	Bitterroot from Barrett to Mary	50%	50%	4	0	0	0	147,017	1,642,077	0	0	0	0	0	1,789,094
6	CIP-04	Reservoir Management System	0%	100%	8	0	0	111,364	1,266,606	0	0	0	0	0	0	1,377,970
7	CIP-05	Assess Condition of Existing Pipelines	0%	100%	4	0	0	206,024	0	0	0	0	0	0	0	206,024
8	CIP-06	Aging Watermain Replacement Program	0%	100%	4	0	0	0	0	0	815,931	828,051	840,257	852,355	864,520	4,201,115
9	CIP-07	Dedicated Fill Line for Lanier Reservoir	0%	100%	8	0	0	0	0	666,017	0	0	0	0	0	666,017
10	CIP-08	Ultrasonic Meters at Hilltop & Lanier	0%	100%	5	0	0	0	0	0	0	130,122	0	0	0	130,122
11	CIP-09	Update GIS Attributes	0%	100%	7	0	0	0	0	149,280	0	0	0	0	0	149,280
12	CIP-10	GIS: Digital Workflows	20%	80%	7	0	0	0	0	0	0	153,781	0	0	0	153,781
13	CIP-11	GIS Support/Data Workflow Maintenances	20%	80%	7	0	0	0	0	0	0	0	0	669,707	0	669,707
14	CIP-12	Emergency Generation	0%	100%	7	0	0	0	0	0	75,765	0	0	0	0	75,765
15	CIP-13	Equipment Storage Building	80%	20%	7	0	0	0	0	861,229	0	0	0	0	0	861,229
16	CIP-14	Cold-Storage Yard at Ox Bow Tank Site	80%	20%	8	0	0	66,819	0	0	0	0	0	0	0	66,819
17	CIP-15	Shop Addition with 2-Ton Bridge Crane	80%	20%	7	0	0	0	0	0	0	0	360,110	0	0	360,110
18	CIP-16	5 Year Update to CIP	70%	30%	7	0	0	0	0	0	87,421	0	0	0	0	87,421
19	CIP-17	Rate Study	50%	50%	7	0	0	0	0	137,797	0	0	0	0	0	137,797
20	CIP-18	Comprehensive Water System PER	60%	40%	7	180,000	0	0	0	0	0	0	0	0	0	180,000
21	CIP-19	Billings Bypass Planning Area Study	100%	0%	7	0	0	77,955	0	0	0	0	0	0	0	77,955
22	CIP-20	Intake and WTP Due-Diligence Study	70%	30%	7	0	79,151	0	0	0	0	0	0	0	0	79,151
23	CIP-21	4MG Ox Bow II Reservoir	100%	0%	8	0	0	0	0	0	0	0	0	328,765	7,471,927	7,800,692
24	Total Water Capital Improvement Plan (Inflated)					\$1,150,000	\$2,796,654	\$9,065,064	\$1,413,622	\$3,456,401	\$1,305,489	\$4,885,502	\$1,200,368	\$1,850,828	\$8,336,447	\$35,460,375

Billings Heights Water District  
 Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
 Annual Debt Service Summary (Existing and Projected)

Line No.	Description	Projected								
		FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
		\$	\$	\$	\$	\$	\$	\$	\$	\$
1	Existing	368,253	368,253	368,253	368,253	368,253	368,253	368,253	368,253	368,253
2	Proposed	0	129,000	487,332	487,332	614,880	614,880	757,734	757,734	757,734
3	<b>Total Debt Service Coverage</b>	368,253	497,253	855,585	855,585	983,133	983,133	1,125,987	1,125,987	1,125,987

Billings Heights Water District  
Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
Debt Service Coverage Tied to Max Annual Debt Service

Line No.	Description	Projected								Max	
		FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	Annual DS
		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
<b>Existing Debt Service</b>											
1	Oxbow WRF-17389	140,300	140,888	140,400	139,863	140,263	140,600	139,863	141,063	140,175	140,400
2	WRF-11238R	36,340	36,500	36,615	35,715	36,800	35,840	36,865	35,845	36,810	36,615
3	WRF-Bond C	190,138	190,738	191,238	190,638	189,975	190,225	190,375	190,425	190,375	191,238
4	Subtotal: Existing Debt Service	366,778	368,125	368,253	366,215	367,038	366,665	367,103	367,333	367,360	368,253
<b>Proposed Debt Service</b>											
5	FY 2022-23 Series	0	0	0	0	0	0	0	0	0	0
6	FY 2023-24 Series		0	0	129,000	129,000	129,000	129,000	129,000	129,000	129,000
7	FY 2024-25 Series			0	358,332	358,332	358,332	358,332	358,332	358,332	358,332
8	FY 2025-26 Series				0	0	0	0	0	0	0
9	FY 2026-27 Series					0	127,548	127,548	127,548	127,548	127,548
10	FY 2027-28 Series						0	0	0	0	0
11	FY 2028-29 Series							0	142,854	142,854	142,854
12	FY 2029-30 Series								0	0	0
13	FY 2030-31 Series									0	0
14	Subtotal: Proposed Debt Service	0	0	0	487,332	487,332	614,880	614,880	757,734	757,734	757,734
15	Proposed Maximum Annual Debt Service	0	129,000	487,332	487,332	614,880	614,880	757,734	757,734	757,734	
16	Existing Maximum Annual Debt Service	368,253	368,253	368,253	367,360	367,360	367,360	367,360	367,360	367,360	
17	Combined Maximum Annual Debt Service by Year	368,253	497,253	855,585	854,692	982,240	982,240	1,125,094	1,125,094	1,125,094	

Billings Heights Water District  
Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
Annual Inflation Assumptions

Coding	Description	Description	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32
<b>Expenses</b>												
C	Constant		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
P	Personnel Services	Inflation	8.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
E	Employee Related Expenditures	Inflation	8.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
PS	Purchased Services	Inflation	8.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
S	Supplies	Inflation	4.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
MO	Maintenance and Operations	Inflation	8.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
PW	Purchased Water	Inflation	5.7%	0.0%	48.8%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
O	Other		8.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
CIP	Capital Inflation		0.0%	7.0%	7.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
I	Insurance		8.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
M	Materials		8.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
U	Utilities	(Inflation Plus Growth)	0.7%	8.6%	6.3%	6.3%	6.3%	6.3%	6.3%	6.3%	6.3%	5.0%
<b>Revenues</b>												
MR	Miscellaneous Revenue		5.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
II	Interest Income		1.0%	2.0%	1.5%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
CO	Constant		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
A	Annexation Buy-In Fee		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
SDS	System Development Service/Fire Line Fee		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Growth</b>												
	Average Growth Rate In Accounts		1.36%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	1.45%	0.00%
	Acres Assessed Annexation Fee		18.5	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Billings Heights Water District  
Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
Volume Charge Revenue

Line No	Customer Class	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
		\$	\$	\$	\$	\$	\$	\$	\$	\$
1	Fire Line									
2	Subtotal: Fire Line	0	0	0	0	0	0	0	0	0
3	Water - Residential									
4	00 - RES 5/8"	662,582	672,521	682,609	692,848	703,240	713,789	724,496	735,363	746,394
5	01 - RES 3/4"	649,146	658,883	668,766	678,798	688,980	699,314	709,804	720,451	731,258
6	02 - RES 1"	171,258	173,827	176,435	179,081	181,767	184,494	187,261	190,070	192,921
7	04 - RES 1 1/2"	31,155	31,622	32,096	32,578	33,067	33,563	34,066	34,577	35,096
8	05 - RES 2"	20,365	20,670	20,980	21,295	21,614	21,939	22,268	22,602	22,941
9	06 - RES 3"	175	175	175	175	175	175	175	175	175
10	07 - RES 4"	19,069	19,069	19,069	19,069	19,069	19,069	19,069	19,069	19,069
	Water - Commercial									
11	C0 - COM 5/8"	23,193	23,540	23,894	24,252	24,616	24,985	25,360	25,740	26,126
12	C1 - COM 3/4"	74,680	75,800	76,937	78,091	79,263	80,452	81,658	82,883	84,126
13	C2 - COM 1"	193,109	196,006	198,946	201,930	204,959	208,034	211,154	214,322	217,536
14	C4 - COM 1 1/2"	274,140	278,252	282,426	286,663	290,962	295,327	299,757	304,253	308,817
15	C5 - COM 2"	313,993	318,703	323,484	328,336	333,261	338,260	343,334	348,484	353,711
16	C6 - COM 3"	169,785	169,785	169,785	169,785	169,785	169,785	169,785	169,785	169,785
17	C7 - COM 4"	105,786	105,786	105,786	105,786	105,786	105,786	105,786	105,786	105,786
18	C8 - COM 6"	131,366	131,366	131,366	131,366	131,366	131,366	131,366	131,366	131,366
19	C9-COM 8"	21,574	21,574	21,574	21,574	21,574	21,574	21,574	21,574	21,574
20	Irrigation									
21	5/8"	2,319	2,319	2,319	2,319	2,319	2,319	2,319	2,319	2,319
22	3/4"	19,449	19,449	19,449	19,449	19,449	19,449	19,449	19,449	19,449
23	1"	51,039	51,039	51,039	51,039	51,039	51,039	51,039	51,039	51,039
24	1 1/2"	99,798	99,798	99,798	99,798	99,798	99,798	99,798	99,798	99,798
25	2"	43,412	43,412	43,412	43,412	43,412	43,412	43,412	43,412	43,412
26	Water Retailer									
27	1"	189	189	189	189	189	189	189	189	189
28	2"	27,921	27,921	27,921	27,921	27,921	27,921	27,921	27,921	27,921
29	4"	61,786	61,786	61,786	61,786	61,786	61,786	61,786	61,786	61,786
30	6"	55,176	55,176	55,176	55,176	55,176	55,176	55,176	55,176	55,176
31	Subtotal: Water	3,222,465	3,258,669	3,295,416	3,332,715	3,370,573	3,408,999	3,448,001	3,487,589	3,527,770
32	Total	3,222,465	3,258,669	3,295,416	3,332,715	3,370,573	3,408,999	3,448,001	3,487,589	3,527,770

Billings Heights Water District  
Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
Minimum Monthly Base Rate Revenue

Line No	Customer Class	Projected Minimum Charge Revenue								
		FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
		\$	\$	\$	\$	\$	\$	\$	\$	\$
<b>1</b>	<b>Fire Line</b>									
<b>2</b>	B - 1 1/2"	437	437	437	437	437	437	437	437	437
<b>3</b>	C - 2"	2,011	2,011	2,011	2,011	2,011	2,011	2,011	2,011	2,011
<b>4</b>	E - 4"	22,941	22,941	22,941	22,941	22,941	22,941	22,941	22,941	22,941
<b>5</b>	F - 6"	17,701	17,701	17,701	17,701	17,701	17,701	17,701	17,701	17,701
<b>6</b>	FIRE LINE	7,338	7,338	7,338	7,338	7,338	7,338	7,338	7,338	7,338
<b>7</b>	L - 8" + 6"	7,418	7,418	7,418	7,418	7,418	7,418	7,418	7,418	7,418
<b>8</b>	M-2" + 2"	1,543	1,543	1,543	1,543	1,543	1,543	1,543	1,543	1,543
<b>9</b>	M-8" + 8"	4,806	4,806	4,806	4,806	4,806	4,806	4,806	4,806	4,806
<b>10</b>	<b>Subtotal: Fire Line</b>	<b>64,195</b>	<b>64,195</b>	<b>64,195</b>	<b>64,195</b>	<b>64,195</b>	<b>64,195</b>	<b>64,195</b>	<b>64,195</b>	<b>64,195</b>
<b>11</b>	<b>Water - Residential</b>									
<b>12</b>	00 - RES 5/8"	875,810	888,947	902,281	915,816	929,553	943,496	957,649	972,013	986,593
<b>13</b>	01 - RES 3/4"	407,465	413,577	419,781	426,077	432,469	438,956	445,540	452,223	459,006
<b>14</b>	02 - RES 1"	91,806	93,183	94,580	95,999	97,439	98,901	100,384	101,890	103,418
<b>15</b>	04 - RES 1 1/2"	6,833	6,935	7,039	7,145	7,252	7,361	7,471	7,583	7,697
<b>16</b>	05 - RES 2"	1,470	1,492	1,514	1,537	1,560	1,583	1,607	1,631	1,656
<b>17</b>	06 - RES 3"	873	873	873	873	873	873	873	873	873
<b>18</b>	07 - RES 4"	3,181	3,181	3,181	3,181	3,181	3,181	3,181	3,181	3,181
	<b>Water - Commercial</b>									
<b>19</b>	C0 - COM 5/8"	18,188	18,461	18,738	19,019	19,304	19,594	19,888	20,186	20,489
<b>20</b>	C1 - COM 3/4"	20,462	20,769	21,080	21,396	21,717	22,043	22,374	22,709	23,050
<b>21</b>	C2 - COM 1"	35,853	36,391	36,937	37,491	38,053	38,624	39,203	39,791	40,388
<b>22</b>	C4 - COM 1 1/2"	19,904	20,202	20,505	20,813	21,125	21,442	21,764	22,090	22,421
<b>23</b>	C5 - COM 2"	16,536	16,784	17,036	17,292	17,551	17,814	18,081	18,353	18,628
<b>24</b>	C6 - COM 3"	6,982	6,982	6,982	6,982	6,982	6,982	6,982	6,982	6,982
<b>25</b>	C7 - COM 4"	16,963	16,963	16,963	16,963	16,963	16,963	16,963	16,963	16,963
<b>26</b>	C8 - COM 6"	15,489	15,489	15,489	15,489	15,489	15,489	15,489	15,489	15,489
<b>27</b>	C9-COM 8"	6,009	6,009	6,009	6,009	6,009	6,009	6,009	6,009	6,009
<b>28</b>	<b>Irrigation</b>									
<b>29</b>	5/8"	249	249	249	249	249	249	249	249	249
<b>30</b>	3/4"	1,244	1,244	1,244	1,244	1,244	1,244	1,244	1,244	1,244
<b>31</b>	1"	3,211	3,211	3,211	3,211	3,211	3,211	3,211	3,211	3,211
<b>32</b>	1 1/2"	1,756	1,756	1,756	1,756	1,756	1,756	1,756	1,756	1,756
<b>33</b>	2"	1,086	1,086	1,086	1,086	1,086	1,086	1,086	1,086	1,086
<b>34</b>	<b>Water Retailer</b>									
<b>35</b>	1"	268	268	268	268	268	268	268	268	268
<b>36</b>	2"	362	362	362	362	362	362	362	362	362
<b>37</b>	4"	2,120	2,120	2,120	2,120	2,120	2,120	2,120	2,120	2,120
<b>38</b>	6"	1,721	1,721	1,721	1,721	1,721	1,721	1,721	1,721	1,721
<b>28</b>	<b>Subtotal: Water</b>	<b>1,555,841</b>	<b>1,578,256</b>	<b>1,601,007</b>	<b>1,624,099</b>	<b>1,647,538</b>	<b>1,671,329</b>	<b>1,695,476</b>	<b>1,719,985</b>	<b>1,744,862</b>
<b>39</b>	<b>Total</b>	<b>1,620,036</b>	<b>1,642,451</b>	<b>1,665,202</b>	<b>1,688,295</b>	<b>1,711,733</b>	<b>1,735,524</b>	<b>1,759,671</b>	<b>1,784,180</b>	<b>1,809,057</b>



Billings Heights Water District  
Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
Monthly Service Line Repair Fee Revenue

Line No	Customer Class	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
		\$	\$	\$	\$	\$	\$	\$	\$	\$
1	Fire Line									
2	Subtotal: Fire Line	0	0	0	0	0	0	0	0	0
	<b>Water - Residential</b>									
3	00 - RES 5/8"	54,896	55,720	56,556	57,404	58,265	59,139	60,026	60,927	61,840
4	01 - RES 3/4"	25,540	25,923	26,312	26,707	27,107	27,514	27,927	28,346	28,771
5	02 - RES 1"	5,352	5,432	5,514	5,596	5,680	5,766	5,852	5,940	6,029
6	04 - RES 1 1/2"	364	370	375	381	387	392	398	404	410
7	05 - RES 2"	63	64	65	66	67	68	69	70	71
8	06 - RES 3"	16	16	16	16	16	16	16	16	16
9	07 - RES 4"	47	47	47	47	47	47	47	47	47
	<b>Water - Commercial</b>									
10	C0 - COM 5/8"	1,140	1,157	1,175	1,192	1,210	1,228	1,247	1,265	1,284
11	C1 - COM 3/4"	1,283	1,302	1,321	1,341	1,361	1,382	1,402	1,423	1,445
12	C2 - COM 1"	2,090	2,121	2,153	2,186	2,218	2,252	2,285	2,320	2,354
13	C4 - COM 1 1/2"	1,061	1,077	1,093	1,109	1,126	1,143	1,160	1,177	1,195
14	C5 - COM 2"	713	723	734	745	756	768	779	791	803
15	C6 - COM 3"	125	125	125	125	125	125	125	125	125
16	C7 - COM 4"	250	250	250	250	250	250	250	250	250
17	C8 - COM 6"	140	140	140	140	140	140	140	140	140
18	C9-COM 8"	47	47	47	47	47	47	47	47	47
19	<b>Irrigation</b>									
20	5/8"	16	16	16	16	16	16	16	16	16
21	3/4"	78	78	78	78	78	78	78	78	78
22	1"	187	187	187	187	187	187	187	187	187
23	1 1/2"	94	94	94	94	94	94	94	94	94
24	2"	47	47	47	47	47	47	47	47	47
25	<b>Water Retailer</b>									
26	1"	16	16	16	16	16	16	16	16	16
27	2"	16	16	16	16	16	16	16	16	16
28	4"	31	31	31	31	31	31	31	31	31
29	6"	16	16	16	16	16	16	16	16	16
30	Subtotal: Water	93,625	95,013	96,421	97,851	99,302	100,774	102,269	103,786	105,326
31	Total	93,625	95,013	96,421	97,851	99,302	100,774	102,269	103,786	105,326

**Billings Heights Water District**  
**Water Financial Plan, Cost of Service, Rate, and System Development Fee Study**  
**Existing Rates**

<b>Line No</b>	<b>Customer Class</b>	<b>Monthly Service Line Repair</b>	<b>Monthly Minimum Charge</b>
<b>1</b>	<b>Water - Residential</b>		
<b>2</b>	00 - RES 5/8"	\$1.30	\$20.74
<b>3</b>	01 - RES 3/4"	\$1.30	\$20.74
<b>4</b>	02 - RES 1"	\$1.30	\$22.30
<b>5</b>	04 - RES 1 1/2"	\$1.30	\$24.39
<b>6</b>	05 - RES 2"	\$1.30	\$30.17
<b>7</b>	06 - RES 3"	\$1.30	\$72.73
<b>8</b>	07 - RES 4"	\$1.30	\$88.35
	<b>Water - Commercial</b>		
<b>9</b>	C0 - COM 5/8"	\$1.30	\$20.74
<b>10</b>	C1 - COM 3/4"	\$1.30	\$20.74
<b>11</b>	C2 - COM 1"	\$1.30	\$22.30
<b>12</b>	C4 - COM 1 1/2"	\$1.30	\$24.39
<b>13</b>	C5 - COM 2"	\$1.30	\$30.17
<b>14</b>	C6 - COM 3"	\$1.30	\$72.73
<b>15</b>	C7 - COM 4"	\$1.30	\$88.35
<b>16</b>	C8 - COM 6"	\$1.30	\$143.42
<b>17</b>	C9-COM 8"	\$1.30	\$166.93

Billings Heights Water District  
Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
Projected Consumption

Line No	Customer Class	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
<b>Water - Residential</b>										
1	00 - RES 5/8"	236,436	239,983	243,582	247,236	250,945	254,709	258,529	262,407	266,344
2	01 - RES 3/4"	192,548	195,436	198,367	201,343	204,363	207,429	210,540	213,698	216,904
3	02 - RES 1"	47,119	47,826	48,543	49,271	50,010	50,760	51,522	52,295	53,079
4	04 - RES 1 1/2"	6,771	6,873	6,976	7,080	7,186	7,294	7,404	7,515	7,627
5	05 - RES 2"	3,653	3,708	3,764	3,820	3,877	3,935	3,995	4,054	4,115
6	06 - RES 3"	76	76	76	76	76	76	76	76	76
7	07 - RES 4"	3,430	3,430	3,430	3,430	3,430	3,430	3,430	3,430	3,430
<b>Water - Commercial</b>										
8	C0 - COM 5/8"	6,876	6,979	7,084	7,190	7,298	7,408	7,519	7,632	7,746
9	C1 - COM 3/4"	16,873	17,126	17,383	17,644	17,909	18,177	18,450	18,727	19,008
10	C2 - COM 1"	41,493	42,116	42,747	43,389	44,039	44,700	45,371	46,051	46,742
11	C4 - COM 1 1/2"	50,038	50,789	51,550	52,324	53,109	53,905	54,714	55,534	56,367
12	C5 - COM 2"	53,975	54,785	55,606	56,441	57,287	58,146	59,019	59,904	60,802
13	C6 - COM 3"	27,388	27,388	27,388	27,388	27,388	27,388	27,388	27,388	27,388
14	C7 - COM 4"	18,195	18,195	18,195	18,195	18,195	18,195	18,195	18,195	18,195
15	C8 - COM 6"	21,530	21,530	21,530	21,530	21,530	21,530	21,530	21,530	21,530
16	C9-COM 8"	3,744	3,744	3,744	3,744	3,744	3,744	3,744	3,744	3,744
<b>Irrigation</b>										
17	5/8"	393	393	393	393	393	393	393	393	393
18	3/4"	3,296	3,296	3,296	3,296	3,296	3,296	3,296	3,296	3,296
19	1"	8,651	8,651	8,651	8,651	8,651	8,651	8,651	8,651	8,651
20	1 1/2"	16,915	16,915	16,915	16,915	16,915	16,915	16,915	16,915	16,915
21	2"	7,358	7,358	7,358	7,358	7,358	7,358	7,358	7,358	7,358
<b>Water Retailer</b>										
22	1"	30	30	30	30	30	30	30	30	30
23	2"	4,440	4,440	4,440	4,440	4,440	4,440	4,440	4,440	4,440
24	4"	9,824	9,824	9,824	9,824	9,824	9,824	9,824	9,824	9,824
25	6"	8,773	8,773	8,773	8,773	8,773	8,773	8,773	8,773	8,773
26										
27										
28	<b>Subtotal: Water</b>	<b>789,825</b>	<b>799,662</b>	<b>809,646</b>	<b>819,780</b>	<b>830,066</b>	<b>840,507</b>	<b>851,104</b>	<b>861,859</b>	<b>872,777</b>
29	<b>Total</b>	<b>789,825</b>	<b>799,662</b>	<b>809,646</b>	<b>819,780</b>	<b>830,066</b>	<b>840,507</b>	<b>851,104</b>	<b>861,859</b>	<b>872,777</b>

Billings Heights Water District  
Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
Projected Bills

Line No	Customer Class	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
<b>1</b>	<b>Fire Line</b>									
<b>2</b>	B - 1 1/2"	24	24	24	24	24	24	24	24	24
<b>3</b>	C - 2"	60	60	60	60	60	60	60	60	60
<b>4</b>	E - 4"	372	372	372	372	372	372	372	372	372
<b>5</b>	F - 6"	156	156	156	156	156	156	156	156	156
<b>6</b>	FIRE LINE	36	36	36	36	36	36	36	36	36
<b>7</b>	G - 8"	0	0	0	0	0	0	0	0	0
<b>8</b>	K - 50% OF L	12	12	12	12	12	12	12	12	12
<b>9</b>	L - 8" + 6"	24	24	24	24	24	24	24	24	24
<b>10</b>	M-2" + 2"	24	24	24	24	24	24	24	24	24
<b>11</b>	M-8" + 8"	12	12	12	12	12	12	12	12	12
<b>12</b>	<b>Subtotal: Fire Line</b>	<b>720</b>	<b>720</b>	<b>720</b>	<b>720</b>	<b>720</b>	<b>720</b>	<b>720</b>	<b>720</b>	<b>720</b>
<b>13</b>	<b>Water - Residential</b>									
<b>14</b>	00 - RES 5/8"	42,228	42,861	43,504	44,157	44,819	45,492	46,174	46,867	47,570
<b>15</b>	01 - RES 3/4"	19,646	19,941	20,240	20,544	20,852	21,165	21,482	21,804	22,131
<b>16</b>	02 - RES 1"	4,117	4,179	4,241	4,305	4,369	4,435	4,502	4,569	4,638
<b>17</b>	04 - RES 1 1/2"	280	284	289	293	297	302	306	311	316
<b>18</b>	05 - RES 2"	49	49	50	51	52	52	53	54	55
<b>19</b>	06 - RES 3"	12	12	12	12	12	12	12	12	12
<b>20</b>	07 - RES 4"	36	36	36	36	36	36	36	36	36
	<b>Water - Commercial</b>									
<b>21</b>	C0 - COM 5/8"	877	890	903	917	931	945	959	973	988
<b>22</b>	C1 - COM 3/4"	987	1,001	1,016	1,032	1,047	1,063	1,079	1,095	1,111
<b>23</b>	C2 - COM 1"	1,608	1,632	1,656	1,681	1,706	1,732	1,758	1,784	1,811
<b>24</b>	C4 - COM 1 1/2"	816	828	841	853	866	879	892	906	919
<b>25</b>	C5 - COM 2"	548	556	565	573	582	590	599	608	617
<b>26</b>	C6 - COM 3"	96	96	96	96	96	96	96	96	96
<b>27</b>	C7 - COM 4"	192	192	192	192	192	192	192	192	192
<b>28</b>	C8 - COM 6"	108	108	108	108	108	108	108	108	108
<b>29</b>	C9-COM 8"	36	36	36	36	36	36	36	36	36
<b>30</b>	<b>Irrigation</b>									
<b>31</b>	5/8"	12	12	12	12	12	12	12	12	12
<b>32</b>	3/4"	60	60	60	60	60	60	60	60	60
<b>33</b>	1"	144	144	144	144	144	144	144	144	144
<b>34</b>	1 1/2"	72	72	72	72	72	72	72	72	72
<b>35</b>	2"	36	36	36	36	36	36	36	36	36
<b>36</b>	<b>Water Retailer</b>									
<b>37</b>	1"	12	12	12	12	12	12	12	12	12
<b>38</b>	2"	12	12	12	12	12	12	12	12	12
<b>39</b>	4"	24	24	24	24	24	24	24	24	24
<b>40</b>	6"	12	12	12	12	12	12	12	12	12
	<b>Subtotal: Water</b>	<b>72,020</b>	<b>73,087</b>	<b>74,170</b>	<b>75,270</b>	<b>76,386</b>	<b>77,519</b>	<b>78,669</b>	<b>79,836</b>	<b>81,020</b>
<b>41</b>	<b>Total</b>	<b>72,740</b>	<b>73,807</b>	<b>74,890</b>	<b>75,990</b>	<b>77,106</b>	<b>78,239</b>	<b>79,389</b>	<b>80,556</b>	<b>81,740</b>

Billings Heights Water District  
Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
Projected EQRs

Line No	Customer Class	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
<b>1</b>	<b>Fire Line</b>									
<b>2</b>	B - 1 1/2"	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
<b>3</b>	C - 2"	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
<b>4</b>	E - 4"	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
<b>5</b>	F - 6"	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
<b>6</b>	FIRE LINE	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
<b>7</b>	G - 8"	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>8</b>	K - 50% OF L	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
<b>9</b>	L - 8" + 6"	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
<b>10</b>	M-2" + 2"	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
<b>11</b>	M-8" + 8"	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60
<b>12</b>	<b>Subtotal: Fire Line EQRs</b>	<b>38.12</b>	<b>38.12</b>	<b>38.12</b>	<b>38.12</b>	<b>38.12</b>	<b>38.12</b>	<b>38.12</b>	<b>38.12</b>	<b>38.12</b>
<b>13</b>	<b>Water - Residential</b>									
<b>14</b>	00 - RES 5/8"	3,519	3,572	3,625	3,680	3,735	3,791	3,848	3,906	3,964
<b>15</b>	01 - RES 3/4"	1,637	1,662	1,687	1,712	1,738	1,764	1,790	1,817	1,844
<b>16</b>	02 - RES 1"	573	582	590	599	608	617	626	636	645
<b>17</b>	04 - RES 1 1/2"	78	79	80	81	83	84	85	86	88
<b>18</b>	05 - RES 2"	22	22	22	23	23	23	24	24	24
<b>19</b>	06 - RES 3"	11	11	11	11	11	11	11	11	11
<b>20</b>	07 - RES 4"	50	50	50	50	50	50	50	50	50
	<b>Water - Commercial</b>									
<b>21</b>	C0 - COM 5/8"	73	74	75	76	78	79	80	81	82
<b>22</b>	C1 - COM 3/4"	82	83	85	86	87	89	90	91	93
<b>23</b>	C2 - COM 1"	224	227	231	234	237	241	245	248	252
<b>24</b>	C4 - COM 1 1/2"	226	230	233	237	240	244	248	251	255
<b>25</b>	C5 - COM 2"	243	247	251	255	258	262	266	270	274
<b>26</b>	C6 - COM 3"	85	85	85	85	85	85	85	85	85
<b>27</b>	C7 - COM 4"	267	267	267	267	267	267	267	267	267
<b>28</b>	C8 - COM 6"	300	300	300	300	300	300	300	300	300
<b>29</b>	C9-COM 8"	160	160	160	160	160	160	160	160	160
	<b>Irrigation</b>									
<b>30</b>	5/8"	1	1	1	1	1	1	1	1	1
<b>31</b>	3/4"	5	5	5	5	5	5	5	5	5
<b>32</b>	1"	20	20	20	20	20	20	20	20	20
<b>33</b>	1 1/2"	20	20	20	20	20	20	20	20	20
<b>34</b>	2"	16	16	16	16	16	16	16	16	16
	<b>Water Retailer</b>									
<b>35</b>	1"	2	2	2	2	2	2	2	2	2
<b>36</b>	2"	5	5	5	5	5	5	5	5	5
<b>37</b>	4"	33	33	33	33	33	33	33	33	33
<b>38</b>	6"	33	33	33	33	33	33	33	33	33
<b>39</b>	<b>Subtotal: Water EQRs</b>	<b>7,685</b>	<b>7,786</b>	<b>7,887</b>	<b>7,991</b>	<b>8,095</b>	<b>8,202</b>	<b>8,310</b>	<b>8,418</b>	<b>8,529</b>
<b>40</b>	<b>Total</b>	<b>7,723</b>	<b>7,824</b>	<b>7,925</b>	<b>8,029</b>	<b>8,133</b>	<b>8,240</b>	<b>8,348</b>	<b>8,456</b>	<b>8,567</b>
	<b>Weighted Average of Change in EQRs - %</b>	<b>3.141%</b>	<b>1.314%</b>	<b>1.297%</b>	<b>1.319%</b>	<b>1.301%</b>	<b>1.322%</b>	<b>1.317%</b>	<b>1.300%</b>	<b>1.319%</b>

Billings Heights Water District  
Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
Projected Growth by Fiscal Year

Line No	Customer Class	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
1	Fire Line									
2	B - 1 1/2"	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3	C - 2"	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
4	E - 4"	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
5	F - 6"	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
6	FIRE LINE	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
7	G - 8"	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
8	K - 50% OF L	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
9	L - 8" + 6"	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
10	M-2" + 2"	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
11	M-8" + 8"	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
12	Water - Residential									
13	00 - RES 5/8"	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
14	01 - RES 3/4"	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
15	02 - RES 1"	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
16	04 - RES 1 1/2"	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
17	05 - RES 2"	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
18	06 - RES 3"	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
19	07 - RES 4"	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Water - Commercial									
20	C0 - COM 5/8"	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
21	C1 - COM 3/4"	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
22	C2 - COM 1"	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
23	C4 - COM 1 1/2"	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
24	C5 - COM 2"	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
25	C6 - COM 3"	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
26	C7 - COM 4"	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
27	C8 - COM 6"	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
28	C9-COM 8"	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
29	Irrigation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
30	5/8"	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
31	3/4"	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
32	1"	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
33	1 1/2"	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
34	2"	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
35	3"	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
36	4"	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
37	6"	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
38	8"	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39	Water Retailer	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Billings Heights Water District  
Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
Annual Accounts & Projected Annual Growth

Line No	Customer Class	Historical Accounts by Fiscal Year (Kgal)				Annual Growth % Increase		
		FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2019-20	FY 2020-21	FY 2021-22
<b>1</b>	<b>Fire Line</b>							
<b>2</b>	B - 1 1/2"	2	2	2	2	0.0%	0.0%	0.0%
<b>3</b>	C - 2"	5	5	5	5	0.0%	0.0%	0.0%
<b>4</b>	E - 4"	30	31	31	31	3.3%	0.0%	0.0%
<b>5</b>	F - 6"	14	14	13	13	0.0%	-7.1%	0.0%
<b>6</b>	FIRE LINE	1	2	3	3	100.0%	50.0%	0.0%
<b>7</b>	G - 8"	5	5	5	5	0.0%	0.0%	0.0%
<b>8</b>	K - 50% OF L	2	2	2	1	0.0%	0.0%	-50.0%
<b>9</b>	L - 8" + 6"	2	2	2	2	0.0%	0.0%	0.0%
<b>10</b>	M-2" + 2"	2	2	2	2	0.0%	0.0%	0.0%
<b>11</b>	M-8" + 8"	2	2	1	1	0.0%	-50.0%	0.0%
<b>12</b>	<b>Water - Residential</b>							
<b>13</b>	00 - RES 5/8"	3,446	3,465	3,471	3,467	0.6%	0.2%	-0.1%
<b>14</b>	01 - RES 3/4"	1,438	1,489	1,560	1,613	3.5%	4.8%	3.4%
<b>15</b>	02 - RES 1"	307	314	319	338	2.3%	1.6%	6.0%
<b>16</b>	04 - RES 1 1/2"	21	21	23	23	0.0%	9.5%	0.0%
<b>17</b>	05 - RES 2"	3	2	3	4	-33.3%	50.0%	33.3%
<b>18</b>	06 - RES 3"	1	1	1	1	0.0%	0.0%	0.0%
<b>19</b>	07 - RES 4"	3	2	2	3	-33.3%	0.0%	50.0%
	<b>Water - Commercial</b>							
<b>20</b>	C0 - COM 5/8"	74	72	71	72	-2.7%	-1.4%	1.4%
<b>21</b>	C1 - COM 3/4"	78	76	76	81	-2.6%	0.0%	6.6%
<b>22</b>	C2 - COM 1"	124	124	124	132	0.0%	0.0%	6.5%
<b>23</b>	C4 - COM 1 1/2"	59	57	57	67	-3.4%	0.0%	17.5%
<b>24</b>	C5 - COM 2"	41	39	40	45	-4.9%	2.6%	12.5%
<b>25</b>	C6 - COM 3"	8	8	8	8	0.0%	0.0%	0.0%
<b>26</b>	C7 - COM 4"	15	15	15	16	0.0%	0.0%	6.7%
<b>27</b>	C8 - COM 6"	9	8	8	9	-11.1%	0.0%	12.5%
<b>28</b>	C9-COM 8"	3	3	3	3	0.0%	0.0%	0.0%

Billings Heights Water District  
Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
Use per Bill

Line No	Customer Class	FY 2019-20	FY 2020-21	2-Year Average	Projected Use Per Bill
1	<b>Fire Line</b>				
2	Subtotal: Fire Line	0.0	0.0	0.0	0.0
3	<b>Water - Residential</b>				
4	00 - RES 5/8"	6.3	4.9	5.6	5.6
5	01 - RES 3/4"	8.9	10.7	9.8	9.8
6	02 - RES 1"	10.5	12.4	11.4	11.4
7	04 - RES 1 1/2"	22.4	25.9	24.2	24.2
8	05 - RES 2"	78.0	72.0	75.0	75.0
9	06 - RES 3"	7.4	5.3	6.3	6.3
10	07 - RES 4"	84.1	106.5	95.3	95.3
	<b>Water - Commercial</b>				
11	C0 - COM 5/8"	7.5	8.2	7.8	7.8
12	C1 - COM 3/4"	17.0	17.2	17.1	17.1
13	C2 - COM 1"	25.1	26.5	25.8	25.8
14	C4 - COM 1 1/2"	59.8	62.9	61.3	61.3
15	C5 - COM 2"	95.2	101.8	98.5	98.5
16	C6 - COM 3"	267.4	303.1	285.3	285.3
17	C7 - COM 4"	100.7	88.8	94.8	94.8
18	C8 - COM 6"	181.6	217.1	199.4	199.4
19	C9-COM 8"	74.6	133.4	104.0	104.0
20	<b>Irrigation</b>				
21	5/8"	13.6	51.9	32.8	32.8
22	3/4"	47.3	62.6	54.9	54.9
23	1"	62.5	57.7	60.1	60.1
24	1 1/2"	255.7	214.2	234.9	234.9
25	2"	223.0	185.8	204.4	204.4
26	<b>Water Retailer</b>				
27	1"	2.6	2.4	2.5	2.5
28	2"	329.2	410.8	370.0	370.0
29	4"	402.4	416.3	409.3	409.3
30	6"	759.5	702.7	731.1	731.1
31	<b>Subtotal: Water</b>	1,648.5	1,768.8	1,708.7	1,708.7
32	<b>Total</b>	3,142.1	3,300.9	4,930.2	4,930.2



Billings Heights Water District  
 Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
 Miscellaneous Revenue Historical and Projected Totals

Line No.	Description	Code	Inflation Code	Budget	Projected							
				FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
				\$	\$	\$	\$	\$	\$	\$	\$	\$
1	Uncategorized Income	6000	CO	396	396	396	396	396	396	396	396	396
2	Interest Income	6030	II	124,564	130,182	107,942	61,904	52,804	48,898	43,752	30,857	27,544
3	Other Income	6040	MR	107,177	109,320	111,506	113,736	116,011	118,331	120,698	123,112	123,112
4	Work Order Income	6060	MR	314	320	326	333	340	347	354	361	361
5	Misc. Billing Charge	0	CO	0	12,171	12,352	12,535	12,721	12,910	13,101	13,296	13,493
6	<b>Total Miscellaneous Revenue</b>			232,451	252,389	232,522	188,904	182,272	180,882	178,302	168,022	164,907

APPENDIX B:

# **COST-OF-SERVICE RESULTS**

**Billings Heights Water District**  
**Water Financial Plan, Cost of Service, Rate, and System Development Fee Study**  
**Test-Year Revenue Requirements**

**SCHEDULE:**  
**DATE:**  
**RANGE:**

**COS**  
**07/17/23**  
**COS\_TY**

Line No.	Description	Amount (\$)
	Operation & Maintenance Expense	
1	Current Operations	4,652,697
2	Total Operation & Maintenance Expense	4,652,697
	Debt Service	
3	Existing	368,253
4	Proposed	0
5	Debt Service Reserve Expense	169,500
6	Transfer to Capital Fund	0
7	Total Capital Costs	537,753
8	<b>Total Revenue Requirements</b>	<b>5,190,450</b>
	<b>Operating Subfund Other Inflows / Outflows</b>	
9	Uncategorized Income	(396)
10	Interest Income	(130,182)
11	Other Income	(109,320)
12	Work Order Income	(320)
13	Misc. Billing Charge	(12,171)
14	Additional Rate Rev If Rates Were Effective July 1	52,415
15	Service Line Repair	(95,013)
16	Total Operating Subfund Other Inflows / Outflows	(294,987)
17	Increase (Decrease) in Operating Reserves	687,050
18	<b>Total Adjustments</b>	<b>392,062</b>
19	<b>Net Cost of Service</b>	<b>\$5,582,512</b>

Billings Heights Water District  
Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
Allocation of Water System Assets

FILE: \ctCity\Increase - Final Report.xlsm  
SCHEDULE: COS  
DATE: 07/17/23  
RANGE: COS\_PLTALLO

Line No.	Description	(1)	(2)	(3)	(4)	(5)		(6)	(7)	(8)		(9)	(10)
		Assets (1)	CIP (2)	Total	Base	Extra Capacity		Maximum Hour	Local Distribution Lines	Customer		Billing	Direct Fire Protection
						Maximum Day				Meters and Services			
		\$	\$	\$	\$	\$		\$	\$	\$		\$	\$
1	Land	\$0	\$0	\$0	\$0	\$0		\$0	\$0	\$0		\$0	\$0
2	Water Supply	0	0	0	0	0		0	0	0		0	0
3	Treatment	0	0	0	0	0		0	0	0		0	0
4	Transmission & Distribution	7,828,863	2,539,723	10,368,585	1,860,124	2,575,557		2,718,643	3,214,261	0		0	0
5	Meter	1,467,817	0	1,467,817	0	0		0	0	1,467,817		0	0
6	Fire Protection	155,327	0	155,327	0	0		0	0	0		0	155,327
7	General & Admin	756,339	73,973	830,312	183,046	253,342		225,127	112,159	51,218		0	5,420
8	Reservoirs / Treated Water Storage	9,823,930	0	9,823,930	2,554,222	3,536,615		3,733,093	0	0		0	0
9	Pumping	1,979,551	0	1,979,551	831,412	1,148,140		0	0	0		0	0
10	Miscellaneous Equipment	414,326	0	414,326	91,340	126,418		112,339	55,967	25,558		0	2,705
11	Vehicles	622,689	0	622,689	137,274	189,993		168,833	84,113	38,411		0	4,065
<b>Total Assets</b>		<b>\$23,048,843</b>	<b>\$2,613,695</b>	<b>\$25,662,538</b>	<b>\$5,657,418</b>	<b>\$7,830,063</b>		<b>\$6,958,036</b>	<b>\$3,466,500</b>	<b>\$1,583,004</b>		<b>\$0</b>	<b>\$167,517</b>
<b>Transmission and Distribution Lines (3)</b>													
12	Constructed Water Lines - Transmission	2,974,968	965,095	3,940,062	1,024,416	1,418,422		1,497,224	0	0		0	0
13	Constructed Water Lines - Distribution	4,853,895	1,574,628	6,428,523	835,708	1,157,134		1,221,419	3,214,261	0		0	0
14	<b>Total Transmission and Distribution Lines</b>	<b>7,828,863</b>	<b>2,539,723</b>	<b>10,368,585</b>	<b>1,860,124</b>	<b>2,575,557</b>		<b>2,718,643</b>	<b>3,214,261</b>	<b>0</b>		<b>0</b>	<b>0</b>
15	<b>Total Water System Assets</b>	<b>30,877,706</b>	<b>5,153,418</b>	<b>36,031,123</b>	<b>7,517,542</b>	<b>10,405,620</b>		<b>9,676,679</b>	<b>6,680,762</b>	<b>1,583,004</b>		<b>0</b>	<b>167,517</b>
16	Percent of Total			100.0%	20.9%	28.9%		26.9%	18.5%	4.4%		0.0%	0.5%
17	<b>Annual Capital Costs</b>			<b>\$537,753</b>	<b>\$112,198</b>	<b>\$155,300</b>		<b>\$144,421</b>	<b>\$99,708</b>	<b>\$23,626</b>		<b>\$0</b>	<b>\$2,500</b>
<b>Allocation of Functions to Service Demand Categories</b>													
18	Land			100.00%	100.00%								
19	Water Supply			100.00%	100.00%								
20	Treatment			100.00%	42.00%	58.00%							
21	Transmission & Distribution			100.00%	17.94%	24.84%		26.22%	31.00%				
22	Meter			100.00%						100.00%			
23	Fire Protection			100.00%									100.00%
24	General & Admin			100.00%	22.05%	30.51%		27.11%	13.51%	6.17%		0.00%	0.65%
25	Reservoirs / Treated Water Storage			100.00%	26.00%	36.00%		38.00%					
26	Pumping			100.00%	42.00%	58.00%							
27	Miscellaneous Equipment			100.00%	22.05%	30.51%		27.11%	13.51%	6.17%		0.00%	0.65%
28	Vehicles			100.00%	22.05%	30.51%		27.11%	13.51%	6.17%		0.00%	0.65%
<b>Transmission and Distribution Lines</b>													
29	Constructed Water Lines - Transmission			100.00%	26.00%	36.00%		38.00%					
30	Constructed Water Lines - Distribution			100.00%	13.00%	18.00%		19.00%	50.00%				
31	<b>Total Transmission and Distribution Lines</b>												
<b>General Plant</b>													
32	Miscellaneous / Admin			100.00%	22.05%	30.51%		27.11%	13.51%	6.17%		0.00%	0.65%

(1) Existing water system asset original cost as of 6/30/21 by function.

(2) Cumulative CIP by functional designation constructed through the test year.

(3) 62% of the inch-feet of water system lines are distribution, remaining 38% are transmission lines per water system line inventory of linear feet by line diameter size.

Billings Heights Water District  
Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
O&M Allocations to Functional Categories

FILE: inal\_050523\_FY202425\_48pctCityIncrease - Final Report.xlsm  
SCHEDULE: COS  
DATE: 07/17/23  
RANGE: COS\_OMFUNC

Line

No.	Description	Source of Supply /							Customer Accounting and Billing	Total
		Total	Water Rights	Treatment	Storage	Transmission	Distribution	Meters and Services		
1	Water Purchased	\$2,946,949	\$0	\$2,946,949	\$0	\$0	\$0	\$0	\$0	\$2,946,949
2	Labor	617,120	0	61,712	61,712	117,253	191,307	92,568	92,568	617,120
3	Directors Fee	12,312	0	8,769	467	725	1,182	584	584	12,312
4	Payroll Taxes	59,241	0	5,924	5,924	11,256	18,365	8,886	8,886	59,241
5	Ret. Benefits	60,307	0	6,031	6,031	11,458	18,695	9,046	9,046	60,307
6	Insurance	350,153	0	0	46,183	71,622	116,857	57,745	57,745	350,153
7	Supplies	142,084	0	7,104	7,104	40,494	66,069	10,656	10,656	142,084
8	Purchased Services	402,745	0	0	80,549	61,217	99,881	80,549	80,549	402,745
9	Building Materials	22,371	0	0	0	8,501	13,870	0	0	22,371
10	Fixed Charges	20,466	0	14,577	777	1,205	1,965	971	971	20,466
11	Other	18,948	0	13,496	719	1,115	1,819	899	899	18,948
12	Total O&M	\$4,652,697	\$0	\$3,064,563	\$209,466	\$324,846	\$530,012	\$261,905	\$261,905	\$4,652,697
<b>Allocations to Functions</b>										
13	Water Purchased	100.0%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
14	Labor	100.0%	0.00%	10.00%	10.00%	19.00%	31.00%	15.00%	15.00%	
15	Directors Fee	100.0%	0.00%	71.23%	3.80%	5.89%	9.60%	4.75%	4.75%	
16	Payroll Taxes	100.0%	0.00%	10.00%	10.00%	19.00%	31.00%	15.00%	15.00%	
17	Ret. Benefits	100.0%	0.00%	10.00%	10.00%	19.00%	31.00%	15.00%	15.00%	
18	Insurance	100.0%	0.00%	0.00%	13.19%	20.45%	33.37%	16.49%	16.49%	
19	Supplies	100.0%	0.00%	5.00%	5.00%	28.50%	46.50%	7.50%	7.50%	
20	Purchased Services	100.0%	0.00%	0.00%	20.00%	15.20%	24.80%	20.00%	20.00%	
21	Building Materials	100.0%	0.00%	0.00%	0.00%	38.00%	62.00%	0.00%	0.00%	
22	Fixed Charges	100.0%	0.00%	71.23%	3.80%	5.89%	9.60%	4.75%	4.75%	
23	Other	100.0%	0.00%	71.23%	3.80%	5.89%	9.60%	4.75%	4.75%	
24	Weighted Average w/ Treatment	100.0%	0.00%	71.23%	3.80%	5.89%	9.60%	4.75%	4.75%	
25	Weighted Average w/o Treatment	100.0%	0.00%		13.19%	20.45%	33.37%	16.49%	16.49%	

Billings Heights Water District  
Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
Allocations of O&M Expenses to Service Categories

FILE: rease - Final Report.xlsm  
SCHEDULE: COS  
DATE: 07/17/23  
RANGE: COS\_OMALLO

Line No.	Description	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Total	Base	Extra Capacity		Local Distribution Lines	Customer		
				Maximum Day	Maximum Hour		Meters and Services	Billing/ Customer Service	Direct Fire Protection
		\$	\$	\$	\$	\$	\$	\$	\$
1	Source of Supply / Water Rights	100.00%	100.00%	0.00%	0.00%				
2	Treatment	100.00%	42.00%	58.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3	Storage	100.00%	26.00%	36.00%	38.00%	0.00%	0.00%	0.00%	0.00%
4	Transmission	100.00%	26.00%	36.00%	38.00%	0.00%	0.00%	0.00%	0.00%
5	Distribution	100.00%	14.00%	18.00%	18.00%	50.00%	0.00%	0.00%	0.00%
6	Meters and Services	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%
7	Customer Accounting and Billing	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%
8	Source of Supply / Water Rights	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9	Treatment	3,064,563	1,287,117	1,777,447	0	0	0	0	0
10	Storage	209,466	54,461	75,408	79,597	0	0	0	0
11	Transmission	324,846	84,460	116,945	123,441	0	0	0	0
12	Distribution	530,012	74,202	95,402	95,402	265,006	0	0	0
13	Meters and Services	261,905	0	0	0	0	261,905	0	0
14	Customer Accounting and Billing	261,905	0	0	0	0	0	261,905	0
15	<b>Total Operation and Maintenance Expense</b>	<b>\$4,652,697</b>	<b>\$1,500,239</b>	<b>\$2,065,201</b>	<b>\$298,441</b>	<b>\$265,006</b>	<b>\$261,905</b>	<b>\$261,905</b>	<b>\$0</b>
16	<i>Percent of Total</i>	<i>100.0%</i>	<i>32.24%</i>	<i>44.39%</i>	<i>6.41%</i>	<i>5.70%</i>	<i>5.63%</i>	<i>5.63%</i>	<i>0.00%</i>

Billings Heights Water District  
Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
Allocation of Adjustments to Revenue Requirements to Service Categories

FILE: rease - Final Report.xlsm  
SCHEDULE: COS  
DATE: 07/17/23  
RANGE: COS\_REVADJ

Line No.	Description	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Total	Base	Extra Capacity		Customer		Billing/ Customer Service	Direct Fire Protection
				Maximum Day	Maximum Hour	Local Distribution Lines	Meters and Services		
1	Uncategorized Income	(\$396)	(\$128)	(\$176)	(\$25)	(\$23)	(\$22)	(\$22)	\$0
2	Interest Income	(130,182)	(41,977)	(57,784)	(8,350)	(7,415)	(7,328)	(7,328)	0
3	Other Income	(109,320)	(35,250)	(48,524)	(7,012)	(6,227)	(6,154)	(6,154)	0
4	Work Order Income	(320)	(103)	(142)	(21)	(18)	(18)	(18)	0
5	Misc. Billing Charge	(12,171)	(3,925)	(5,402)	(781)	(693)	(685)	(685)	0
6	Additional Rate Rev If Rates Were Effective July 1	52,415	10,936	15,137	14,077	9,719	2,303	0	244
7	Service Line Repair	(95,013)	(30,636)	(42,174)	(6,094)	(5,412)	(5,348)	(5,348)	0
8	Increase (Decrease) in Operating Reserves	687,050	221,536	304,962	44,070	39,133	38,675	38,675	0
9	Total	\$392,062	\$120,454	\$165,897	\$35,863	\$29,064	\$21,422	\$19,119	\$244
10	Total - Weighted Average		30.72%	42.31%	9.15%	7.41%	5.46%	4.88%	0.06%
11	Uncategorized Income		32.24%	44.39%	6.41%	5.70%	5.63%	5.63%	0.00%
12	Interest Income		32.24%	44.39%	6.41%	5.70%	5.63%	5.63%	0.00%
13	Other Income		32.24%	44.39%	6.41%	5.70%	5.63%	5.63%	0.00%
14	Work Order Income		32.24%	44.39%	6.41%	5.70%	5.63%	5.63%	0.00%
15	Misc. Billing Charge		32.24%	44.39%	6.41%	5.70%	5.63%	5.63%	0.00%
16	Additional Rate Rev If Rates Were Effective July 1		20.86%	28.88%	26.86%	18.54%	4.39%	0.00%	0.46%
17	Service Line Repair		32.24%	44.39%	6.41%	5.70%	5.63%	5.63%	0.00%
18	Increase (Decrease) in Operating Reserves		32.24%	44.39%	6.41%	5.70%	5.63%	5.63%	0.00%

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Line No.	Customer Class	Water Use		Maximum Day Demand			Maximum Hour Demand			Accounts	Bills	Eq. Meters (Meter Cap.)	Eq. Meters (Meter Cost)	Direct Weighted Fire Units	Indirect Weighted Fire Units
		Annual 1,000 gallons	Average Day gpd	Demand Factor	Total Demand gpd	Extra Demand gpd	Demand Factor	Total Demand gpd	Extra Demand gpd						
1	Residential	518,392	1,420,253	290%	4,121,695	2,701,443	464%	6,594,712	2,473,017	5,614	67,363	5,978	5,976	16,841	16,840,725
2	Commercial	217,027	594,596	202%	1,198,778	604,182	323%	1,918,045	719,267	445	5,340	1,673	1,673	4,672	4,672,493
3	Irrigation Only	32,262	88,389	406%	358,983	270,594	650%	574,373	215,390	27	324	62	62	0	0
4	Water Resellers	23,066	63,195	147%	93,079	29,884	236%	148,927	55,848	5	60	73	73	0	0
5	Standby Private Fire Line	0	0	240%	0	0	384%	0	0	60	720	38	38	630	630,000
6	Total	790,748	2,166,432		5,772,536	3,606,104		9,236,057	3,463,521	6,091	73,087	7,786	7,784	21,513	21,513,218
<b>Fire Protection</b>															
7	Public Fire Protection				630	630		5,040	4,410						
8	Total Fire Protection				630	630		5,040	4,410						
9	Total System	790,748	2,166,432		5,773,166	3,606,734		9,241,097	3,467,931	6,091	73,087	7,786	7,784	21,513	21,513,218



Billings Heights Water District  
Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
Development of Unit Costs of Service

FILE: rease - Final Report.xlsm  
SCHEDULE: COS  
DATE: 07/17/23  
RANGE: COS\_ULTUNITS

Line No.	Description	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Total	Base	Extra Capacity		Local Distribution Lines	Customer		Direct Fire Protection
				Maximum Day	Maximum Hour		Meters and Services	Billing/ Customer Service	
		\$	\$	\$	\$	\$	\$	\$	\$
<b>Revenue Requirements - \$</b>									
1	Source of Supply / Water Rights	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2	Treatment	3,064,563	1,287,117	1,777,447	0	0	0	0	0
3	Storage	209,466	54,461	75,408	79,597	0	0	0	0
4	Transmission	324,846	84,460	116,945	123,441	0	0	0	0
5	Distribution	530,012	74,202	95,402	95,402	265,006	0	0	0
6	Meters and Services	261,905	0	0	0	0	261,905	0	0
7	Customer Accounting and Billing	261,905	0	0	0	0	0	261,905	0
8	Operating Costs	4,652,697	1,500,239	2,065,201	298,441	265,006	261,905	261,905	0
9	Land	0	0	0	0	0	0	0	0
10	Water Supply	0	0	0	0	0	0	0	0
11	Treatment	0	0	0	0	0	0	0	0
12	Constructed Water Lines - Transmission	82,563	21,466	29,723	31,374	0	0	0	0
13	Constructed Water Lines - Distribution	134,708	17,512	24,247	25,595	67,354	0	0	0
14	Meter	30,758	0	0	0	0	30,758	0	0
15	Fire Protection	3,255	0	0	0	0	0	0	3,255
16	General & Admin	17,399	3,836	5,309	4,717	2,350	1,073	0	114
17	Reservoirs / Treated Water Storage	205,858	53,523	74,109	78,226	0	0	0	0
18	Pumping	41,481	17,422	24,059	0	0	0	0	0
19	Miscellaneous Equipment	8,682	1,914	2,649	2,354	1,173	536	0	57
20	Vehicles	13,048	2,877	3,981	3,538	1,763	805	0	85
21	Excluded	0	0	0	0	0	0	0	0
22	TBD	0	0	0	0	0	0	0	0
23	Capital Costs	537,753	118,550	164,077	145,804	72,640	33,171	0	3,510
24	<b>Total Revenue Requirements</b>	<b>5,190,450</b>	<b>1,618,789</b>	<b>2,229,278</b>	<b>444,245</b>	<b>337,646</b>	<b>295,076</b>	<b>261,905</b>	<b>3,510</b>
25	<b>Adjustment to Cost of Service</b>	<b>392,062</b>	<b>120,454</b>	<b>165,897</b>	<b>35,863</b>	<b>29,064</b>	<b>21,422</b>	<b>19,119</b>	<b>244</b>
26	<b>Net Cost of Service</b>	<b>5,582,512</b>	<b>1,739,243</b>	<b>2,395,175</b>	<b>480,108</b>	<b>366,710</b>	<b>316,498</b>	<b>281,024</b>	<b>3,754</b>
27	<b>Units of Service</b>		790,748	3,606,734	3,467,931	7,786	7,784	73,087	21,513
28	<b>Unit Cost of Service</b>		\$2.199	\$0.664	\$0.138	\$47.099	\$40.660	\$3.845	\$0.174

Billings Heights Water District  
Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
Distribution of Costs to Customer Classes

FILE: \_48pctCityIncrease - Final Report.xlsm  
SCHEDULE: COS  
DATE: 07/17/23  
RANGE: COS\_CUST\_ALLOC

Line No.	Customer Class	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Total	Base	Extra Capacity		Local Distribution Lines	Customer		Direct Fire Protection
				Maximum Day	Maximum Hour		Meters and Services	Billing/ Customer Service	
1	Unit Costs of Service - \$/unit		\$2.199	\$0.664	\$0.138	\$47.099	\$40.660	\$3.845	\$0.174
2	Residential Units		518,392	2,701,443	2,473,017	5,978	5,976	67,363	
3	Cost of Service - \$	\$4,060,110	\$1,140,199	\$1,793,986	\$342,370	\$281,555	\$242,985	\$259,015	
4	Commercial Units		217,027	604,182	719,267	1,673	1,673	5,340	
5	Cost of Service - \$	\$1,145,508	\$477,350	\$401,228	\$99,577	\$78,796	\$68,024	\$20,533	
6	Irrigation Only Units		32,262	270,594	215,390	62	62	324	
7	Cost of Service - \$	\$287,163	\$70,960	\$179,697	\$29,819	\$2,920	\$2,521	\$1,246	
8	Water Resellers Units		23,066	29,884	55,848	73	73	60	
9	Cost of Service - \$	\$84,949	\$50,734	\$19,846	\$7,732	\$3,438	\$2,968	\$231	
10	Stand By Private Fire Lines Units		0	0	0	38	38	720	
11	Cost of Service - \$	\$6,113	\$0	\$0	\$0	\$1,795	\$1,550	\$2,768	
12	Total - \$	<b>\$5,577,730</b>	<b>\$1,739,243</b>	<b>\$2,394,757</b>	<b>\$479,498</b>	<b>\$366,709</b>	<b>\$316,498</b>	<b>\$281,025</b>	<b>\$0</b>
			790,748	3,606,104	3,463,521	7,786	7,784	73,087	

Billings Heights Water District  
 Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
 Distribution of Costs to Customer Classes Summary

FILE: \_48pctCityIncrease - Final Report.xlsm  
 SCHEDULE: COS  
 DATE: 07/17/23  
 RANGE: COS\_CUST\_ALLOC\_SUM

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Line No.	Customer Class	Total	Base	Extra Capacity		Customer			Direct Fire Protection
				Maximum Day	Maximum Hour	Local Distribution Lines	Meters and Services	Billing/ Customer Service	
Total Costs									
1	District	\$5,577,730	\$1,739,243	\$2,394,757	\$479,498	\$366,709	\$316,498	\$281,025	\$0
2	Total	\$5,577,730	\$1,739,243	\$2,394,757	\$479,498	\$366,709	\$316,498	\$281,025	\$0
Fire Protection									
3	Units			630	4,410				21,513
4	Cost of Service - \$	\$4,783		\$418	\$611				\$3,754
5	Total Cost of Service	\$5,582,512	\$1,739,243	\$2,395,175	\$480,108	\$366,710	\$316,498	\$281,024	\$3,754

**Billings Heights Water District**  
**Water Financial Plan, Cost of Service, Rate, and System Development Fee Study**  
**Cost of Service Adjustments for Fire Protection**

**FILE: e - Final Report.xlsm**  
**SCHEDULE: COS**  
**DATE: 07/17/23**  
**RANGE: COS\_ADJCOS**

		(1)	(2)	(3)	(4)
Line No.	Customer Class	Distributed Cost	Direct Fire Protection Adjustment	Indirect Fire Protection Adjustment	Cost of Service
	District				
1	Residential	\$4,060,110	\$2,855	\$783	\$4,063,748
2	Commercial	1,145,508	792	217	1,146,517
3	Irrigation Only	287,163	0	0	287,163
4	Water Resellers	84,949	0	0	84,949
5	Standby Private Fire Line	6,113	107	29	6,249
6	Total	5,583,843	3,754	1,029	5,588,626
7	Fire Protection	4,783	(3,754)	(1,029)	0
8	Total System	\$5,588,626	\$0	\$0	\$5,588,626

Billings Heights Water District  
Water Financial Plan, Cost of Service, Rate, and System Development  
Customer Class Cost of Service

FILE: 25\_48pctCityIncrease - Final Report.xlsm  
SCHEDULE: COS  
DATE: 07/17/23  
RANGE: COS\_COMPCOS

Line No.	Customer Class	(1)	(2)	(3)
		Test-Year Cost of Service	Test-Year Revenue at Existing Rates	Indicated Revenue Increase
1	Residential	\$4,063,748	\$2,984,954	36.14%
2	Commercial	1,146,517	1,478,863	-22.47%
3	Irrigation Only	287,163	223,564	28.45%
4	Water Resellers	84,949	149,543	-43.19%
5	Standby Fire Protection	6,249	64,195	-90.27%
6	Total	<b>5,588,626</b>	<b>4,901,120</b>	<b>14.03%</b>

Line No.	Customer Class	(1)	(2)	(3)	
		Test-Year Cost of Service	Test-Year Revenue at Existing Rates	Indicated Revenue Increase	
1	Residential	4,063,748	2,984,954	36.14%	1,078,793
2	Commercial	1,152,766	1,543,058	-25.29%	(390,292)
3	Irrigation Only	287,163	223,564	28.45%	63,599
4	Water Resellers	84,949	149,543	-43.19%	(64,594)
5	Total	<b>5,588,626</b>	<b>4,901,120</b>	<b>14.03%</b>	<b>687,506</b>

Billings Heights Water District  
Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
Monthly Demand by Class

FILE: se - Final Report.xlsm  
SCHEDULE: COS  
DATE: 07/17/23  
RANGE: COS\_PEAKING

Class	July 2019	August 2019	September 2019	October 2019	November 2019	December 2019	January 2020	February 2020	March 2020	April 2020	May 2020	June 2020	FY 19-20 Total
Residential	62,031	86,790	59,482	23,564	19,587	19,777	24,611	22,133	19,716	23,877	40,742	68,248	470,556
Commercial	24,176	26,673	25,161	14,399	12,678	12,199	15,259	13,509	12,145	12,637	15,120	25,146	209,103
Irrigation Only	6,631	8,453	7,008	641	1	0	0	0	0	1	2,857	5,870	31,462
Water Resellers	2,012	2,180	2,140	1,681	1,624	1,573	1,997	1,744	1,679	1,754	1,929	2,439	22,753
Total	94,849	124,096	93,791	40,285	33,890	33,549	41,867	37,387	33,540	38,270	60,647	101,702	733,873

Class	July 2020	August 2020	September 2020	October 2020	November 2020	December 2020	January 2021	February 2021	March 2021	April 2021	May 2021	June 2021	FY 20-21 Total
Residential	80,709	110,560	71,300	40,423	20,978	23,090	22,731	23,677	20,335	22,992	33,569	95,866	566,229
Commercial	26,369	32,156	24,424	15,987	13,097	13,678	13,576	14,272	13,378	14,124	15,998	27,893	224,952
Irrigation Only	6,643	9,629	5,973	1,322	0	0	0	0	0	1	2,053	7,440	33,062
Water Resellers	2,392	2,497	2,175	1,874	1,606	1,670	1,843	1,642	1,668	1,712	1,772	2,527	23,379
Total	116,113	154,841	103,871	59,607	35,680	38,438	38,150	39,590	35,381	38,830	53,392	133,727	847,622

Class	Average July	Average August	Average September	Average October	Average November	Average December	Average January	Average February	Average March	Average April	Average May	Average June	Total
Residential	71,370	98,675	65,391	31,993	20,282	21,434	23,671	22,905	20,025	23,434	37,156	82,057	518,392
Commercial	25,272	29,414	24,793	15,193	12,887	12,939	14,417	13,891	12,762	13,381	15,559	26,520	217,027
Irrigation Only	6,637	9,041	6,490	982	1	0	0	0	0	1	2,455	6,655	32,262
Water Resellers	2,202	2,339	2,157	1,778	1,615	1,621	1,920	1,693	1,674	1,733	1,851	2,483	23,066
Total	105,481	139,469	98,831	49,946	34,785	35,994	40,008	38,489	34,461	38,550	57,020	117,715	790,748

Class	Annual Use	Class Average Day	System Average Month Demand	Max Month (Non-Coincidental)	Average Month Use	Peak Month / Average Month	Peak Day Use	Adjustment to Achieve System Peak Day Demand	Adjusted Peak Day Use	Adjustment to Recognize Diversity of Demands	Adjusted Class Peak Day Factors	Adjusted Peak Day Use	Peak Hour Factor	Adjusted Peak Hour Use
Residential	518,392	1,420	65,896	110,560	43,199	2.56	3,635	1.02	3,712	1.00	2.61	3,712	4.18	5,940
Commercial	217,027	595	65,896	32,156	18,086	1.78	1,057	1.02	1,080	1.00	1.82	1,080	2.91	1,728
Irrigation Only	32,262	88	65,896	9,629	2,688	3.58	317	1.02	323	1.00	3.66	323	5.85	517
Water Resellers	23,066	63	65,896	2,497	1,922	1.30	82	1.02	84	1.00	1.33	84	2.12	134
Total	790,748	2,166		154,841	65,896	2.35	5,091		5,199		2.40	5,199	3.84	8,319
System Wide Peak-Day Factor			2.40						2.40					
System Wide Peak Hour Factor			3.84											
System Wide Average Day Demand (kgal)			65,896											
System Wide Peak Day Demands (kgal)			158,150											
System Wide Peak Hour Demands (kgal)			253,039											

Input System Demand Information				System Coincidental Demands (1)			
1. Enter coincident system demand factors into the HIGHLIGHTED cells below.							
System demand factors are used for allocating particular assets and O&M expenses associated with base, max day, and/or max hour demands.							
		Actual	System Design			Factor	Allocation
Maximum day to average day demand.....		2.35	2.40	Max Day Extra Capacity		1.00	42.00%
Maximum hour to average day demand.....		3.76	3.84	Base		1.40	58.00%
				Max Day		2.40	100.00%
				Max Hour Extra Capacity			
				Base		1.00	26.00%
				Max Day		1.40	36.00%
				Max Hour		1.44	38.00%
						3.84	100.00%

Input Fire Protection Data	
<p>1. Fire protection requirements are used to develop system fire protection requirements as well as customer class fire protection requirements. Customer class fire protection is presented in the following section.</p> <p>2. Based on Insurance Services Office (ISO) guidelines, enter recommended maximum fire flow and flow duration for the utility into the HIGHLIGHTED cells below.</p> <p>Maximum Fire Flow..... <span style="border: 1px solid black; padding: 2px;">3,500</span> gpm  Fire Duration..... <span style="border: 1px solid black; padding: 2px;">3</span> hours</p> <p>3. The input table below documents fire flow requirements and fire duration for each customer class.</p> <p>a. In Columns 1 and 2, enter the maximum needed fire flow and fire duration for each customer class.</p> <p>b. In Columns 3 and 4, assign a one (1) for the customer classes that share expenses for direct and indirect fire protection, respectively. Correspondingly, enter a zero (0) for those that do not participate in direct and/or indirect fire protection.</p> <p><i>Note: Direct fire protection costs primarily include capital and maintenance expenses related to fire hydrants. Indirect fire protection costs primarily include extra capacity costs related to providing needed fire flows.</i></p>	

	(1)	(2)	(3)	(4)
Customer Class	Maximum Needed Fire Flow gpm (1)	Duration hrs. (1)	Direct Fire Participation 1=Yes/0=No	Indirect Fire Participation 1=Yes/0=No
Residential	1,500	2	1	1
Commercial	3,500	3	1	1
Irrigation Only	0	0	0	0
Water Resellers	0	0	0	0
Standby Private Fire Line	3,500	3	1	1
Unused	0	0	0	0
Unused	0	0	0	0
Unused	0	0	0	0
Unused	0	0	0	0
Unused	0	0	0	0
Unused	0	0	0	0



Billings Heights Water District  
Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
Development of Fire Protection Cost Allocation Factors

FILE: rease - Final Report.xlsm  
SCHEDULE: COS  
DATE: 07/17/23  
RANGE: COS\_FIREUNIT

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Line No.	Customer Class	Average	Maximum	Duration	Participation		Weighted Fire Protection		Fire Protection Allocation	
		Active	Needed		Direct	Indirect	Units of Service		Direct	Indirect
		Taps	Fire		Fire	Fire	(1 x 2 x 3 x (4 or 5)) * 60			
			gpm	hrs	1=Yes/0=No	1=Yes/0=No	Direct	Indirect		
1	Residential	5,614	1,500	2	1	1	16,840,725	16,840,725	76.1%	76.1%
2	Commercial	445	3,500	3	1	1	4,672,493	4,672,493	21.1%	21.1%
3	Irrigation Only	27	0	0	0	0	0	0	0.0%	0.0%
4	Water Resellers	5	0	0	0	0	0	0	0.0%	0.0%
5	Standby Private Fire Line	60	3,500	3	1	1	630,000	630,000	2.8%	2.8%
6	Total System	6,151					22,143,218	22,143,218		

**Billings Heights Water District**  
**Water Financial Plan, Cost of Service, Rate, and System Development Fee Study**  
**Water System Line Feet by Diameter Size (1)**

**FILE: \_48pctCityIncrease - Final Report.xlsm**  
**SCHEDULE: COS**  
**DATE: 07/17/23**  
**RANGE: COS\_LINE SIZE**

Line No.	Diameter (Inches)	Pipe Length, feet	Inch-Feet	Percent
1	3	101	302	0.01%
2	4	1,595	6,381	0.14%
3	6	214,028	1,284,167	29.00%
4	8	147,058	1,176,468	26.57%
5	10	27,872	278,715	6.30%
6	12	61,111	733,334	16.56%
7	16	11,685	186,964	4.22%
8	18	2,845	51,207	1.16%
9	20	68	1,365	0.03%
10	24	29,524	708,578	16.00%
11	Null	36,273	0	0.00%
12	<b>Total</b>	532,161	4,427,481	100.00%
13	<b>Distribution</b>	<b>Less Than 12"</b>	<b>2,746,034</b>	<b>62.0%</b>
14	<b>Transmission</b>	<b>12" and Greater</b>	<b>1,681,447</b>	<b>38.0%</b>
			<b>4,427,481</b>	<b>100.0%</b>

(1) County Water District of Billings Heights Water Main Inventory Data as of 10/1/2020 provided by District Staff.

APPENDIX C:

**FY 2023-24 WATER RATE  
RECOMMENDATIONS**

**Billings Heights Water District**  
**Water Financial Plan, Cost of Service, Rate, and System Development Fee Study**  
**Proposed Water Rates - RTS**  
**Proposed**

**SCHEDULE:**  
**RANGE:**

**RD1**  
**RD1\_FC**

<b>Meter Size</b>	<b>Meter Capacity Ratio</b>	<b>Meter Cost Ratio</b>	<b>Monthly M&amp;S</b>	<b>Monthly Billing</b>	<b>Monthly RTS (Distribution Sys.)</b>	<b>Monthly Service Charge</b>	<b>Monthly Minimum</b>	<b>Use Monthly Service Charge</b>
5/8 - Inch	1.00	1.00	\$3.39	\$3.85	3.92	\$11.16	\$0.00	\$21.00
3/4 - Inch	1.00	1.00	3.39	3.85	3.92	11.16	0.00	21.00
1 - Inch	1.67	1.67	5.65	3.85	6.55	16.05	0.00	29.40
1 1/2 - Inch	3.33	3.33	11.30	3.85	13.05	28.20	0.00	52.50
2 - Inch	5.33	5.33	18.08	3.85	20.89	42.82	0.00	79.80
3 - Inch	10.67	10.67	36.16	3.85	41.83	81.84	0.00	153.30
4 - Inch	16.67	16.67	56.50	3.85	65.35	125.70	0.00	153.30
6 - Inch	33.33	33.33	113.00	3.85	130.65	247.50	0.00	466.20
8 - Inch	53.33	53.33	180.80	3.85	209.05	393.70	0.00	741.30

**Billings Heights Water District**  
**Water Financial Plan, Cost of Service, Rate, and System Development Fee Study**  
**Proposed Water Rates - Volume Charges**  
**Proposed - Residential**

**SCHEDULE: RD1**  
**RANGE: RD1\_RES**

<b>Total Class Cost of Service</b>	<b>\$4,063,748</b>
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<b>Meter Sizes</b>	<b>Accounts</b>	<b>Monthly Charge</b>	<b>Revenue</b>
5/8 - Inch	3,572	\$21.00	\$900,091
3/4 - Inch	1,662	21.00	418,762
1 - Inch	348	29.40	122,851
1 1/2 - Inch	24	52.50	14,928
2 - Inch	4	79.80	3,946
3 - Inch	1	153.30	1,840
4 - Inch	3	153.30	5,519
6 - Inch	0	466.20	0
8 - Inch	0	741.30	0
<b>Total</b>	<b>5,614</b>		<b>\$1,467,936</b>

<b>Remainder Recovered from Volume Rate</b>	<b>\$2,595,812</b>
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<b>Tier</b>	<b>3/4-Inch Meter Block Ending</b>	<b>Volume in Tier</b>	<b>Volume Use</b>	<b>Cumulative Factor</b>	<b>Volume Rate</b>	<b>Volume Revenue</b>
First	4,000	41.58%	206,774	1.00	\$3.38	\$698,898
Next	11,000	35.86%	178,364	1.50	5.07	904,308
Next	25,000	19.08%	94,896	2.25	7.61	721,687
All Over	40,000	3.48%	17,296	3.00	10.13	175,206
		100.00%	497,331		5.03	\$2,500,099

<b>Revenue Surplus/(Deficiency)</b>	<b>(\$95,713)</b>
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**Billings Heights Water District**  
**Water Financial Plan, Cost of Service, Rate, and System Development Fee Study**  
**Proposed Water Rates - Volume Charges**  
**Proposed - Commercial**

**SCHEDULE: RD1**  
**RANGE: RD1\_COM**

<b>Total Class Cost of Service</b>	<b>\$1,146,517</b>
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Meter Sizes	Accounts	Monthly Charge	Revenue
5/8 - Inch	74	\$21.00	\$18,648
3/4 - Inch	83	21.00	20,916
1 - Inch	136	29.40	47,981
1 1/2 - Inch	69	52.50	43,470
2 - Inch	46	79.80	44,050
3 - Inch	8	153.30	14,717
4 - Inch	16	153.30	29,434
6 - Inch	9	466.20	50,350
8 - Inch	3	741.30	26,687
	444		\$296,251

<b>Remainder Recovered from Volume Rate</b>	<b>\$850,266</b>
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Tier	Block Ending	Volume in Tier	Volume Use	Cumulative Factor	Volume Rate	Volume Revenue
All Usage		100.00%	242,652	1.00	\$4.24	\$1,028,844
		100.00%	242,652			\$1,028,844
Revenue Surplus/(Deficiency)						\$178,578

**Billings Heights Water District**  
**Water Financial Plan, Cost of Service, Rate, and System Development Fee Study**  
**Proposed Water Rates - Volume Charges**  
**Proposed - Irrigation-Only**

**SCHEDULE: RD1**  
**RANGE: RD1\_IRR**

<b>Total Class Cost of Service</b>	<b>\$287,163</b>
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<b>Meter Sizes</b>	<b>Accounts</b>	<b>Monthly Charge</b>	<b>Revenue</b>
5/8 - Inch	1	\$21.00	\$252
3/4 - Inch	5	21.00	1,260
1 - Inch	20	29.40	7,056
1 1/2 - Inch	20	52.50	12,600
2 - Inch	16	79.80	15,322
3 - Inch	0	153.30	0
4 - Inch	0	153.30	0
6 - Inch	0	466.20	0
8 - Inch	0	741.30	0
8 - Inch	62		\$36,490

<b>Remainder Recovered from Volume Rate</b>	<b>\$250,673</b>
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<b>Tier</b>	<b>Block Ending</b>	<b>Volume in Tier</b>	<b>Volume Use</b>	<b>Cumulative Factor</b>	<b>Volume Rate</b>	<b>Volume Revenue</b>
All Usage		100.00%	36,612	1.00	\$7.00	\$256,287
		100.00%	36,612			\$256,287
Revenue Surplus/(Deficiency)						\$5,614

**Billings Heights Water District**  
**Water Financial Plan, Cost of Service, Rate, and System Development Fee Study**  
**Proposed Water Rates - Volume Charges**  
**Proposed - Water Retailers**

**SCHEDULE: Alt 1**  
**RANGE: RD1\_H20**

<b>Total Class Cost of Service</b>	<b>\$84,949</b>
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Meter Sizes	Accounts	Monthly Charge	Revenue
5/8 - Inch	0	\$21.00	\$0
3/4 - Inch	0	21.00	0
1 - Inch	1	29.40	353
1 1/2 - Inch	0	52.50	0
2 - Inch	1	79.80	958
3 - Inch	0	153.30	0
4 - Inch	2	153.30	3,679
6 - Inch	1	466.20	5,594
8 - Inch	0	741.30	0
	5		\$10,584

<b>Remainder Recovered from Volume Rate</b>	<b>\$74,365</b>
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Tier	Tier Ending	Volume in Tier	Volume Use	Cumulative Factor	Volume Rate	Volume Revenue
All Usage		100.00%	23,067	1.00	\$4.24	\$97,802
		100.00%	23,067			\$97,802
Revenue Surplus/(Deficiency)						\$23,437



**Billings Heights Water District**  
**Water Financial Plan, Cost of Service, Rate, and System Development Fee Study**  
**Proposed Water Rates - Volume Charges**  
**Proposed - Stand By Private Fireline**

**SCHEDULE: RD1**  
**RANGE: RD1\_PFL**

<b>Total Class Cost of Service</b>	<b>\$6,249</b>
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<b>Meter Sizes</b>	<b>Accounts</b>	<b>Monthly Charge</b>	<b>Revenue</b>
5/8 - Inch	0	\$0.38	\$0
3/4 - Inch	0	0.38	0
1 - Inch	0	0.63	0
1 1/2 - Inch	2	1.25	30
2 - Inch	7	2.00	168
3 - Inch	0	4.00	0
4 - Inch	35	6.25	2,625
6 - Inch	13	12.50	1,950
8 - Inch	3	20.00	720
	<u>60</u>		<u>\$5,493</u>

<b>Remainder Recovered from Volume Rate</b>	<b>\$756</b>
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<b>Tier</b>	<b>Tier Ending</b>	<b>Volume in Tier</b>	<b>Volume Use</b>	<b>Cumulative Factor</b>	<b>Volume Rate</b>	<b>Volume Revenue</b>
All Usage		100.00%	-	1.00	\$4.24	\$0
		<u>100.00%</u>	<u>-</u>			<u>\$0</u>
Revenue Surplus/(Deficiency)						<u><u>(\$756)</u></u>

**Billings Heights Water District**  
**Water Financial Plan, Cost of Service, Rate, and System Development Fe**  
**Proposed Water Rates**  
**Summary of Cost of Service vs. Proposed**

**FILE: AVAZ1807\_W**  
**SCHEDULE: RD1**  
**RANGE: RD1\_SUM**

Line No.	Customer Class	Test Year Cost of Service	FY 2023-24 Revenue Under Proposed	Difference
1	Proposed - Residential	\$4,063,748	\$3,968,035	-2.36%
2	Proposed - Commercial	1,146,517	1,325,095	15.58%
3	Proposed - Irrigation-Only	287,163	292,777	1.95%
4	Proposed - Water Retailers	84,949	108,386	27.59%
5	Proposed - Stand By Private Fireline	6,249	5,493	-12.10%
6	Total	<u>\$5,588,626</u>	<u>\$5,699,785</u>	1.99%
7	Proposed - Residential	\$4,063,748	\$3,968,035	-2.36%
8	Proposed - Non-Residential	1,152,766	1,330,588	15.43%
9	Proposed - Irrigation-Only	287,163	292,777	1.95%
10	Proposed - Water Retailers	84,949	108,386	27.59%
11	Total	<u>\$5,588,626</u>	<u>\$5,699,785</u>	1.99%

**Billings Heights Water District**  
**Water Financial Plan, Cost of Service, Rate, and System Development Fee Study**  
**Proposed Water Rates**  
**Residential 3/4-inch and Smaller Customer Bill Impacts**

Description	Current			Proposed FY 2023-24		
	Rate	Min	Max	Rate	Min	Max
Base Fee - 3/4-inch Meter	\$20.74			\$21.00		
Line Charge	1.30			1.30		
Tier 1	0.00	0	3.3	3.38	0	4
Tier 2	4.48	3.3	20	5.07	4	15
Tier 3	5.38	21	50	7.61	15	40
Tier 4	6.48	50		10.13	40	

**Water Bill - 3/4-inch Residential Customer Bills Current vs. Proposed Compared**

Line No	Monthly Water Usage (KGAL)	Proposed						Avg. Rate per KGAL	
		Bills	Cum. Bills	Current	8/1/2023	Change - \$	Change - %	Current	Proposed
1	0	0.5%	0.5%	\$22.04	\$22.30	\$0.26	1.2%		
2	1	4.8%	5.4%	22.04	25.68	3.64	16.5%	\$22.04	\$25.68
3	2	10.2%	15.6%	22.04	29.06	7.02	31.9%	\$11.02	\$14.53
4	3	14.6%	30.2%	22.04	32.44	10.40	47.2%	\$7.35	\$10.81
5	3.3	4.4%	34.6%	22.04	33.45	11.41	51.8%	\$6.68	\$10.14
6	4	11.1%	45.7%	25.18	35.82	10.64	42.3%	\$6.29	\$8.96
7	5	10.9%	56.7%	29.66	40.89	11.23	37.9%	\$5.93	\$8.18
8	6	7.5%	64.1%	34.14	45.96	11.82	34.6%	\$5.69	\$7.66
9	7	5.1%	69.2%	38.62	51.03	12.41	32.1%	\$5.52	\$7.29
10	8	3.7%	72.9%	43.10	56.10	13.00	30.2%	\$5.39	\$7.01
11	9	2.9%	75.8%	47.58	61.17	13.59	28.6%	\$5.29	\$6.80
12	10	2.3%	78.1%	52.06	66.24	14.18	27.2%	\$5.21	\$6.62
13	11	1.9%	80.0%	56.54	71.31	14.77	26.1%	\$5.14	\$6.48
14	12	1.6%	81.6%	61.02	76.38	15.36	25.2%	\$5.08	\$6.37
15	13	1.4%	83.0%	65.50	81.45	15.95	24.4%	\$5.04	\$6.27
16	14	1.3%	84.3%	69.98	86.52	16.54	23.6%	\$5.00	\$6.18
17	15	1.2%	85.5%	74.46	91.59	17.13	23.0%	\$4.96	\$6.11
18	16	1.1%	86.6%	78.94	99.20	20.26	25.7%	\$4.93	\$6.20
19	17	0.9%	87.6%	83.42	106.80	23.38	28.0%	\$4.91	\$6.28
20	18	0.9%	88.5%	87.90	114.41	26.51	30.2%	\$4.88	\$6.36
21	19	0.9%	89.4%	92.38	122.01	29.63	32.1%	\$4.86	\$6.42
22	20	0.9%	90.2%	96.86	129.62	32.76	33.8%	\$4.84	\$6.48
23	21	0.8%	91.0%	102.24	137.22	34.98	34.2%	\$4.87	\$6.53
24	22	0.7%	91.7%	107.62	144.83	37.21	34.6%	\$4.89	\$6.58
25	23	0.7%	92.4%	113.00	152.43	39.43	34.9%	\$4.91	\$6.63
26	24	0.6%	92.9%	118.38	160.04	41.66	35.2%	\$4.93	\$6.67
27	25	0.6%	93.5%	123.76	167.64	43.88	35.5%	\$4.95	\$6.71
28	26	0.5%	94.0%	129.14	175.25	46.11	35.7%	\$4.97	\$6.74
29	27	0.5%	94.5%	134.52	182.85	48.33	35.9%	\$4.98	\$6.77
30	28	0.5%	94.9%	139.90	190.46	50.56	36.1%	\$5.00	\$6.80
31	29	0.4%	95.3%	145.28	198.06	52.78	36.3%	\$5.01	\$6.83
32	30	0.3%	95.7%	150.66	205.67	55.01	36.5%	\$5.02	\$6.86

Billings Heights Water District  
Water Financial Plan, Cost of Service, Rate, and System Development Fee Study  
Proposed Water Rates  
Commercial 1-inch Customer Bill Impacts

Description	Current			Proposed		
	Rate	Min	Max	Rate	Min	Max
Base Fee - 3/4-inch Meter	\$22.30			\$29.40		
Line Charge	1.30			1.30		
Tier 1	0.00	0	3.3	4.24	0	3.3
Tier 2	4.48	3.3	20	4.24	3.3	20
Tier 3	5.38	21	50	4.24	21	50
Tier 4	6.48	50		4.24	50	

Water Bill - 1-inch Commercial Customer Bills Current vs. Proposed Compared

Line No	Monthly Water Usage (KGAL)	Bills	Cum. Bills	Current	Proposed			Avg. Rate per KGAL	
					8/1/2023	Change - \$	Change - %	Current	Proposed
1	0	0.2%	0.2%	\$23.60	\$30.70	\$7.10	30.1%		
2	1	5.7%	5.9%	23.60	34.94	11.34	48.1%	\$23.60	\$34.94
3	2	4.4%	10.3%	23.60	39.18	15.58	66.0%	\$11.80	\$19.59
4	3	3.1%	13.4%	23.60	43.42	19.82	84.0%	\$7.87	\$14.47
5	3.3	0.5%	13.9%	23.60	44.69	21.09	89.4%	\$7.15	\$13.54
6	4	1.7%	15.7%	26.74	47.66	20.92	78.3%	\$6.68	\$11.92
7	5	3.2%	18.9%	31.22	51.90	20.68	66.3%	\$6.24	\$10.38
8	6	3.7%	22.6%	35.70	56.14	20.44	57.3%	\$5.95	\$9.36
9	7	3.5%	26.1%	40.18	60.38	20.20	50.3%	\$5.74	\$8.63
10	8	4.1%	30.2%	44.66	64.62	19.96	44.7%	\$5.58	\$8.08
11	9	4.4%	34.6%	49.14	68.86	19.72	40.1%	\$5.46	\$7.65
12	10	4.0%	38.6%	53.62	73.10	19.48	36.3%	\$5.36	\$7.31
13	11	2.5%	41.0%	58.10	77.34	19.24	33.1%	\$5.28	\$7.03
14	12	2.9%	43.9%	62.58	81.58	19.00	30.4%	\$5.21	\$6.80
15	13	2.8%	46.7%	67.06	85.82	18.76	28.0%	\$5.16	\$6.60
16	14	2.4%	49.0%	71.54	90.06	18.52	25.9%	\$5.11	\$6.43
17	15	2.4%	51.4%	76.02	94.30	18.28	24.1%	\$5.07	\$6.29
18	16	2.0%	53.5%	80.50	98.54	18.04	22.4%	\$5.03	\$6.16
19	17	2.2%	55.6%	84.98	102.78	17.80	21.0%	\$5.00	\$6.05
20	18	1.9%	57.5%	89.46	107.02	17.56	19.6%	\$4.97	\$5.95
21	19	1.9%	59.5%	93.94	111.26	17.32	18.4%	\$4.94	\$5.86
22	20	1.9%	61.4%	98.42	115.50	17.08	17.4%	\$4.92	\$5.78
23	21	1.6%	63.0%	103.80	119.74	15.94	15.4%	\$4.94	\$5.70
24	22	1.3%	64.3%	109.18	123.98	14.80	13.6%	\$4.96	\$5.64
25	23	1.6%	65.9%	114.56	128.22	13.66	11.9%	\$4.98	\$5.57
26	24	1.4%	67.4%	119.94	132.46	12.52	10.4%	\$5.00	\$5.52
27	25	1.2%	68.6%	125.32	136.70	11.38	9.1%	\$5.01	\$5.47
28	26	1.0%	69.6%	130.70	140.94	10.24	7.8%	\$5.03	\$5.42
29	27	1.2%	70.8%	136.08	145.18	9.10	6.7%	\$5.04	\$5.38
30	28	1.1%	71.9%	141.46	149.42	7.96	5.6%	\$5.05	\$5.34
31	29	0.9%	72.7%	146.84	153.66	6.82	4.6%	\$5.06	\$5.30
32	30	1.1%	73.9%	152.22	157.90	5.68	3.7%	\$5.07	\$5.26
33	31	0.9%	74.8%	157.60	162.14	4.54	2.9%	\$5.08	\$5.23
34	32	0.8%	75.6%	162.98	166.38	3.40	2.1%	\$5.09	\$5.20
35	33	1.1%	76.7%	168.36	170.62	2.26	1.3%	\$5.10	\$5.17
36	34	0.8%	77.6%	173.74	174.86	1.12	0.6%	\$5.11	\$5.14
37	35	0.8%	78.3%	179.12	179.10	(0.02)	0.0%	\$5.12	\$5.12
38	36	0.6%	78.9%	184.50	183.34	(1.16)	-0.6%	\$5.12	\$5.09
39	37	0.5%	79.4%	189.88	187.58	(2.30)	-1.2%	\$5.13	\$5.07
40	38	0.8%	80.2%	195.26	191.82	(3.44)	-1.8%	\$5.14	\$5.05
41	39	0.8%	81.0%	200.64	196.06	(4.58)	-2.3%	\$5.14	\$5.03
42	40	0.7%	81.7%	206.02	200.30	(5.72)	-2.8%	\$5.15	\$5.01
43	41	0.7%	82.4%	211.40	204.54	(6.86)	-3.2%	\$5.16	\$4.99
44	42	0.7%	83.1%	216.78	208.78	(8.00)	-3.7%	\$5.16	\$4.97
45	43	0.4%	83.5%	222.16	213.02	(9.14)	-4.1%	\$5.17	\$4.95
46	44	0.5%	84.0%	227.54	217.26	(10.28)	-4.5%	\$5.17	\$4.94
47	45	0.4%	84.5%	232.92	221.50	(11.42)	-4.9%	\$5.18	\$4.92
48	46	0.4%	84.9%	238.30	225.74	(12.56)	-5.3%	\$5.18	\$4.91
49	47	0.3%	85.2%	243.68	229.98	(13.70)	-5.6%	\$5.18	\$4.89
50	48	0.4%	85.5%	249.06	234.22	(14.84)	-6.0%	\$5.19	\$4.88
51	49	0.4%	85.9%	254.44	238.46	(15.98)	-6.3%	\$5.19	\$4.87
52	50	0.5%	86.4%	259.82	242.70	(17.12)	-6.6%	\$5.20	\$4.85

**Billings Heights Water District**  
**Water Financial Plan, Cost of Service, Rate, and System Development**  
**Proposed Water Rates**  
**Irrigation-Only 1-inch Customer Bill Impacts**

**FILE: 1807\_W**  
**SCHEDULE: Prop**  
**RANGE: BI\_IRR**

Description	Current			Alt. 1 - Effective 8/1/23		
	Rate	Min	Max	Rate	Min	Max
Base Fee - 3/4-inch Meter	\$22.30			\$29.40		
Line Charge	1.30			1.30		
Tier 1	0.00	0	3.3	7.00	0	4
Tier 2	4.48	3.3	20	7.00	4	15
Tier 3	5.38	21	50	7.00	15	40
Tier 4	6.48	50		7.00	40	

**Water Bill - 1-inch Irrigation Only Customer Bills Compared to Proposed**

Proposed						
Line No	Monthly Water Usage	Bills	Current	8/1/2023	Change - \$	Change - %
1	0	0.2%	\$23.60	\$30.70	\$7.10	30.1%
2	1	5.7%	23.60	37.70	14.10	59.7%
3	2	4.4%	23.60	44.70	21.10	89.4%
4	3	3.1%	23.60	51.70	28.10	119.1%
5	3.3	0.5%	23.60	53.80	30.20	128.0%
6	4	1.7%	26.74	58.70	31.96	119.6%
7	5	3.2%	31.22	65.70	34.48	110.5%
8	6	3.7%	35.70	72.70	37.00	103.7%
9	7	3.5%	40.18	79.70	39.52	98.4%
10	8	4.1%	44.66	86.70	42.04	94.2%
11	9	4.4%	49.14	93.70	44.56	90.7%
12	10	4.0%	53.62	100.70	47.08	87.8%
13	11	2.5%	58.10	107.70	49.60	85.4%
14	12	2.9%	62.58	114.70	52.12	83.3%
15	13	2.8%	67.06	121.70	54.64	81.5%
16	14	2.4%	71.54	128.70	57.16	79.9%
17	15	2.4%	76.02	135.70	59.68	78.5%
18	16	2.0%	80.50	142.70	62.20	77.3%
19	17	2.2%	84.98	149.70	64.72	76.2%
20	18	1.9%	89.46	156.70	67.24	75.2%
21	19	1.9%	93.94	163.70	69.76	74.3%
22	20	1.9%	98.42	170.70	72.28	73.4%
23	21	1.6%	103.80	177.70	73.90	71.2%
24	22	1.3%	109.18	184.70	75.52	69.2%
25	23	1.6%	114.56	191.70	77.14	67.3%
26	24	1.4%	119.94	198.70	78.76	65.7%
27	25	1.2%	125.32	205.70	80.38	64.1%
28	26	1.0%	130.70	212.70	82.00	62.7%
29	27	1.2%	136.08	219.70	83.62	61.5%
30	28	1.1%	141.46	226.70	85.24	60.3%
31	29	0.9%	146.84	233.70	86.86	59.2%
32	30	1.1%	152.22	240.70	88.48	58.1%
33	31	0.9%	157.60	247.70	90.10	57.2%
34	32	0.8%	162.98	254.70	91.72	56.3%
35	33	1.1%	168.36	261.70	93.34	55.4%
36	34	0.8%	173.74	268.70	94.96	54.7%
37	35	0.8%	179.12	275.70	96.58	53.9%
38	36	0.6%	184.50	282.70	98.20	53.2%
39	37	0.5%	189.88	289.70	99.82	52.6%
40	38	0.8%	195.26	296.70	101.44	52.0%
41	39	0.8%	200.64	303.70	103.06	51.4%
42	40	0.7%	206.02	310.70	104.68	50.8%
43	41	0.7%	211.40	317.70	106.30	50.3%
44	42	0.7%	216.78	324.70	107.92	49.8%
45	43	0.4%	222.16	331.70	109.54	49.3%
46	44	0.5%	227.54	338.70	111.16	48.9%
47	45	0.4%	232.92	345.70	112.78	48.4%
48	46	0.4%	238.30	352.70	114.40	48.0%
49	47	0.3%	243.68	359.70	116.02	47.6%
50	48	0.4%	249.06	366.70	117.64	47.2%
51	49	0.4%	254.44	373.70	119.26	46.9%
52	50	0.5%	259.82	380.70	120.88	46.5%
62	60	0.0%	313.62	450.70	137.08	43.7%
72	70	0.0%	367.42	520.70	153.28	41.7%
73	80	0.0%	421.22	590.70	169.48	40.2%
74	90	0.0%	475.02	660.70	185.68	39.1%
75	100	0.0%	528.82	730.70	201.88	38.2%

APPENDIX D:

# WATER SDF CALCULATIONS

**County Water District of Billings Heights**  
**Water Financial Plan, CIP, Rate, and System Development Fee Study**  
**PIF Calculation**  
**Incremental**

<b>Line No</b>	<b>Description</b>	<b>Calculation</b>
<b>1</b>	Growth-Related CIP FY 2022-23 through FY 2031-32	\$20,044,464
<b>2</b>	NPV of Borrowing Cost of Future Debt	6,214,943
<b>3</b>	<b>Total Cost For PIF Calculation</b>	<b>\$26,259,407</b>
<b>4</b>	<b>Reservoir Capacity (Gallons per Day or GPD) (1)</b>	<b>3,000,000</b>
<b>5</b>	<b>Unit Cost per GPD</b>	<b>\$8.75</b>
<b>6</b>	<b>GPD/EQR (2)</b>	<b>560</b>
<b>7</b>	<b>\$/EQR</b>	<b>\$4,902</b>

(1) Per District staff and District engineering consultant.

(2) FY 2019-20 Annual Water Use Per EQR per Day times Peak Day Design Value of 2.40 times average day demands.

**County Water District of Billings Heights**  
**Water Financial Plan, CIP, Rate, and System Development Fee Study**  
**PIF Calculation**  
**Comparison of Existing and SDF**

<b>Line No.</b>	<b>Meter Size</b>	<b>Proposed Fee by Meter Size (1)</b>
1	3/4-inch and less	\$4,900
2	1-inch	8,167
3	1 1/2-inch	16,333
4	2-inch	26,133
5	3-inch	52,267
6	4-inch	81,667
7	6-inch	163,333
8	8-inch	261,333

(1) Proposed fee with 7.6% inflationary adjustment from 2022 to 7/1/23 effective date.



County Water District of Billings Heights  
Water Financial Plan, CIP, Rate, and System Development Fee Study  
Water 10-Yr Capital Improvement Plan (Uninflated as of 1Q 2022)

Line No.	Project ID	Project Description	Growth Related	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32	Total	2022-2032 PIF Eligible
				\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	
1	CIP-01	Northwest Transmission Main	90%	\$970,000	\$2,539,723	\$7,514,108	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$11,023,831	\$9,921,448
2	CIP-02	Bitterroot Loop Across Highway 312	80%	0	0	0	0	0	260,876	2,928,420	0	0	0	3,189,296	2,551,437
3	CIP-03	Bitterroot from Barrett to Mary	50%	0	0	0	124,670	1,351,922	0	0	0	0	0	1,476,592	738,296
4	CIP-04	Reservoir Management System	0%	0	0	97,270	1,074,080	0	0	0	0	0	0	1,171,350	0
5	CIP-05	Assess Condition of Existing Pipelines	0%	0	0	179,950	0	0	0	0	0	0	0	179,950	0
6	CIP-06	Aging Watermain Replacement Program	0%	0	0	0	0	0	652,190	642,600	633,080	623,490	613,970	3,165,330	0
7	CIP-07	Dedicated Fill Line for Lanier Reservoir	0%	0	0	0	0	548,332	0	0	0	0	0	548,332	0
8	CIP-08	Ultrasonic Meters at Hilltop & Lanier	0%	0	0	0	0	0	100,980	0	0	0	0	100,980	0
9	CIP-09	Update GIS Attributes	0%	0	0	0	0	122,902	0	0	0	0	0	122,902	0
10	CIP-10	GIS: Digital Workflows	20%	0	0	0	0	0	0	119,340	0	0	0	119,340	23,868
11	CIP-11	GIS Support/Data Workflow Maintenances	20%	0	0	0	0	0	0	0	0	489,885	0	489,885	97,977
12	CIP-12	Emergency Generation	0%	0	0	0	0	0	60,561	0	0	0	0	60,561	0
13	CIP-13	Equipment Storage Building	80%	0	0	0	0	709,050	0	0	0	0	0	709,050	567,240
14	CIP-14	Cold-Storage Yard at Ox Bow Tank Site	80%	0	0	58,362	0	0	0	0	0	0	0	58,362	46,690
15	CIP-15	Shop Addition with 2-Ton Bridge Crane	80%	0	0	0	0	0	0	0	271,320	0	0	271,320	217,056
16	CIP-16	5 Year Update to CIP	70%	0	0	0	0	0	69,878	0	0	0	0	69,878	48,915
17	CIP-17	Rate Study	50%	0	0	0	0	113,448	0	0	0	0	0	113,448	56,724
18	CIP-18	Comprehensive Water System PER	60%	180,000	0	0	0	0	0	0	0	0	0	180,000	108,000
19	CIP-19	Billings Bypass Planning Area Study	100%	0	0	68,089	0	0	0	0	0	0	0	68,089	68,089
20	CIP-20	Intake and WTP Due-Diligence Study	70%	0	73,973	0	0	0	0	0	0	0	0	73,973	51,781
21	CIP-21	4MG Ox Bow II Reservoir	100%	0	0	0	0	0	0	0	0	240,489	5,306,455	5,546,944	5,546,944
22	Total Water Capital Improvement Plan (Inflated)			<u>\$1,150,000</u>	<u>\$2,613,696</u>	<u>\$7,917,779</u>	<u>\$1,198,750</u>	<u>\$2,845,654</u>	<u>\$1,043,505</u>	<u>\$3,791,340</u>	<u>\$904,400</u>	<u>\$1,353,864</u>	<u>\$5,920,425</u>	<u>\$28,739,413</u>	<u>\$20,044,464</u>

County Water District of Billings Heights  
Water Financial Plan, CIP, Rate, and System Development Fee Study  
PIF Calculation  
Reservoir Tank Capacity In Gallons Per Day

Line No	Description	Functional Capacity (1)	Tank Capacity	Percent of Tank Capacity
<b>Existing Reservoir Capacity (GPD)</b>				
1	Hilltop	1,428,000	2,000,000	71.40%
2	Lanier	1,473,000	2,000,000	73.65%
3	Oxbow	1,777,000	4,000,000	44.43%
4	<b>Total Existing</b>	<b>4,678,000</b>	<b>8,000,000</b>	<b>58.48%</b>
<b>Future Reservoir Capacity</b>				
5	4MG Ox Bow II Reservoir	3,000,000	4,000,000	75.00%
6	<b>Total Future Reservoir Capacity</b>	<b>3,000,000</b>	<b>4,000,000</b>	<b>75.00%</b>
7				
8	<b>Total Existing and Future</b>	<b>7,678,000</b>	<b>12,000,000</b>	<b>63.98%</b>

(1) Per District staff and District engineering consultant.

County Water District of Billings Heights  
Water Financial Plan, CIP, Rate, and System Development Fee Study  
PIF Calculation  
Future Wastewater Debt Inputs

Line No	Bond Name	Average Borrowing Rate	Loan Term	Debt Issue Amount	Year of Issue	Total NPV of Interest	% Growth	Growth Portion NPV of Interest
1	Series FY 2023-24 & FY 2024-25	2.50%	30	\$10,200,000	2024	\$3,236,208	90%	\$2,912,587
2	Series FY 2025-26	3.00%	30	0	2025	0	0%	0
3	Series FY 2026-27	5.00%	30	2,500,000	2026	1,172,267	50%	586,134
4	Series FY 2028-29	5.00%	30	2,800,000	2028	1,190,874	80%	952,699
5	Series FY 2031-32	5.00%	30	4,800,000	2031	1,763,523	100%	1,763,523
6	<b>Total</b>			<b><u>\$20,300,000</u></b>		<b><u>\$7,362,872</u></b>		<b><u>\$6,214,943</u></b>

County Water District of Billings Heights  
Water Financial Plan, CIP, Rate, and System Development Fee Study  
PIF Calculation  
Series FY 2023-24 & FY 2024-25

Line No	Description	Summary
1	Borrowing Rate	2.50%
2	Principal Amount	\$10,200,000
3	Year of Issue	2024
4	Loan Term	30
5	Annual Payment	\$487,332
6	Discount Rate	2.50%
7	NPV of Interest Payments	\$3,236,208

		EOY Principal			
	FY	Balance	Principal	Interest	Total
8	FY 2022-23		\$0	\$0	\$0
9	FY 2023-24	10,200,000	0	0	0
10	FY 2024-25	9,967,668	232,332	255,000	487,332
11	FY 2025-26	9,729,528	238,140	249,192	487,332
12	FY 2026-27	9,485,434	244,094	243,238	487,332
13	FY 2027-28	9,235,238	250,196	237,136	487,332
14	FY 2028-29	8,978,787	256,451	230,881	487,332
15	FY 2029-30	8,715,925	262,862	224,470	487,332
16	FY 2030-31	8,446,491	269,434	217,898	487,332
17	FY 2031-32	8,170,321	276,170	211,162	487,332
18	FY 2032-33	7,887,247	283,074	204,258	487,332
19	FY 2033-34	7,597,097	290,151	197,181	487,332
20	FY 2034-35	7,299,692	297,405	189,927	487,332
21	FY 2035-36	6,994,852	304,840	182,492	487,332
22	FY 2036-37	6,682,392	312,461	174,871	487,332
23	FY 2037-38	6,362,120	320,272	167,060	487,332
24	FY 2038-39	6,033,841	328,279	159,053	487,332
25	FY 2039-40	5,697,355	336,486	150,846	487,332
26	FY 2040-41	5,352,457	344,898	142,434	487,332
27	FY 2041-42	4,998,936	353,521	133,811	487,332
28	FY 2042-43	4,636,578	362,359	124,973	487,332
29	FY 2043-44	4,265,160	371,417	115,914	487,332
30	FY 2044-45	3,884,457	380,703	106,629	487,332
31	FY 2045-46	3,494,237	390,221	97,111	487,332
32	FY 2046-47	3,094,261	399,976	87,356	487,332
33	FY 2047-48	2,684,285	409,975	77,357	487,332
34	FY 2048-49	2,264,061	420,225	67,107	487,332
35	FY 2049-50	1,833,330	430,730	56,602	487,332
36	FY 2050-51	1,391,831	441,499	45,833	487,332
37	FY 2051-52	939,295	452,536	34,796	487,332
38	FY 2052-53	475,446	463,850	23,482	487,332
39	FY 2053-54	0	475,446	11,886	487,332
40	<b>Total</b>		<b>\$10,200,000</b>	<b>\$4,419,958</b>	<b>\$14,619,958</b>

County Water District of Billings Heights  
Water Financial Plan, CIP, Rate, and System Development Fee Study  
PIF Calculation  
Series FY 2026-27

Line No	Description	Summary
1	Borrowing Rate	5.00%
2	Principal Amount	\$2,500,000
3	Year of Issue	2026
4	Loan Term	30
5	Annual Payment	\$162,629
6	Discount Rate	5.00%
7	NPV of Interest Payments	\$1,172,267

		EOY Principal			
	FY	Balance	Principal	Interest	Total
8	FY 2022-23		\$0	\$0	\$0
9	FY 2023-24		0	0	0
10	FY 2024-25		0	0	0
11	FY 2025-26	2,500,000	0	0	0
12	FY 2026-27	2,462,371	37,629	125,000	162,629
13	FY 2027-28	2,422,861	39,510	123,119	162,629
14	FY 2028-29	2,381,376	41,486	121,143	162,629
15	FY 2029-30	2,337,816	43,560	119,069	162,629
16	FY 2030-31	2,292,078	45,738	116,891	162,629
17	FY 2031-32	2,244,054	48,025	114,604	162,629
18	FY 2032-33	2,193,628	50,426	112,203	162,629
19	FY 2033-34	2,140,681	52,947	109,681	162,629
20	FY 2034-35	2,085,086	55,595	107,034	162,629
21	FY 2035-36	2,026,712	58,374	104,254	162,629
22	FY 2036-37	1,965,419	61,293	101,336	162,629
23	FY 2037-38	1,901,061	64,358	98,271	162,629
24	FY 2038-39	1,833,485	67,576	95,053	162,629
25	FY 2039-40	1,762,531	70,954	91,674	162,629
26	FY 2040-41	1,688,029	74,502	88,127	162,629
27	FY 2041-42	1,609,802	78,227	84,401	162,629
28	FY 2042-43	1,527,664	82,138	80,490	162,629
29	FY 2043-44	1,441,418	86,245	76,383	162,629
30	FY 2044-45	1,350,860	90,558	72,071	162,629
31	FY 2045-46	1,255,775	95,086	67,543	162,629
32	FY 2046-47	1,155,935	99,840	62,789	162,629
33	FY 2047-48	1,051,103	104,832	57,797	162,629
34	FY 2048-49	941,030	110,073	52,555	162,629
35	FY 2049-50	825,453	115,577	47,051	162,629
36	FY 2050-51	704,097	121,356	41,273	162,629
37	FY 2051-52	576,673	127,424	35,205	162,629
38	FY 2052-53	442,878	133,795	28,834	162,629
39	FY 2053-54	302,393	140,485	22,144	162,629
40	FY 2054-55	154,884	147,509	15,120	162,629
41	FY 2055-56	0	154,884	7,744	162,629
42	<b>Total</b>		<b>\$2,500,000</b>	<b>\$2,378,858</b>	<b>\$4,878,858</b>

County Water District of Billings Heights  
Water Financial Plan, CIP, Rate, and System Development Fee Study  
PIF Calculation  
Series FY 2028-29

Line No	Description	Summary
1	Borrowing Rate	5.00%
2	Principal Amount	\$2,800,000
3	Year of Issue	2028
4	Loan Term	30
5	Annual Payment	\$182,144
6	Discount Rate	5.00%
7	NPV of Interest Payments	\$1,190,874

		EOY Principal			
	FY	Balance	Principal	Interest	Total
8	FY 2022-23		\$0	\$0	\$0
9	FY 2023-24		0	0	0
10	FY 2024-25		0	0	0
11	FY 2025-26		0	0	0
12	FY 2026-27		0	0	0
13	FY 2027-28	2,800,000	0	0	0
14	FY 2028-29	2,757,856	42,144	140,000	182,144
15	FY 2029-30	2,713,605	44,251	137,893	182,144
16	FY 2030-31	2,667,141	46,464	135,680	182,144
17	FY 2031-32	2,618,354	48,787	133,357	182,144
18	FY 2032-33	2,567,128	51,226	130,918	182,144
19	FY 2033-34	2,513,340	53,788	128,356	182,144
20	FY 2034-35	2,456,863	56,477	125,667	182,144
21	FY 2035-36	2,397,562	59,301	122,843	182,144
22	FY 2036-37	2,335,296	62,266	119,878	182,144
23	FY 2037-38	2,269,917	65,379	116,765	182,144
24	FY 2038-39	2,201,269	68,648	113,496	182,144
25	FY 2039-40	2,129,188	72,081	110,063	182,144
26	FY 2040-41	2,053,504	75,685	106,459	182,144
27	FY 2041-42	1,974,035	79,469	102,675	182,144
28	FY 2042-43	1,890,593	83,442	98,702	182,144
29	FY 2043-44	1,802,978	87,614	94,530	182,144
30	FY 2044-45	1,710,983	91,995	90,149	182,144
31	FY 2045-46	1,614,388	96,595	85,549	182,144
32	FY 2046-47	1,512,964	101,425	80,719	182,144
33	FY 2047-48	1,406,468	106,496	75,648	182,144
34	FY 2048-49	1,294,647	111,821	70,323	182,144
35	FY 2049-50	1,177,236	117,412	64,732	182,144
36	FY 2050-51	1,053,953	123,282	58,862	182,144
37	FY 2051-52	924,507	129,446	52,698	182,144
38	FY 2052-53	788,588	135,919	46,225	182,144
39	FY 2053-54	645,874	142,715	39,429	182,144
40	FY 2054-55	496,023	149,850	32,294	182,144
41	FY 2055-56	338,680	157,343	24,801	182,144
42	FY 2056-57	173,470	165,210	16,934	182,144
43	FY 2057-58	0	173,470	8,674	182,144
44	<b>Total</b>		<b>\$2,800,000</b>	<b>\$2,664,321</b>	<b>\$5,464,321</b>

County Water District of Billings Heights  
Water Financial Plan, CIP, Rate, and System Development Fee Study  
PIF Calculation  
Series FY 2031-32

Line No	Description	Summary
1	Borrowing Rate	5.00%
2	Principal Amount	\$4,800,000
3	Year of Issue	2031
4	Loan Term	30
5	Annual Payment	\$312,247
6	Discount Rate	5.00%
7	NPV of Interest Payments	\$1,763,523

	FY	EOY Principal Balance	Principal	Interest	Total
8	FY 2022-23		\$0	\$0	\$0
9	FY 2023-24		0	0	0
10	FY 2024-25		0	0	0
11	FY 2025-26		0	0	0
12	FY 2026-27		0	0	0
13	FY 2027-28		0	0	0
14	FY 2028-29		0	0	0
15	FY 2029-30		0	0	0
16	FY 2030-31	4,800,000	0	0	0
17	FY 2031-32	4,727,753	72,247	240,000	312,247
18	FY 2032-33	4,651,894	75,859	236,388	312,247
19	FY 2033-34	4,572,242	79,652	232,595	312,247
20	FY 2034-35	4,488,607	83,635	228,612	312,247
21	FY 2035-36	4,400,790	87,817	224,430	312,247
22	FY 2036-37	4,308,583	92,207	220,040	312,247
23	FY 2037-38	4,211,765	96,818	215,429	312,247
24	FY 2038-39	4,110,107	101,659	210,588	312,247
25	FY 2039-40	4,003,365	106,742	205,505	312,247
26	FY 2040-41	3,891,286	112,079	200,168	312,247
27	FY 2041-42	3,773,604	117,683	194,564	312,247
28	FY 2042-43	3,650,037	123,567	188,680	312,247
29	FY 2043-44	3,520,292	129,745	182,502	312,247
30	FY 2044-45	3,384,060	136,232	176,015	312,247
31	FY 2045-46	3,241,016	143,044	169,203	312,247
32	FY 2046-47	3,090,820	150,196	162,051	312,247
33	FY 2047-48	2,933,114	157,706	154,541	312,247
34	FY 2048-49	2,767,523	165,591	146,656	312,247
35	FY 2049-50	2,593,652	173,871	138,376	312,247
36	FY 2050-51	2,411,088	182,564	129,683	312,247
37	FY 2051-52	2,219,395	191,693	120,554	312,247
38	FY 2052-53	2,018,118	201,277	110,970	312,247
39	FY 2053-54	1,806,777	211,341	100,906	312,247
40	FY 2054-55	1,584,869	221,908	90,339	312,247
41	FY 2055-56	1,351,866	233,003	79,243	312,247
42	FY 2056-57	1,107,212	244,654	67,593	312,247
43	FY 2057-58	850,326	256,886	55,361	312,247
44	FY 2058-59	580,595	269,731	42,516	312,247
45	FY 2059-60	297,378	283,217	29,030	312,247
46	FY 2060-61	809,834	297,378	14,869	312,247
47	<b>Total</b>		<b>\$4,800,000</b>	<b>\$4,567,407</b>	<b>\$9,367,407</b>