

# City of Big Bear Lake: Department of Water and Power

## Water Rate Study

Final Report / January 31, 2023

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January 31, 2023

Reginald "Reggie" Lamson  
General Manager  
City of Big Bear Lake  
Department of Water and Power (DWP)  
PO Box 1929  
Big Bear Lake, CA 92315

Subject: Water Rate Study Report

Dear Mr. Lamson,

Raftelis is pleased to provide this Water Rate Study Report for the City of Big Bear Lake Department of Water and Power. This Report includes the development of a financial plan for the fiscal year 2023 through the fiscal year 2032. The rates within are proposed for adoption and implementation for five years beginning in July 2023.

The objectives of the 2022 Rate Study include:

1. Development of a financial plan and proposed revenue adjustments to ensure financial sufficiency, reserves funding at adopted levels, and funding for planned capital investments and
2. Calculation of water rates that reflect the DWP's policy objectives and fully recover the DWP's cost of providing service.

We have enjoyed working with you, and we thank the DWP staff, as well as the Board of Commissioners, for the support provided during this Study.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kevin Kostiuk'.

Kevin Kostiuk  
Senior Manager

A handwritten signature in black ink, appearing to read 'Sarah Wingfield'.

Sarah Wingfield  
Associate Consultant

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# 1. Executive Summary

## Study Background

The City of Big Bear Lake (City) Department of Water and Power (DWP) engaged Raftelis in 2022 to complete a Water Rate Study (Study). The Study consists of developing DWP's long-range financial plan, evaluating the existing cost of service analysis, and calculating water rates for a five-year study period.

The Study encompasses a nine-year financial planning period from fiscal year (FY) 2023 to FY 2032 and five years of proposed rates, for implementation beginning July 2023 and each July thereafter. For the purposes of this Study, FY 2023 is the fiscal year beginning on July 1, 2022 and ending on June 30, 2023.

Raftelis collaborated closely with the DWP's staff and Board of Commissioners to derive rates that meet DWP's policy objectives. The main objectives that informed the study include:

- » Adequately recovering all cost requirements to maintain the utility's financial sufficiency
- » Evaluating the financial impacts of, and incorporating the costs for, the future Replenish Big Bear water supply augmentation project
- » Minimizing rate impacts to customers
- » Maintaining the existing rate structure and a high degree of fixed charge revenue
- » Fairly and equitably allocating costs between customer classes

## Agency Background

The City of Big Bear Lake was incorporated in 1980 and became a charter city in 1983. The City of Big Bear Lake DWP was formed in 1989 with the purchase of the retail water system from Southern California Water Company. The DWP provides water service to Residential and Commercial customers in the Bear Valley of the San Bernadino Mountains. The DWP serves the area which includes the City of Big Bear Lake and the unincorporated communities of Fawnskin, Erwin Lake, Lake William, Sugarloaf, and Moonridge. The DWP serves approximately 15,900 customers, the majority of whom are Residential customers. In addition to serving single family and multi-family residences, DWP supplies water to schools, institutions, businesses, restaurants, hotels, and the community at large. The DWP is organized and operated pursuant to the California Water Code and is governed by a five-member Board of Commissioners (Board).

Water supply comes from water produced from the local groundwater basin through a combination of gravity (or slant) wells and traditional vertical, electric wells. To increase resilience of supply and availability of supply for future users, the DWP has partnered with neighboring agencies on Replenish Big Bear, a water supply augmentation project which treats existing flows and then recharges the groundwater basin.

## Current Rates

The DWP's existing water rate structure consists of the following components:

1. Service Charge – for all water customers, based on meter size
2. Fire Service Charge – for all customers with private firelines, based on fire line size
3. Usage Fee – for all customers, per one hundred cubic feet (ccf) of usage, customer class, and tier
  - » Single Family Residential (SFR) – six tier rate structure
  - » Commercial and Institutional – two tier rate structure

**Table 1-1** shows the DWP's current monthly Service Charges for its Residential customer class. Note that, while these charges are shown in monthly terms, Residential customers are billed on a bi-monthly basis and therefore see a charge twice as large as the values in column C for each bill received. Each connection's Service Charge includes a volumetric allotment of 8 ccf per billing period (4 ccf per month).

**Table 1-1: Current Residential Service Charges**

| A    | B                              | C        |
|------|--------------------------------|----------|
| Line | Meter Size                     | FY 2023  |
| 1    | 5/8-inch                       | \$41.15  |
| 2    | 1-inch                         | \$73.65  |
| 3    | 1-inch (required for firecode) | \$46.00  |
| 4    | 1 ½-inch                       | \$92.30  |
| 5    | 2-inch                         | \$117.95 |
| 6    | 3-inch                         | \$193.90 |
| 7    | 4-inch                         | \$256.70 |
| 8    | 6-inch                         | \$421.85 |

**Table 1-2** shows the DWP's current monthly Service Charges for its Commercial customers. Commercial customers are billed monthly. Each connection's Service Charge includes a volumetric allotment of 4 ccf per month (the commercial billing period).

**Table 1-2: Current Commercial Service Charges**

| A    | B                              | C        |
|------|--------------------------------|----------|
| Line | Meter Size                     | FY 2023  |
| 1    | 5/8-inch                       | \$48.75  |
| 2    | 1-inch                         | \$81.25  |
| 3    | 1-inch (required for firecode) | \$50.78  |
| 4    | 1 ½-inch                       | \$99.90  |
| 5    | 2-inch                         | \$125.55 |
| 6    | 3-inch                         | \$201.50 |
| 7    | 4-inch                         | \$264.35 |
| 8    | 6-inch                         | \$429.45 |

Table 1-3 shows the DWP's current monthly fire Service Charges.

**Table 1-3: Current Monthly Fire Service Charges**

| A    | B             | C       |
|------|---------------|---------|
| Line | Fireline Size | FY 2020 |
| 1    | 1-inch        | \$4.85  |
| 2    | 2-inch        | \$9.85  |
| 3    | 4-inch        | \$9.85  |
| 4    | 6-inch        | \$14.80 |
| 5    | 8-inch        | \$19.75 |
| 6    | 10-inch       | \$24.70 |
| 7    | 12-inch       | \$29.60 |

Table 1-4 shows the DWP's current Usage Fees for variable water use in ccf, listed by customer class and tier. Tier 1 units for both SFR and Commercial are included within the Service Charge; Tier 1 therefore shows a rate of \$0.00 in the table. Residential rates are billed bi-monthly but stated here on a monthly basis and Commercial tiers are monthly.

**Table 1-4: Current Usage Fees**

| A    | B                                | C                                   | D                     | E         |
|------|----------------------------------|-------------------------------------|-----------------------|-----------|
| Line | Customer Class                   | Residential Tier Width <sup>1</sup> | Commercial Tier Width | Usage Fee |
| 1    | <b>Single Family Residential</b> |                                     |                       |           |
| 2    | Tier 1                           | 0-4                                 |                       | \$0.00    |
| 3    | Tier 2                           | 5-12                                |                       | \$2.98    |
| 4    | Tier 3                           | 13-20                               |                       | \$4.47    |
| 5    | Tier 4                           | 21-30                               |                       | \$5.87    |
| 6    | Tier 5                           | 31-50                               |                       | \$7.77    |
| 7    | Tier 6                           | 50+                                 |                       | \$13.82   |
| 8    |                                  |                                     |                       |           |
| 9    | <b>Commercial</b>                |                                     |                       |           |
| 10   | Tier 1                           |                                     | 0-4                   | \$0.00    |
| 11   | Tier 2                           |                                     | 5+                    | \$3.52    |

<sup>1</sup> Usage for Residential customers is measured on a bi-monthly basis, meaning (for example) that Residential customers will not move into tier 2 unless they use more than 8 ccf in a two month period.



## Legal Framework<sup>2</sup>

The rate-making process, especially for water agencies in California, begins with a review of the legal requirements and framework currently in place. The major legal requirements include Proposition 218 and Article X, Section 2 of the California Constitution, which are outlined in the following sections.

### California Constitution – Article XIII D, Section 6 (Proposition 218)

Proposition 218 was enacted by voters in 1996 to ensure, in part, that fees and charges imposed for ongoing delivery of a service to a property (“property-related fees and charges”) are proportional to, and do not exceed, the cost of providing service. Water service fees and charges are property-related and subject to the provisions of Proposition 218. The principal requirements, as they relate to public water service fees and charges, are as follows:

1. Revenues derived from a property-related charge imposed by a public agency shall not exceed the costs required to provide the property-related service.
2. Revenues derived by the fee or charge shall not be used for any purpose other than that for which the fee or charge was imposed.
3. The amount of the fee or charge imposed upon any parcel shall not exceed the proportional cost of service attributable to the parcel.
4. No fee or charge may be imposed for a service unless that service is actually used or immediately available to the owner of property.
5. A written notice of the proposed fee or charge shall be mailed to the record owner of each parcel not less than 45 days prior to a public hearing, when the agency considers all written protests against the charge.

As stated in the American Water Works Association’s (AWWA) Manual of Water Supply Practices M1, *Principles of Water Rates, Fees, and Charges, Seventh Edition* (M1 Manual), “water rates and charges should be recovered from classes of customers in proportion to the cost of serving those customers.” Proposition 218 requires that water rates cannot be “arbitrary and capricious,” meaning that the rate-setting methodology must establish a clear nexus between costs and the rates charged.

### California Constitution – Article X, Section 2

Article X, Section 2 of the California Constitution was established in 1976 and states the following:

*“It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare.”*

Article X, Section 2 of the California Constitution institutes the need to preserve the State’s water supplies and to discourage the wasteful or unreasonable use of water by encouraging conservation. As such, public agencies are constitutionally mandated to maximize the beneficial use of water, prevent waste, and encourage conservation.

## Cost-Based Ratesetting Methodology

To develop utility rates that comply with Proposition 218 and industry standards while meeting other goals and policy objectives of a service provider, there are four primary steps, outlined below.

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<sup>2</sup> Raftelis does not practice law nor does it provide legal advice. The above discussion provides a general overview of Raftelis’ understanding as rate practitioners and is labeled “legal framework” for literary convenience only. The DWP should consult with its legal counsel for specific guidance.

## Revenue Requirement Determination

The rate-making process starts by determining the base year (Test Year) revenue requirement, which for this Study is Fiscal Year 2024 which runs from July 1, 2023 through June 30, 2024. The revenue requirement should sufficiently fund the utility's O&M expenses, debt service, capital expenses, and reserve funding.

## Cost of Service Analysis (COS)

The annual cost of providing water and wastewater service is distributed among customer classes commensurate with their service requirements. A COS analysis involves the following:

1. Functionalize costs. Examples of functions are supply, treatment, transmission, distribution, storage, meter servicing, and customer billing.
2. Allocate functionalized costs to cost components. Cost components include supply, base delivery, maximum day, maximum hour<sup>3</sup>, conservation, fire protection, meter servicing, and customer servicing and billing costs.
3. Distribute the cost components. Distribute cost components, using unit rates, to customer classes in proportion to their demands and burdens on the water system. This is described in the M1 Manual published by AWWA.

## Rate Design and Calculations

Rates do more than simply recover costs. Within the legal framework and industry standards, properly designed rates should support and optimize a blend of utility objectives, such as conservation, affordability for essential needs, and revenue stability, among other objectives. Cost-justified rates act as a public information tool in communicating these objectives to customers.

## Rate Adoption

Rate adoption is the last step of the rate-making process. Raftelis documents the rate study results in this Study which reflect the basis upon which the rates were calculated, the rationale and justifications behind the proposed charges, any changes to rate structures, and anticipated financial impacts to ratepayers.

Changes to rates and impacts to ratepayers can happen for a variety of reasons, including, but not limited to: a change in the total costs to serve customers; changes to the areas in which operating and capital costs are incurred; changes to water system components; changes to a water system's customer base and demand patterns; changes in cost of service methodology; and changes to rate structures and design.

## Cost of Service

The DWP staff and the Board of Commissioners decided to utilize the prior COS performed by the previous rate consultant in 2017-18. This Study therefore relies upon the existing COS and adjusts water rates based on the results of the Raftelis financial plan.

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<sup>3</sup> Collectively maximum day and maximum hour costs are known as peaking costs or capacity costs.

## Results and Recommendations

The results and recommendations that Raftelis developed in collaboration with the DWP staff and the Board of Commissioners include the following:

- » Planned revenue adjustments (gross revenue increases) not to exceed 4% per year in FY 2024 through FY 2032
- » Proposed revenue adjustments not to exceed 4% per year for adoption in FY 2024 through FY 2028<sup>4</sup>
- » Continuity of the existing rate structure and rate design

The revenue adjustment represents increases to existing rate revenues and is based upon the underlying cost to serve customers and thus the water rates. The three main drivers affecting the DWP’s revenue adjustments include reserve funding, debt coverage on existing debt (as well as maintaining future debt capacity), and capital project funding. Without additional revenue adjustments, the DWP cannot maintain targeted cash reserve levels, achieve minimum debt coverage requirements, or adequately fund the long-term Capital Improvement Plan (CIP) expenditures.

Within the five year rate horizon the DWP will begin to incur costs for Replenish Big Bear. The payments officially begin in FY 2027 with costs estimated at approximately \$300,000 per year. The Replenish Big Bear project represents a significant new source of water reliability as well as a new annual cost.

## Proposed Rates

The resulting water rates are based on the recommended increases described above. The proposed rates for FY 2024, the rate-setting year, are a result of applying the recommended FY 2024 increase to the existing rates. Rates for all years beyond FY 2024 are adjusted based on the proposed maximum 4% annual revenue adjustment.

**Table 1-5** shows the proposed Residential Service Charges for the study period. The charges shown below are in monthly terms. Residential customers are billed bi-monthly. All rates are shown to the nearest penny.

**Table 1-5: Proposed Residential Monthly Service Charges**

| A    | B                               | C        | D        | E        | F        | G        |
|------|---------------------------------|----------|----------|----------|----------|----------|
| Line | Meter Size                      | FY 2024  | FY 2025  | FY 2026  | FY 2027  | FY 2028  |
| 1    | 5/8-inch                        | \$42.80  | \$44.51  | \$46.29  | \$48.14  | \$50.07  |
| 2    | 1-inch                          | \$76.60  | \$79.66  | \$82.85  | \$86.16  | \$89.61  |
| 3    | 1-inch (required for fire code) | \$47.84  | \$49.75  | \$51.74  | \$53.81  | \$55.96  |
| 4    | 1 1/2-inch                      | \$95.99  | \$99.83  | \$103.82 | \$107.97 | \$112.29 |
| 5    | 2-inch                          | \$122.67 | \$127.58 | \$132.68 | \$137.99 | \$143.51 |
| 6    | 3-inch                          | \$201.66 | \$209.73 | \$218.12 | \$226.84 | \$235.91 |
| 7    | 4-inch                          | \$266.97 | \$277.65 | \$288.76 | \$300.31 | \$312.32 |
| 8    | 6-inch                          | \$438.72 | \$456.27 | \$474.52 | \$493.50 | \$513.24 |

<sup>4</sup> The Board of Commissioners may elect to implement a rate less than that noticed, if deemed financially prudent.

**Table 1-6** shows the proposed monthly Commercial Service Charges for the study period. Commercial customers are billed monthly. All rates are shown to the nearest penny.

**Table 1-6: Proposed Commercial Monthly Service Charges**

| A    | B                               | C        | D        | E        | F        | G        |
|------|---------------------------------|----------|----------|----------|----------|----------|
| Line | Meter Size                      | FY 2024  | FY 2025  | FY 2026  | FY 2027  | FY 2028  |
| 1    | 5/8-inch                        | \$50.70  | \$52.73  | \$54.84  | \$57.03  | \$59.31  |
| 2    | 1-inch                          | \$84.50  | \$87.88  | \$91.40  | \$95.06  | \$98.86  |
| 3    | 1-inch (required for fire code) | \$52.81  | \$54.92  | \$57.12  | \$59.40  | \$61.78  |
| 4    | 1 1/2-inch                      | \$103.90 | \$108.06 | \$112.38 | \$116.88 | \$121.56 |
| 5    | 2-inch                          | \$130.57 | \$135.79 | \$141.22 | \$146.87 | \$152.74 |
| 6    | 3-inch                          | \$209.56 | \$217.94 | \$226.66 | \$235.73 | \$245.16 |
| 7    | 4-inch                          | \$274.92 | \$285.92 | \$297.36 | \$309.25 | \$321.62 |
| 8    | 6-inch                          | \$446.63 | \$464.50 | \$483.08 | \$502.40 | \$522.50 |

**Table 1-7** shows the proposed monthly Fire Service Charges for the study period for those connections to the system that have dedicated private firelines for private fire suppression systems. All rates are shown to the nearest penny.

**Table 1-7: Proposed Monthly Fire Service Charges**

| A    | B             | C       | D       | E       | F       | G       |
|------|---------------|---------|---------|---------|---------|---------|
| Line | Fireline Size | FY 2024 | FY 2025 | FY 2026 | FY 2027 | FY 2028 |
| 1    | 1-inch        | \$5.04  | \$5.24  | \$5.45  | \$5.67  | \$5.90  |
| 2    | 2-inch        | \$10.24 | \$10.65 | \$11.08 | \$11.52 | \$11.98 |
| 3    | 4-inch        | \$10.24 | \$10.65 | \$11.08 | \$11.52 | \$11.98 |
| 4    | 6-inch        | \$15.39 | \$16.01 | \$16.65 | \$17.32 | \$18.01 |
| 5    | 8-inch        | \$20.54 | \$21.36 | \$22.21 | \$23.10 | \$24.02 |
| 6    | 10-inch       | \$25.69 | \$26.72 | \$27.79 | \$28.90 | \$30.06 |

**Table 1-8** shows the proposed Usage Fees. The proposed Usage Fees for FY 2024 (the rate-setting year) result from applying the recommended FY 2024 increase to the existing rates. Rates for all years beyond FY 2024 are adjusted based on the proposed maximum 4% annual revenue adjustment. Residential rates are billed bi-monthly but stated here on a monthly basis and Commercial tiers are monthly. All rates are shown to the nearest penny.

**Table 1-8: Proposed Usage Fees**

| A    | B                  | C                       | D                      | E       | F       | G       | H       | I       |
|------|--------------------|-------------------------|------------------------|---------|---------|---------|---------|---------|
| Line | Class              | Residential Tiers (ccf) | Commercial Tiers (ccf) | FY 2024 | FY 2025 | FY 2026 | FY 2027 | FY 2028 |
| 1    | <b>Residential</b> |                         |                        |         |         |         |         |         |
| 2    | Tier 1             | 0-4                     |                        | \$0.00  | \$0.00  | \$0.00  | \$0.00  | \$0.00  |
| 3    | Tier 2             | 5-12                    |                        | \$3.10  | \$3.22  | \$3.35  | \$3.48  | \$3.62  |
| 4    | Tier 3             | 13-20                   |                        | \$4.65  | \$4.84  | \$5.03  | \$5.23  | \$5.44  |
| 5    | Tier 4             | 21-30                   |                        | \$6.10  | \$6.34  | \$6.59  | \$6.85  | \$7.12  |
| 6    | Tier 5             | 31-50                   |                        | \$8.08  | \$8.40  | \$8.74  | \$9.09  | \$9.45  |
| 7    | Tier 6             | 50+                     |                        | \$14.37 | \$14.94 | \$15.54 | \$16.16 | \$16.81 |
| 8    |                    |                         |                        |         |         |         |         |         |
| 9    | <b>Commercial</b>  |                         |                        |         |         |         |         |         |
| 10   | Tier 1             |                         | 0-4                    | \$0.00  | \$0.00  | \$0.00  | \$0.00  | \$0.00  |
| 11   | Tier 2             |                         | 5+                     | \$3.66  | \$3.81  | \$3.96  | \$4.12  | \$4.28  |

# Customer Impacts

Figure 1-1 and Figure 1-2 show the monthly customer bill impacts for Residential customers with a 5/8-inch and a 1-inch meter, respectively, based on FY 2023 customer data provided by the DWP’s staff. Of the DWP’s approximately 15,900 Residential customers, more than 97% are serviced by a 5/8 or 1-inch meter. All customers will experience uniform bill impacts of a maximum 4% at all volumes of water use. The most common bill, a 5/8 inch meter at 4 ccf per month, will experience an increase of \$1.65 per month.

Figure 1-1: Residential Monthly Bill Impacts for a 5/8-inch Meter

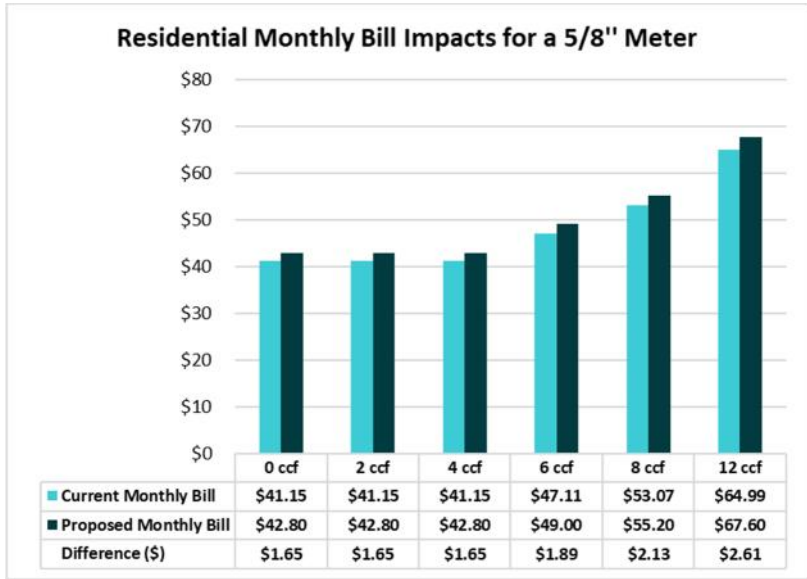


Figure 1-2: Residential Monthly Bill Impacts for a 1-inch Meter

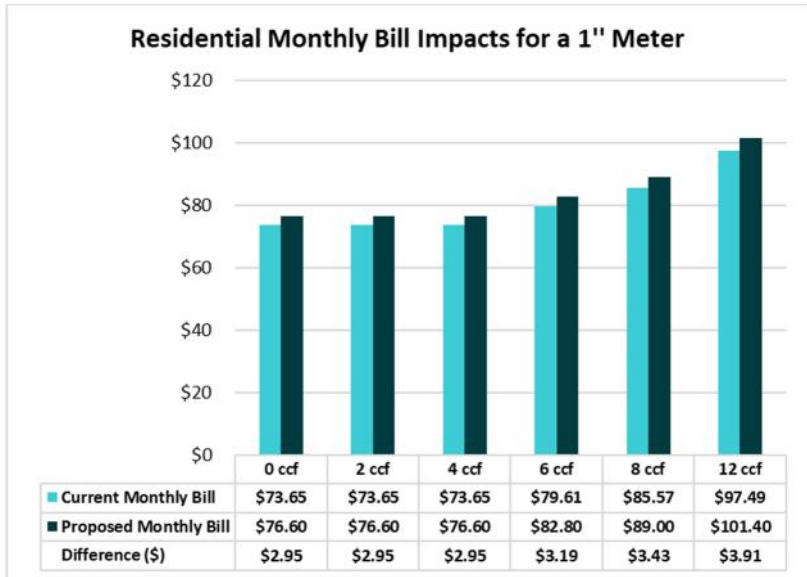


Figure 1-3 and Figure 1-4 show the monthly bill impacts for Commercial customers with a 5/8-inch and 1-inch meter, respectively. Of the DWP’s 1,011 Commercial customers, approximately 75% are serviced by a 5/8-inch or 1-inch meter. All customers will experience a maximum 4% increase, regardless of volume of water use.

Figure 1-3: Commercial Monthly Bill Impacts for a 5/8-inch Meter

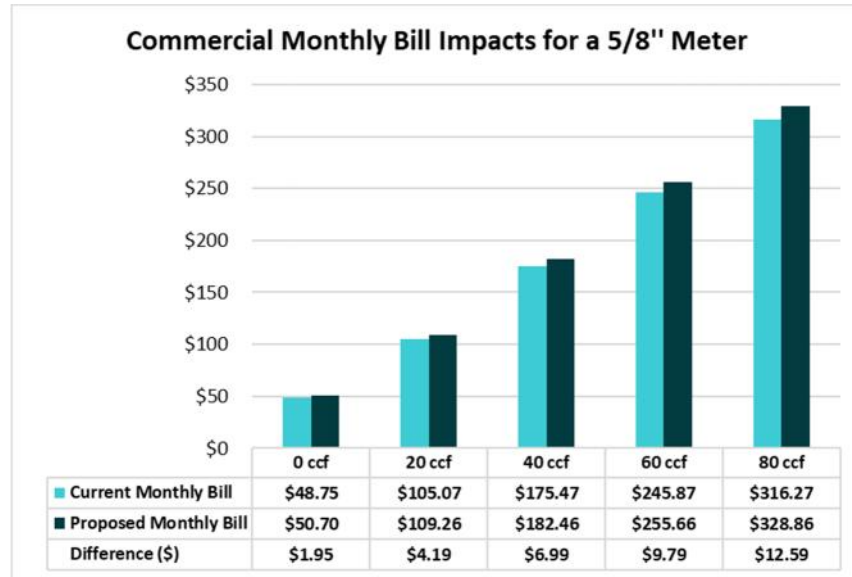
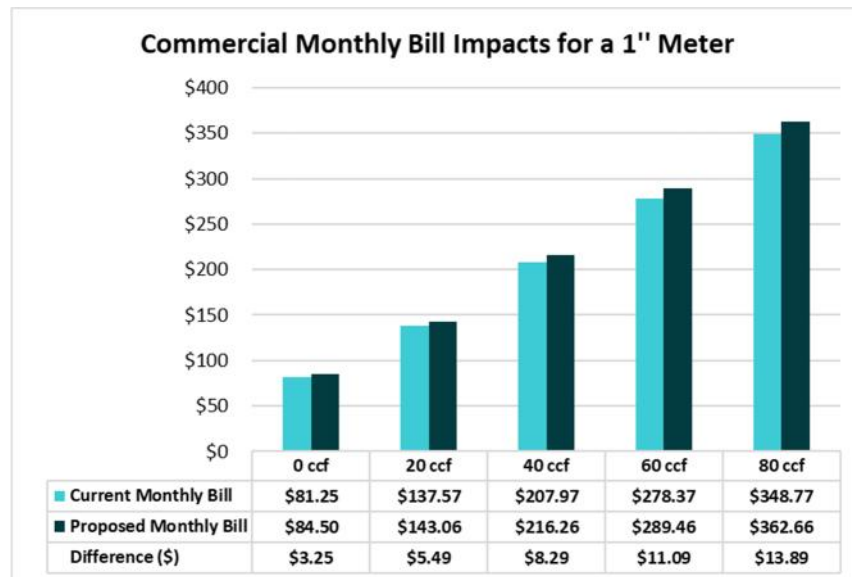


Figure 1-4: Commercial Monthly Bill Impacts for a 1-inch Meter



# 2. Background

## Agency Background

The City provides potable water to customers in the Bear Valley of the San Bernadino Mountains through its DWP. The DWP provides potable water service to approximately 15,900 Residential and Commercial connections within approximately 11 square miles (7,033 acres) of residential, and commercial lands. The DWP's mission is to cost effectively deliver quality water to meet the needs of its current and future customers. The DWP Board of Commissioners guides policy decisions for the City's DWP. The City's water is supplied primarily through traditional electric groundwater wells that pump water from the Bear Valley Groundwater Basin. In addition, the DWP has also developed a set of gravity (or slant) wells within the groundwater basin that provide additional water supply. The DWP plans to improve its groundwater replenishment through a Joint Powers Authority (JPA) known as Replenish Big Bear, set to begin in FY 2027.

The City of Big Bear Lake was incorporated in 1980 and became a charter city in 1983. The DWP was formed in 1989 with the purchase of the retail water system from Southern California Water Company. The DWP provides water service to Residential and Commercial customers in the Bear Valley of the San Bernadino Mountains. The DWP serves the area which includes the City of Big Bear Lake and the unincorporated communities of Fawnskin, Erwin Lake, Lake William, Sugarloaf, and Moonridge. The DWP serves approximately 15,900 customers, the majority of whom are Residential customers. The DWP is organized and operated pursuant to the California Water Code and is governed by a five-member Board of Commissioners (Board).

## Study Background

The Study encompasses a nine-year financial planning period from fiscal year (FY) 2023 to FY 2032 and five years of proposed rates, for implementation beginning July 2023 and each July thereafter through FY 2028. For the purposes of this Study, FY 2023 is the fiscal year beginning on July 1, 2022 and ending on June 30, 2023. HDR Engineering (HDR) conducted the last Water Rate Study in 2017, which resulted in adopted rates implemented July 2018. The 2022 Study financial plan incorporates updated assumptions and projections based on the most recent financial information and customer data available. The Study assumes FY 2023 water demand of approximately 836,000 hundred cubic feet (ccf) per year, with no anticipated changes to this baseline demand during the Study planning horizon. New water connections are projected at 0.3% annually, or about 50 new connections per year.

The DWP engaged Raftelis in 2022 to complete a Study. The Study consists of developing the DWP's long-range financial plan and calculating water rates for a five year study period.

Raftelis collaborated closely with the DWP's staff and Board of Commissioners to derive rates that meet the DWP's policy objectives. The main objectives that informed the study include:

- » Adequately recovering all cost requirements to maintain the DWP's financial sufficiency
- » Evaluating the financial impacts of, and incorporating the costs for, the future Replenish Big Bear water supply augmentation project
- » Minimizing rate impacts to customers
- » Maintaining the existing rate structure

# 3. Key Inputs and Assumptions

## Key Information Used in this Study

Raftelis developed a financial planning tool in Microsoft Excel to project financial calculations over the next 10 fiscal years. Projections in future years are generally made based on actual or estimated data for FY 2022 and the adopted budget for FY 2023 using key assumptions outlined below. Assumptions were discussed with, and reviewed by, the DWP's staff to ensure that the water system's local and unique characteristics are accurately accounted for.

The Study relies on the following critical information provided by the DWP's staff:

1. FY 2022 Actual Revenues and Expenses
2. FY 2023 Adopted Budgeted Revenues and Expenses
3. FY 2022 water use and customer account data (billing data detail)
4. Water source of supply production and cost estimates
5. FY 2022 beginning cash fund balances
6. The adopted ten-year CIP (including the DWP's planned CIP expenditures for Replenish Big Bear, beginning in FY 2027)
7. Existing debt service coverage covenants
8. Adopted cash reserve policies

## Current Rates

Current rates were developed with the 2017 the DWP Adopted Water Rate Study (report dated January 2018). The DWP's water rates were last increased in July 2022. The existing rate structure consists of two components: a fixed Service Charge by meter size and variable Usage Fees per hundred cubic feet (ccf<sup>5</sup>) of water use.

## Monthly/Bi-Monthly Service Charges

These Service Charges, by meter size, typically recover the costs of customer service and billing, meter servicing and maintenance, meter reading, and a share of extra-capacity costs. The DWP's Service Charges also include the costs of four ccf of water per month of water use.

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<sup>5</sup> One ccf of water is equal to 748 gallons.



Table 3-1 shows the DWP's current monthly Service Charges by meter size for all customers.<sup>6</sup>

**Table 3-1: FY 2023 Service Charges (\$/Month)**

| A    | B                               | C           | D          |
|------|---------------------------------|-------------|------------|
| Line | Monthly Meter Charge            | Residential | Commercial |
| 1    | 5/8-inch                        | \$41.15     | \$48.75    |
| 2    | 1-inch                          | \$73.65     | \$81.25    |
| 3    | 1-inch (required for fire code) | \$46.00     | \$50.78    |
| 4    | 1 1/2-inch                      | \$92.30     | \$99.90    |
| 5    | 2-inch                          | \$117.95    | \$125.55   |
| 6    | 3-inch                          | \$193.90    | \$201.50   |
| 7    | 4-inch                          | \$256.70    | \$264.35   |
| 8    | 6-inch                          | \$421.85    | \$429.45   |

**Water Usage Fees**

Also called commodity charges, or water use rates, these Usage Fees are distinguished by class and tier and typically recover the costs of water supply, average day demand delivery, and extra-capacity (among others). The DWP has two classes of customers: Single Family Residential (SFR) and Commercial (Commercial being all classes not SFR). Both classes have a tiered rate structure, with SFR having six tiers and Commercial two. Residential rates are billed bi-monthly but stated here on a monthly basis and Commercial tiers are monthly. Tiered Usage Fees are per ccf of water use.

Table 3-2 shows the DWP's Usage Fees for FY 2023, based on customer class and tier.

**Table 3-2: FY 2023 Usage Fees (\$/ccf)**

| A    | B                   | C                       | D                      | E                  |
|------|---------------------|-------------------------|------------------------|--------------------|
| Line | Customer Class/Tier | Residential Tier Widths | Commercial Tier Widths | Usage Fee (\$/ccf) |
| 1    | <b>Residential</b>  |                         |                        |                    |
| 2    | Tier 1              | 0-4                     |                        | \$0.00             |
| 3    | Tier 2              | 5-12                    |                        | \$2.98             |
| 4    | Tier 3              | 13-20                   |                        | \$4.47             |
| 5    | Tier 4              | 21-30                   |                        | \$5.87             |
| 6    | Tier 5              | 31-50                   |                        | \$7.77             |
| 7    | Tier 6              | 50+                     |                        | \$13.82            |
| 8    |                     |                         |                        |                    |
| 9    | <b>Commercial</b>   |                         |                        |                    |
| 10   | Tier 1              |                         | 0-4                    | \$0.00             |
| 11   | Tier 2              |                         | 5+                     | \$3.52             |

<sup>6</sup> Note that while the table shows Residential charges in monthly terms, in practice, the DWP charges its Residential customers bi-monthly, with charges double those shown on a monthly basis.

## Inflationary Factors

Inflationary assumptions are shown in **Table 3-3**. As part of the Study, Raftelis and the DWP’s staff determined the most appropriate annual escalation factors for the financial plan based on the best available information at the time of the study. Each individual expense within the operating budget is assigned the most applicable inflationary factor. For example, the general inflation factor reflects the long-term average Consumer Price Index (CPI); the capital inflation factor represents the long-term average increase in the Engineering News-Record (ENR) Construction Cost Index (CCI); salaries and benefits inflationary estimates are specific to the DWP’s labor environment. Additionally, higher inflation is assumed in the early years of the study based on current conditions. The long-range plan assumes a gradual return to a normal inflationary environment.

**Table 3-3: Inflationary Assumptions**

| Line | Category                 | FY 2023         | FY 2024          | FY 2025          | FY 2026          | FY 2027          | FY 2028          |
|------|--------------------------|-----------------|------------------|------------------|------------------|------------------|------------------|
| 1    | <b>Revenue Inflation</b> | <i>Budgeted</i> | <i>Projected</i> | <i>Projected</i> | <i>Projected</i> | <i>Projected</i> | <i>Projected</i> |
| 2    | Miscellaneous Revenues   | N/A             | 6%               | 4%               | 3%               | 3%               | 3%               |
| 3    | Other Operating Revenues | N/A             | 1%               | 1%               | 1%               | 1%               | 1%               |
| 4    | Reserve Interest Rate    | N/A             | 1%               | 1%               | 1%               | 1%               | 1%               |
| 5    |                          |                 |                  |                  |                  |                  |                  |
| 6    | <b>Expense Inflation</b> |                 |                  |                  |                  |                  |                  |
| 7    | General                  | N/A             | 6%               | 4%               | 3%               | 3%               | 3%               |
| 8    | Salary                   | N/A             | 5%               | 4%               | 4%               | 4%               | 4%               |
| 9    | Benefits                 | N/A             | 7%               | 7%               | 7%               | 7%               | 7%               |
| 10   | Water Supply             | N/A             | 5%               | 5%               | 5%               | 5%               | 5%               |
| 11   | Energy                   | N/A             | 4%               | 4%               | 4%               | 4%               | 4%               |
| 12   | Capital                  | N/A             | 5%               | 4%               | 3%               | 3%               | 3%               |
| 13   | Other Operating Revenues | N/A             | 1%               | 1%               | 1%               | 1%               | 1%               |

### Projected Connection Growth and Water Demand

**Table 3-4** shows the estimated new connection growth rate and water sales for the Study period. Account Growth (new connections) is set at 0.3% per year based on past and planned development and corresponds to approximately 50 new connections per year. The Water Demand Factor represents projected per capita (or per connection) demands, relative to prior year. The DWP anticipates constant per capita water demand over the planning horizon. The changes to total annual water use reflect additional demands from new connections only.

**Table 3-4: Projected Water Connection Growth and Water Demand**

| A    | B   | C             | D               | E                | F                | G                | H                | I                | J                | K                | L                | M                |
|------|---|---------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|      |   | <i>Actual</i> | <i>Budgeted</i> | <i>Projected</i> | <i>Projected</i> | <i>Projected</i> | <i>Projected</i> | <i>Projected</i> | <i>Projected</i> | <i>Projected</i> | <i>Projected</i> | <i>Projected</i> |
| Line | Water Use                                   | FY 2022       | FY 2023         | FY 2024          | FY 2025          | FY 2026          | FY 2027          | FY 2028          | FY 2029          | FY 2030          | FY 2031          | FY 2032          |
| 1    | Account Growth <sup>7</sup><br>(units/year) |               | 50              | 50               | 50               | 50               | 50               | 50               | 50               | 50               | 50               | 50               |
| 2    | Water Demand Factor                         |               | 100%            | 100%             | 100%             | 100%             | 100%             | 100%             | 100%             | 100%             | 100%             | 100%             |
| 3    |   |               |                 |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| 4    | All Accounts                                | 15,870        | 15,920          | 15,970           | 16,020           | 16,070           | 16,120           | 16,170           | 16,220           | 16,270           | 16,320           | 16,370           |
| 5    | Water Use (ccf)                             | 833,462       | 835,134         | 836,810          | 838,492          | 840,178          | 841,870          | 843,567          | 845,268          | 846,975          | 848,687          | 850,405          |

<sup>7</sup> Account growth is applied only to Residential 1-inch with fire for the purposes of this study. The values shown above represent 50 units per year of additional Residential 1-inch with fire accounts.

**Table 3-5** shows the projected number of water connections, by meter size and fiscal year. The number of connections is escalated each year based on the new connection assumptions identified in **Table 3-4**.

**Table 3-5: Projected Water Connections by Meter Size**

| A    | B            | C             | D             | E             | F             | G             | H             | I             | J             | K             | L             | M             |
|------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line | Meter Size   | FY 2022       | FY 2023       | FY 2024       | FY 2025       | FY 2026       | FY 2027       | FY 2028       | FY 2029       | FY 2030       | FY 2031       | FY 2032       |
| 1    | 5/8"         | 14,924        | 14,924        | 14,924        | 14,924        | 14,924        | 14,924        | 14,924        | 14,924        | 14,924        | 14,924        | 14,924        |
| 2    | 1"           | 185           | 185           | 185           | 185           | 185           | 185           | 185           | 185           | 185           | 185           | 185           |
| 3    | 1" (w/fire)  | 435           | 485           | 535           | 585           | 635           | 685           | 735           | 785           | 835           | 885           | 935           |
| 4    | 1.5"         | 98            | 98            | 98            | 98            | 98            | 98            | 98            | 98            | 98            | 98            | 98            |
| 5    | 2"           | 139           | 139           | 139           | 139           | 139           | 139           | 139           | 139           | 139           | 139           | 139           |
| 6    | 3"           | 1             | 1             | 1             | 1             | 1             | 1             | 1             | 1             | 1             | 1             | 1             |
| 7    | 4"           | 44            | 44            | 44            | 44            | 44            | 44            | 44            | 44            | 44            | 44            | 44            |
| 8    | 6"           | 31            | 31            | 31            | 31            | 31            | 31            | 31            | 31            | 31            | 31            | 31            |
| 9    | 8"           | 10            | 10            | 10            | 10            | 10            | 10            | 10            | 10            | 10            | 10            | 10            |
| 10   | 10"          | 3             | 3             | 3             | 3             | 3             | 3             | 3             | 3             | 3             | 3             | 3             |
| 11   | 12"          | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0             |
| 12   | <b>Total</b> | <b>15,870</b> | <b>15,920</b> | <b>15,970</b> | <b>16,020</b> | <b>16,070</b> | <b>16,120</b> | <b>16,170</b> | <b>16,220</b> | <b>16,270</b> | <b>16,320</b> | <b>16,370</b> |

**Table 3-6** shows the projected water use by customer class, tier, and fiscal year. Future water demand projections change based on the Water Demand Factor and Account Growth assumptions identified in **Table 3-4**.

**Table 3-6: Projected Water Demand by Customer Class**

| <b>A</b>    | <b>B</b>               | <b>C</b>       | <b>D</b>       | <b>E</b>       | <b>F</b>       | <b>G</b>       | <b>H</b>       | <b>I</b>       | <b>J</b>       | <b>K</b>       | <b>L</b>       | <b>M</b>       |
|-------------|------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>Line</b> | <b>Description</b>     | <b>FY 2022</b> | <b>FY 2023</b> | <b>FY 2024</b> | <b>FY 2025</b> | <b>FY 2026</b> | <b>FY 2027</b> | <b>FY 2028</b> | <b>FY 2029</b> | <b>FY 2030</b> | <b>FY 2031</b> | <b>FY 2032</b> |
| 1           | Residential            | 557,171        | 558,843        | 560,519        | 562,201        | 563,887        | 565,579        | 567,276        | 568,977        | 570,684        | 572,396        | 574,114        |
| 2           | Commercial             | 276,291        | 277,120        | 277,951        | 278,785        | 279,621        | 280,460        | 281,302        | 282,146        | 282,992        | 283,841        | 284,693        |
| 3           | <b>Total Use (ccf)</b> | <b>833,462</b> | <b>835,134</b> | <b>836,810</b> | <b>838,492</b> | <b>840,178</b> | <b>841,870</b> | <b>843,567</b> | <b>845,268</b> | <b>846,975</b> | <b>848,687</b> | <b>850,405</b> |

# 4. Financial Plan

This section details the projections of operating and capital expenses, as well as reserve and debt service coverage requirements, that determine the overall revenue adjustments required to ensure the financial stability of the DWP's water utility.

Revenue adjustments represent the gross increase in total rate revenues and can be considered the average rate increase for the DWP customers. Numbers shown in the tables of this section are rounded. Therefore, hand calculations based on the displayed numbers, such as summing or multiplying, may not equal the exact results shown in this report.

## Factors Affecting Revenue Adjustments

The following items affect the DWP's revenue requirement and thus its water rates: operating and maintenance (O&M) expenses, CIP, debt service, and reserve funding.

1. **Inflation:** Recent inflationary pressure has been higher than experienced in the past 40 years. Utilities have experienced this pressure in everything from chemical costs to capital costs to labor and supplies. Even in a normal inflationary environment, costs increase at an average rate of approximately 3 percent per year. Therefore, an annual rate increase of 3 percent per year could be perceived as an inflationary pass-through.
2. **Capital Funding:** The DWP has programmed approximately \$3.2 million in annual CIP over the next ten years. This represents an additional \$600k per year beyond a seven-year historical spend of \$2.6 million per year, per the prior rate study.
3. **Replenish Big Bear:** The project represents a new cost center to the DWP. While it will be partially paid through growth, the DWP will incur new O&M expenses that need to be accounted for in the long-range financial plan.
4. **Prudent Reserves:** The DWP has reserve policies for the water utility to meet working capital needs, ensure adequate funding of the capital repair and replacement (R&R) program, mitigate risk from asset failure during an emergency, and to protect ratepayers from rate spikes. The financial plan ensures that the DWP can sustainably achieve these adopted reserve levels. In addition, the DWP will begin funding its share of the Replenish Big Bear project, set to begin construction and implementation in FY 2027.

## DWP Revenues

**Table 4-1** shows the rate revenue and non-rate revenues. Rate revenues consist of Service Charges (which vary by meter size) and variable Usage Fees for water use (which vary by class and tier). Monthly service charges are shown in **Table 3-1**. The tiered Usage Fees for Residential and Commercial customers are shown in **Table 3-2**. The volumetric component of a customer's water bill is calculated based on the number of units of water delivered to a property, measured in one hundred cubic feet (ccf), multiplied by the Usage Fees that vary by customer class and tier. Projected water use is shown in **Table 3-4**. The current tier widths and rates are shown in **Table 3-2**. The rates, multiplied by the amount of use in each respective tier, determine the volumetric component of a customer's bill, subject to the Usage Fees. The utility also derives revenues from other non-rate sources. These revenues consist of other operating, miscellaneous, and non-operating revenues and are summarized in Lines 8 – 10.

**Table 4-1: Projected Water Revenues**

| A<br>Line | B<br>Expenses                    | C<br>FY 2022        | D<br>FY 2023        | E<br>FY 2024        | F<br>FY 2025        | G<br>FY 2026        | H<br>FY 2027        | I<br>FY 2028        |
|-----------|----------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| 1         | <b>Rate Revenues</b>             |                     |                     |                     |                     |                     |                     |                     |
| 2         | Fixed Revenues (Service Charges) | \$8,042,802         | \$8,229,877         | \$8,257,477         | \$8,285,077         | \$8,312,677         | \$8,340,277         | \$8,367,877         |
| 3         | Variable Revenues (Usage Fees)   | \$1,652,082         | \$1,688,370         | \$1,690,871         | \$1,693,380         | \$1,695,896         | \$1,698,420         | \$1,700,951         |
| 4         | <b>Total Rate Revenue</b>        | <b>\$9,694,884</b>  | <b>\$9,918,247</b>  | <b>\$9,948,348</b>  | <b>\$9,978,457</b>  | <b>\$10,008,573</b> | <b>\$10,038,697</b> | <b>\$10,068,828</b> |
| 5         |                                  |                     |                     |                     |                     |                     |                     |                     |
| 6         | <b>Non-Rate Revenues</b>         |                     |                     |                     |                     |                     |                     |                     |
| 7         | Capacity Charges                 | \$1,965,989         | \$719,355           | \$553,350           | \$575,484           | \$592,749           | \$610,531           | \$628,847           |
| 8         | Miscellaneous Revenue            | \$279,146           | \$393,590           | \$371,890           | \$386,766           | \$398,369           | \$410,320           | \$422,629           |
| 9         | Interest Income                  | \$20,712            | \$97,318            | \$77,343            | \$65,233            | \$53,306            | \$43,414            | \$38,630            |
| 10        | <b>Total Operating Revenues</b>  | <b>\$11,960,731</b> | <b>\$11,128,512</b> | <b>\$10,950,940</b> | <b>\$11,005,958</b> | <b>\$11,053,027</b> | <b>\$11,103,008</b> | <b>\$11,158,999</b> |

## DWP Operating Expenses

### Operating and Maintenance (O&M) Expenses

**Table 4-2** summarizes budgeted and projected O&M expenses for the water system. O&M expenses include the costs of operating and maintaining the water production, transmission, storage, and distribution facilities, as well as the costs of providing technical services (e.g., laboratory, customer service, and billing cost). The water utility’s FY 2023 operating budget is the basis for FY 2024 projections. As part of the Study, Raftelis and the DWP’s staff determined the most appropriate annual escalation factors for the financial plan based on the best available information at the time of the study. Each individual expense within the operating budget is assigned the most applicable inflationary factor. For example, the general inflation factor reflects the long-term average Consumer Price Index (CPI); the capital inflation factor represents the long-term average increase in the Engineering News-Record (ENR) Construction Cost Index (CCI); salaries and benefits inflationary estimates are specific to the DWP’s labor environment. Additionally, higher inflation is assumed in the early years of the study based on current conditions. The long-range plan assumes a gradual return to a normal inflationary environment.

Inflationary assumptions from **Table 3-3** are applied to year FY 2024 O&M and beyond to project future years. O&M cost increases in FY 2023 relative to FY 2022 are predominantly due to non-recurring, and one-time study costs. Future Replenish Big Bear costs are not shown in the table to better compare existing costs to future projections of the same expenditures. Replenish Big Bear costs are, however, included in total future operating costs and the DWP’s long-term expenditures and are documented in the proposed financial plan Pro Forma.

**Table 4-2: Projected O&M Expenses**

| A<br>Line | B<br>Expenses                    | C<br>FY 2023       | D<br>FY 2024       | E<br>FY 2025       | F<br>FY 2026       | G<br>FY 2027       | H<br>FY 2028       |
|-----------|----------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 1         | General                          | \$0                | \$0                | \$0                | \$0                | \$0                | \$0                |
| 2         | Water Production                 | \$1,353,965        | \$1,410,817        | \$1,474,997        | \$1,540,007        | \$1,608,131        | \$1,679,533        |
| 3         | Conservation/Communications      | \$345,679          | \$366,620          | \$384,807          | \$402,942          | \$422,038          | \$442,150          |
| 4         | Transmission/Distribution        | \$1,115,291        | \$1,160,028        | \$1,217,227        | \$1,274,849        | \$1,335,510        | \$1,399,388        |
| 5         | Water Operations                 | \$1,005,390        | \$949,674          | \$995,252          | \$1,038,815        | \$1,084,567        | \$1,132,632        |
| 6         | Customer Field Services (Meters) | \$953,302          | \$912,731          | \$959,195          | \$1,007,684        | \$1,058,843        | \$1,112,831        |
| 7         | Customer Service                 | \$1,268,603        | \$1,331,792        | \$1,396,640        | \$1,461,922        | \$1,530,598        | \$1,602,863        |
| 8         | Administration                   | \$1,840,028        | \$1,965,256        | \$2,056,693        | \$2,142,733        | \$2,232,896        | \$2,327,408        |
| 9         | Replenish Big Bear               | \$0                | \$0                | \$0                | \$0                | \$0                | \$0                |
| 10        | <b>Total O&amp;M</b>             | <b>\$7,882,257</b> | <b>\$8,096,916</b> | <b>\$8,484,812</b> | <b>\$8,868,951</b> | <b>\$9,272,584</b> | <b>\$9,696,805</b> |



## DWP Capital Improvement Program

**Table 4-3** shows the CIP detailed by project and year. The DWP’s 10-year CIP aims to increase annual spending from a historical annual value of approximately \$2.6 million to a projected annual spend of approximately \$3.2 million. Based on the proposed financial plan, it is projected that the DWP will be able to execute approximately 85% of annual capital with cash each year. The remaining 15% of annual CIP expenses will be funded if grants and/or low-interest financing opportunities are available. All values are shown in FY 2023 dollar amounts (i.e., non-inflated).

**Table 4-3: Water Utility Capital Improvement Program**

| A    | B                       | C                  | D                  | E                  | F                  | G                  | H                  |
|------|-------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Line | Description             | FY 2023            | FY 2024            | FY 2025            | FY 2026            | FY 2027            | FY 2028            |
|      |                         | <i>Budgeted</i>    | <i>Projected</i>   | <i>Projected</i>   | <i>Projected</i>   | <i>Projected</i>   | <i>Projected</i>   |
| 1    | Infrastructure Spending | \$2,745,605        | \$2,883,170        | \$2,233,565        | \$2,727,091        | \$2,273,403        | \$2,264,186        |
| 2    | Equipment               | \$37,128           | \$95,498           | \$65,450           | \$80,682           | \$57,188           | \$94,070           |
| 3    | IT                      | \$0                | \$0                | \$0                | \$127,500          | \$0                | \$0                |
| 4    | Site Improvements       | \$552,500          | \$127,500          | \$276,250          | \$276,250          | \$0                | \$0                |
| 5    | <b>Total</b>            | <b>\$3,335,233</b> | <b>\$3,106,168</b> | <b>\$2,575,265</b> | <b>\$3,211,523</b> | <b>\$2,330,591</b> | <b>\$2,358,255</b> |

## DWP Debt Service

The DWP has debt service from several borrowings issued to fund various CIP projects. **Table 4-4** shows the annual debt service payment for the Study planning period.

**Table 4-4: Water Debt Service**

| A    | B            | C                  | D                  | E                  | F                  | G                  | H                  |
|------|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Line | Description  | FY 2023            | FY 2024            | FY 2025            | FY 2026            | FY 2027            | FY 2028            |
| 1    | Principal    | \$562,466          | \$575,604          | \$586,885          | \$600,309          | \$612,754          | \$626,427          |
| 2    | Interest     | \$538,855          | \$526,871          | \$514,583          | \$502,013          | \$489,157          | \$476,004          |
| 3    | Annual Fee   | \$2,783            | \$2,704            | \$2,622            | \$2,539            | \$2,453            | \$2,364            |
| 4    | <b>Total</b> | <b>\$1,104,104</b> | <b>\$1,105,179</b> | <b>\$1,104,090</b> | <b>\$1,104,861</b> | <b>\$1,104,364</b> | <b>\$1,104,795</b> |

## DWP Reserve Funding

**Table 4-5** illustrates the DWP’s reserve policies and corresponding reserve targets. The current reserve targets were adopted in 2018 and consist of three components: an operating reserve to provide working capital for routine expenses and cashflow; a capital reserve to provide funds for CIP; and a debt service reserve to ensure debt coverage requirements are met during the study period. The debt service reserve represents restricted reserves and are therefore, not included in the unrestricted/available reserves relative to target.

The defined reserve policy is 25% of average annual operating expenses for the DWP’s operating reserve, 100% of five-year average CIP costs for its capital reserve, and one year of debt service for its debt service reserve. The total target reserve level in the current fiscal year (FY 2023) is approximately \$5 million. This target value will change over time as operating costs change due to cost structure and inflation; and as the timing and the magnitude of the CIP changes. The FY 2023 actual beginning balance for the water utility’s unrestricted funds was \$11 million. Unrestricted reserves increased from 2018 through 2022 because the DWP secured \$13.8 million in low-interest loans and \$3.6 million in grants in support of infrastructure improvements and regulatory compliance. The DWP’s current CIP strategically draws down the excess reserves over the next six years for infrastructure improvements.

**Table 4-5: Reserve Targets**

| Line | Reserve  | Policy                              | Target Reserve<br>FY 2024 |
|------|--|-------------------------------------|---------------------------|
| 1    | Operating  | 25% of annual operating expenses    | \$2,024,229               |
| 2    | Capital  | 100% of five-year average CIP costs | \$2,716,360               |
| 3    | Debt Service   | 1-year of debt service costs        | \$1,105,180               |
| 4    | <b>Total Unrestricted Reserves<br/>(Operating + Capital)</b> |                                     | <b>\$4,740,590</b>        |

## Financial Plan Revenue Adjustments

**Table 4-6** displays the proposed revenue adjustments for the recommended financial plan. The financial plan shows projected revenue adjustments for FY 2024 through FY 2032; however, the proposed rate adoption period is for five years. The current financial plan shows modest revenue adjustments are required to adequately fund all current and projected O&M expenses, debt coverage requirements, and achieve reserve policy targets. The proposed CIP may or may not be able to be executed at 100% each year, depending on actual construction cost inflation and the availability of grants and/or low-interest borrowing opportunities. The 4% per year rate revenue adjustments represent maximums for the Board’s consideration each year. If financially prudent, rate increases of less than 4% may be implemented at the Board’s discretion.

**Table 4-6: Proposed Five-Year Rate Revenue Adjustments<sup>8</sup>**

| A    | B           | C                           |
|------|-------------|-----------------------------|
| Line | Fiscal Year | Proposed Revenue Adjustment |
| 1    | FY 2024     | 4%                          |
| 2    | FY 2025     | 4%                          |
| 3    | FY 2026     | 4%                          |
| 4    | FY 2027     | 4%                          |
| 5    | FY 2028     | 4%                          |

<sup>8</sup> The adjustments beyond FY 2028 are for planning purposes only.

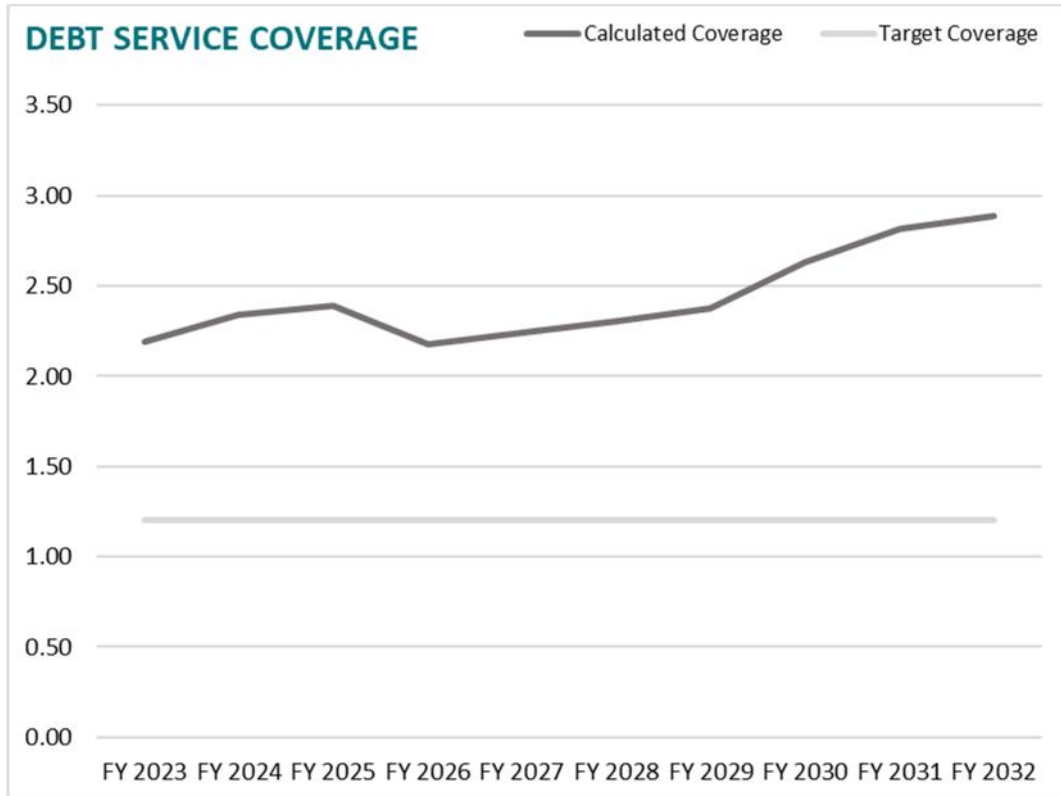
Table 4-7 shows the proforma for the water utility from FY 2023 through FY 2028 (year five of proposed rates) inclusive of the revenue adjustments shown in Table 4-6.

**Table 4-7: Proposed Financial Plan Proforma**

|  | <b>FY 2023</b>      | <b>FY 2024</b>      | <b>FY 2025</b>      | <b>FY 2026</b>      | <b>FY 2027</b>      | <b>FY 2028</b>      |
|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| <b>Beginning Balance</b>                 | <b>\$11,031,178</b> | <b>\$9,200,394</b>  | <b>\$8,191,394</b>  | <b>\$7,797,530</b>  | <b>\$6,535,299</b>  | <b>\$6,245,521</b>  |
| <b>Sources of Funds</b>                  |                     |                     |                     |                     |                     |                     |
| Revenues from Existing Rates             | \$9,918,247         | \$9,948,348         | \$9,978,457         | \$10,008,573        | \$10,038,697        | \$10,068,828        |
| Total Revenue Adjustments                | \$0                 | \$397,934           | \$814,242           | \$1,249,710         | \$1,705,159         | \$2,181,441         |
| Miscellaneous Revenue                    | \$393,590           | \$371,890           | \$386,766           | \$398,369           | \$410,320           | \$422,629           |
| Interest Revenue                         | \$97,318            | \$77,343            | \$65,233            | \$53,306            | \$43,414            | \$38,630            |
| Debt Proceeds                            | \$0                 | \$0                 | \$0                 | \$0                 | \$0                 | \$0                 |
| <i>Growth Related</i>                    |                     |                     |                     |                     |                     |                     |
| Capacity Fee Revenues                    | \$719,355           | \$553,350           | \$575,484           | \$592,749           | \$610,531           | \$628,847           |
| <b>Total Sources of Funds</b>            | <b>\$11,128,512</b> | <b>\$11,348,874</b> | <b>\$11,820,200</b> | <b>\$12,302,738</b> | <b>\$12,808,167</b> | <b>\$13,340,440</b> |
| <b>Uses of Funds</b>                     |                     |                     |                     |                     |                     |                     |
| O&M                                      | \$7,882,257         | \$8,096,916         | \$8,484,812         | \$8,868,951         | \$9,272,584         | \$9,696,805         |
| Revenue Funded CIP                       | \$3,923,803         | \$3,106,168         | \$2,575,265         | \$3,211,523         | \$2,330,591         | \$2,358,255         |
| Existing Debt                            | \$1,104,104         | \$1,105,180         | \$1,104,090         | \$1,104,861         | \$1,104,363         | \$1,104,795         |
| Proposed Debt                            | \$0                 | \$0                 | \$0                 | \$0                 | \$0                 | \$0                 |
| <i>Growth-Related</i>                    |                     |                     |                     |                     |                     |                     |
| Replenish Big Bear                       | \$0                 | \$0                 | \$0                 | \$329,412           | \$339,953           | \$350,832           |
| Growth Related Debt Service              | \$48,701            | \$48,793            | \$48,751            | \$48,811            | \$48,853            | \$48,878            |
| <b>Total Uses of Funds</b>               | <b>\$12,958,864</b> | <b>\$12,357,057</b> | <b>\$12,212,918</b> | <b>\$13,563,558</b> | <b>\$13,096,344</b> | <b>\$13,559,565</b> |
| <b>Ending Balance</b>                    | <b>\$9,200,826</b>  | <b>\$8,192,642</b>  | <b>\$7,799,953</b>  | <b>\$6,539,194</b>  | <b>\$6,251,111</b>  | <b>\$6,032,118</b>  |
| Net Cash Change                          | (\$1,830,352)       | (\$1,008,183)       | (\$392,689)         | (\$1,260,759)       | (\$288,082)         | (\$218,993)         |
| Calculated Debt Coverage                 | 219%                | 234%                | 239%                | 218%                | 224%                | 231%                |
| Minimum Debt Coverage                    | 120%                | 120%                | 120%                | 120%                | 120%                | 120%                |
| <b>Target Balance (Unrestricted)</b>     | <b>\$5,000,034</b>  | <b>\$4,740,590</b>  | <b>\$4,771,511</b>  | <b>\$4,861,571</b>  | <b>\$4,827,868</b>  | <b>\$4,941,574</b>  |
| <i>Operating Reserve Target</i>          | <i>\$1,970,564</i>  | <i>\$2,024,229</i>  | <i>\$2,121,203</i>  | <i>\$2,217,238</i>  | <i>\$2,318,146</i>  | <i>\$2,424,201</i>  |
| <i>Capital Facilities Reserve Target</i> | <i>\$3,029,470</i>  | <i>\$2,716,360</i>  | <i>\$2,650,309</i>  | <i>\$2,644,333</i>  | <i>\$2,509,722</i>  | <i>\$2,517,373</i>  |
| <i>Restricted Reserve</i>                | <i>\$1,104,104</i>  | <i>\$1,105,180</i>  | <i>\$1,104,090</i>  | <i>\$1,104,861</i>  | <i>\$1,104,363</i>  | <i>\$1,104,795</i>  |

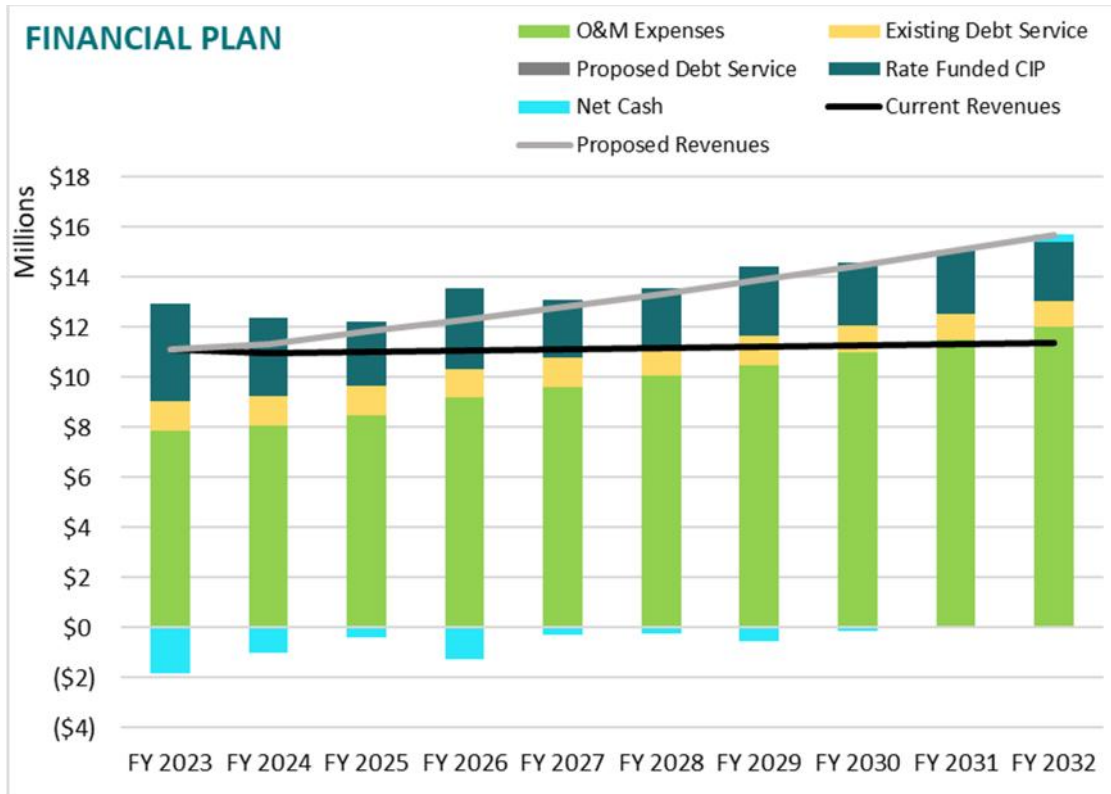
**Figure 4-1** shows model projected and target (minimum) debt service coverage ratio over the planning period. Calculated debt coverage (dark grey line) remains well above the debt coverage minimum (light grey line) in all years. This provides capacity to take on additional, low-interest borrowings in the future if opportunities exist. This graph includes the annual maximum rate revenue increases of 4% beginning in FY 2024.

**Figure 4-1: Proposed Revenue Adjustments and Debt Coverage**



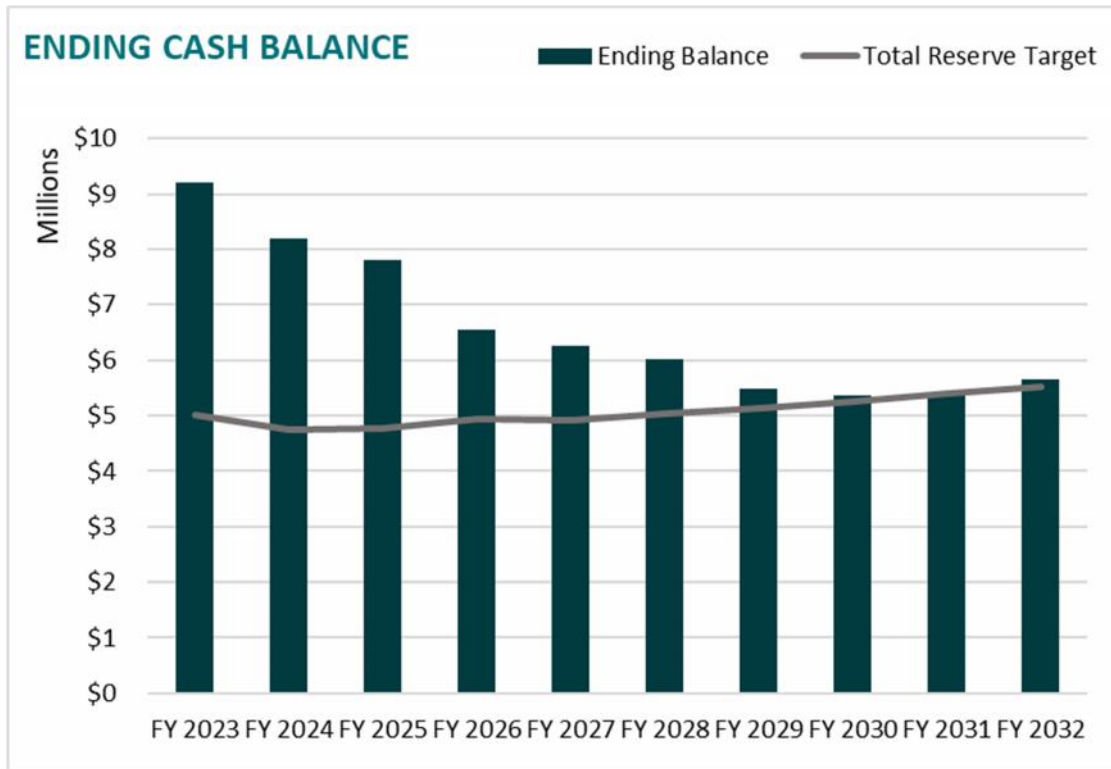
**Figure 4-2** illustrates the operating financial plan. The stacked bars indicate expenses and net cashflow for the water utility. Projected current versus proposed revenues are represented by the black and grey lines (respectively). Green bars represent operating expenses, yellow bars represent existing debt service, teal bars represent rate-funded (cash funded) capital, and light blue bars represent use of, or contributions to, reserves. Rate-funded CIP values have been reduced to 85% of those shown above in **Table 4-3** on page 22. Should grants or low-interest borrowings become available, the DWP will be able to execute 100% of planned capital.

**Figure 4-2: Operating Financial Plan**



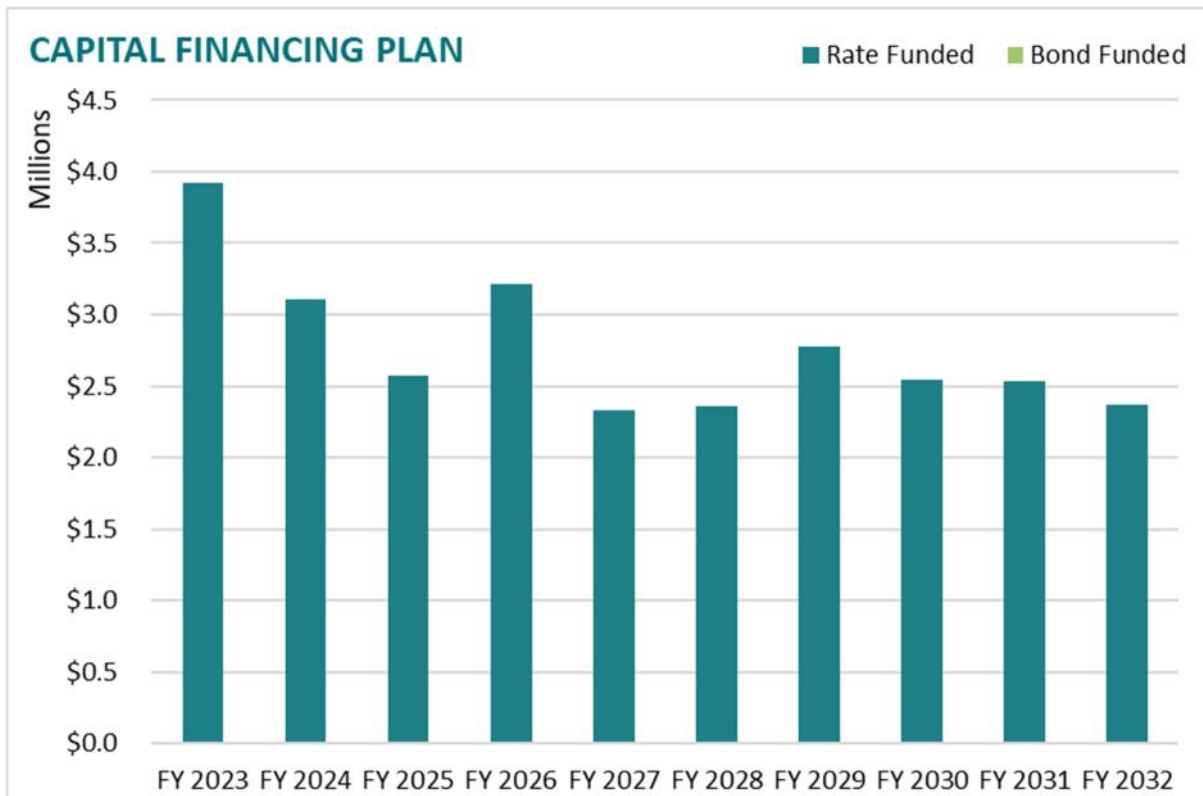
**Figure 4-3** graphically shows projected fiscal year end reserve balances (dark blue bars) relative to targeted reserve balances (gray line) in each of the planning years. Ending reserve balances through the study period remain above the target balances.

**Figure 4-3: Estimated Ending Reserve Balances**



**Figure 4-4** illustrates the planned CIP expenses. Currently, the DWP does not plan to issue new debt during the study period and will therefore fund as much CIP as allowed with rate revenues. The values shown below represent a capital accomplishment rate of 85% of programmed CIP. Unrestricted reserves increased from 2018 through 2022 because the DWP secured \$13.8 million in low-interest loans and \$3.6 million in grants in support of infrastructure improvements and regulatory compliance. The DWP’s current CIP strategically draws down the excess reserves over the next six years for infrastructure improvements.

**Figure 4-4: Capital Program and Financing Plan**





# 5. Proposed Rates

This section calculates the proposed rates based on the financial plan results in the previous section. The proposed maximum 4% revenue adjustment is applied *across-the-board* to the existing rates and rate structure. The first year of rates is proposed for implementation FY 2024 (July 2023). All rates show the maximum 4% increase in each year.

## Service Charges

The DWP will maintain the current schedule of Service Charges by meter size for both Residential and Commercial customers. **Table 5-1** and **Table 5-2** shows the proposed schedule of rates for Residential and Commercial customers respectively for the study period. The charges incorporate annual rate increases of a maximum of 4% across all customer classes for each year, beginning in FY 2024. All rates are rounded to the nearest whole penny.

**Table 5-1: Five-Year Proposed Residential Service Charges**

| <b>A</b>    | <b>B</b>                        | <b>C</b>       | <b>D</b>       | <b>E</b>       | <b>F</b>       | <b>G</b>       |
|-------------|---------------------------------|----------------|----------------|----------------|----------------|----------------|
| <b>Line</b> | <b>Meter Size</b>               | <b>FY 2024</b> | <b>FY 2025</b> | <b>FY 2026</b> | <b>FY 2027</b> | <b>FY 2028</b> |
| 1           | 5/8-inch                        | \$42.80        | \$44.51        | \$46.29        | \$48.14        | \$50.07        |
| 2           | 1-inch                          | \$76.60        | \$79.66        | \$82.85        | \$86.16        | \$89.61        |
| 3           | 1-inch (required for fire code) | \$47.84        | \$49.75        | \$51.74        | \$53.81        | \$55.96        |
| 4           | 1 1/2-inch                      | \$95.99        | \$99.83        | \$103.82       | \$107.97       | \$112.29       |
| 5           | 2-inch                          | \$122.67       | \$127.58       | \$132.68       | \$137.99       | \$143.51       |
| 6           | 3-inch                          | \$201.66       | \$209.73       | \$218.12       | \$226.84       | \$235.91       |
| 7           | 4-inch                          | \$266.97       | \$277.65       | \$288.76       | \$300.31       | \$312.32       |
| 8           | 6-inch                          | \$438.72       | \$456.27       | \$474.52       | \$493.50       | \$513.24       |

**Table 5-2: Five-Year Proposed Commercial Service Charges**

| <b>A</b>    | <b>B</b>                        | <b>C</b>       | <b>D</b>       | <b>E</b>       | <b>F</b>       | <b>G</b>       |
|-------------|---------------------------------|----------------|----------------|----------------|----------------|----------------|
| <b>Line</b> | <b>Meter Size</b>               | <b>FY 2024</b> | <b>FY 2025</b> | <b>FY 2026</b> | <b>FY 2027</b> | <b>FY 2028</b> |
| 1           | 5/8-inch                        | \$50.70        | \$52.73        | \$54.84        | \$57.03        | \$59.31        |
| 2           | 1-inch                          | \$84.50        | \$87.88        | \$91.40        | \$95.06        | \$98.86        |
| 3           | 1-inch (required for fire code) | \$52.81        | \$54.92        | \$57.12        | \$59.40        | \$61.78        |
| 4           | 1 1/2-inch                      | \$103.90       | \$108.06       | \$112.38       | \$116.88       | \$121.56       |
| 5           | 2-inch                          | \$130.57       | \$135.79       | \$141.22       | \$146.87       | \$152.74       |
| 6           | 3-inch                          | \$209.56       | \$217.94       | \$226.66       | \$235.73       | \$245.16       |
| 7           | 4-inch                          | \$274.92       | \$285.92       | \$297.36       | \$309.25       | \$321.62       |
| 8           | 6-inch                          | \$446.63       | \$464.50       | \$483.08       | \$502.40       | \$522.50       |

**Table 5-3** shows the proposed Fire Service Charges for the study period for those connections to the system that have dedicated private firelines for private fire suppression systems. All rates are shown to the nearest penny.

**Table 5-3: Five Year Proposed Fire Service Charges**

| A    | B             | C       | D       | E       | F       | G       |
|------|---------------|---------|---------|---------|---------|---------|
| Line | Fireline Size | FY 2024 | FY 2025 | FY 2026 | FY 2027 | FY 2028 |
| 1    | 1-inch        | \$5.04  | \$5.24  | \$5.45  | \$5.67  | \$5.90  |
| 2    | 2-inch        | \$10.24 | \$10.65 | \$11.08 | \$11.52 | \$11.98 |
| 3    | 4-inch        | \$10.24 | \$10.65 | \$11.08 | \$11.52 | \$11.98 |
| 4    | 6-inch        | \$15.39 | \$16.01 | \$16.65 | \$17.32 | \$18.01 |
| 5    | 8-inch        | \$20.54 | \$21.36 | \$22.21 | \$23.10 | \$24.02 |
| 6    | 10-inch       | \$25.69 | \$26.72 | \$27.79 | \$28.90 | \$30.06 |

## Usage Fees

The DWP will maintain the current structure and schedule of Usage Fees by class and tier for Residential and Commercial customers. **Table 5-4** shows the five-year Usage Fees by customer class and tier. The charges incorporate annual rate increases of a maximum of 4% across all rates, beginning in FY 2024. All rates are shown in dollars per ccf of water consumed (\$/ccf). Residential rates are billed bi-monthly but stated here on a monthly basis and Commercial tiers are monthly. All rates are rounded to the nearest whole penny.

**Table 5-4: Proposed Usage Fees (\$/ccf)**

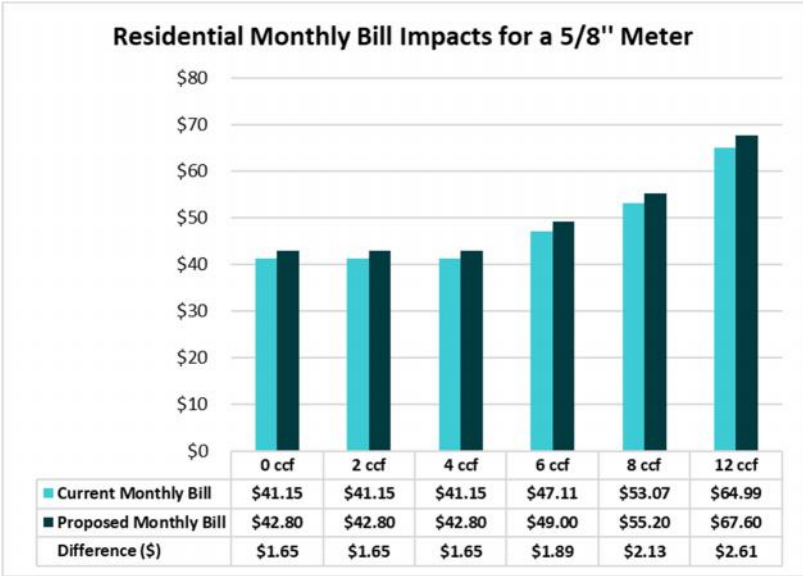
| A    | B                        | C                       | D                      | E       | F       | G       | H       | I       |
|------|--------------------------|-------------------------|------------------------|---------|---------|---------|---------|---------|
| Line | Commodity Rates (\$/ccf) | Residential Tiers (ccf) | Commercial Tiers (ccf) | FY 2024 | FY 2025 | FY 2026 | FY 2027 | FY 2028 |
| 1    | <b>Residential</b>       |                         |                        |         |         |         |         |         |
| 2    | Tier 1                   | 0-4                     |                        | \$0.00  | \$0.00  | \$0.00  | \$0.00  | \$0.00  |
| 3    | Tier 2                   | 5-12                    |                        | \$3.10  | \$3.22  | \$3.35  | \$3.48  | \$3.62  |
| 4    | Tier 3                   | 13-20                   |                        | \$4.65  | \$4.84  | \$5.03  | \$5.23  | \$5.44  |
| 5    | Tier 4                   | 21-30                   |                        | \$6.10  | \$6.34  | \$6.59  | \$6.85  | \$7.12  |
| 6    | Tier 5                   | 31-50                   |                        | \$8.08  | \$8.40  | \$8.74  | \$9.09  | \$9.45  |
| 7    | Tier 6                   | 50+                     |                        | \$14.37 | \$14.94 | \$15.54 | \$16.16 | \$16.81 |
| 8    |                          |                         |                        |         |         |         |         |         |
| 9    | <b>Commercial</b>        |                         |                        |         |         |         |         |         |
| 10   | Tier 1                   |                         | 0-4                    | \$0.00  | \$0.00  | \$0.00  | \$0.00  | \$0.00  |
| 11   | Tier 2                   |                         | 4+                     | \$3.66  | \$3.81  | \$3.96  | \$4.12  | \$4.28  |

# 6. Bill Impacts

## Customer Impacts

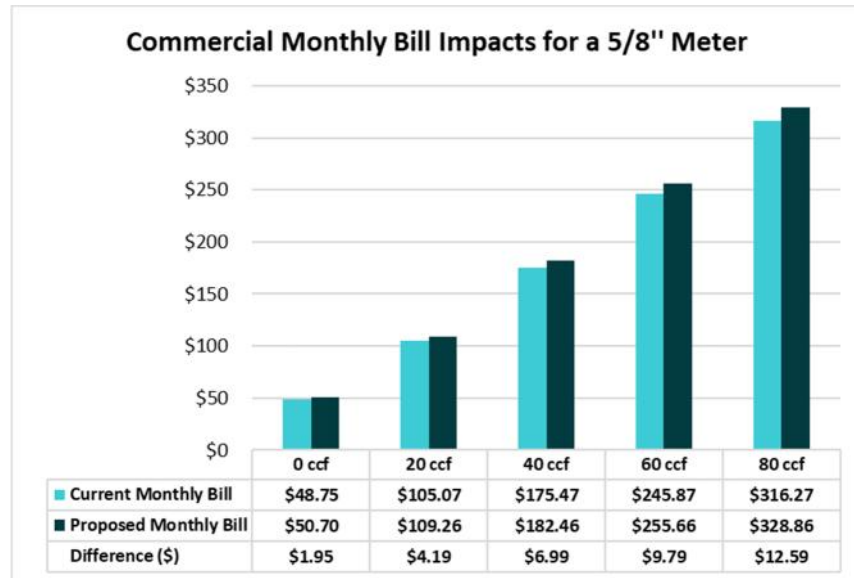
Figure 6-1 shows the monthly bill impact for a Residential customer with a 5/8" meter at various volumes of water use. Of the DWP's 15,900 Residential customers, 94% are serviced by a 5/8" meter. The chart shows the impact between current FY 2023 charges and the proposed FY 2024 charges shown in the previous section of this Report. The proposed charges incorporate the proposed maximum 4% revenue adjustment. At all volumes of water use, the impact to the customer is a maximum of 4%. While the figures shown below are listed in monthly terms, in practice, the DWP bills Residential customers on a bi-monthly basis, twice the amounts shown in Figure 6-1. As a result, the true bill impacts (in \$) would be double the dollar amounts listed in line 3 of Figure 6-1.

Figure 6-1: Residential Customer Bill Impacts (FY 2023 vs. Proposed FY 2024)

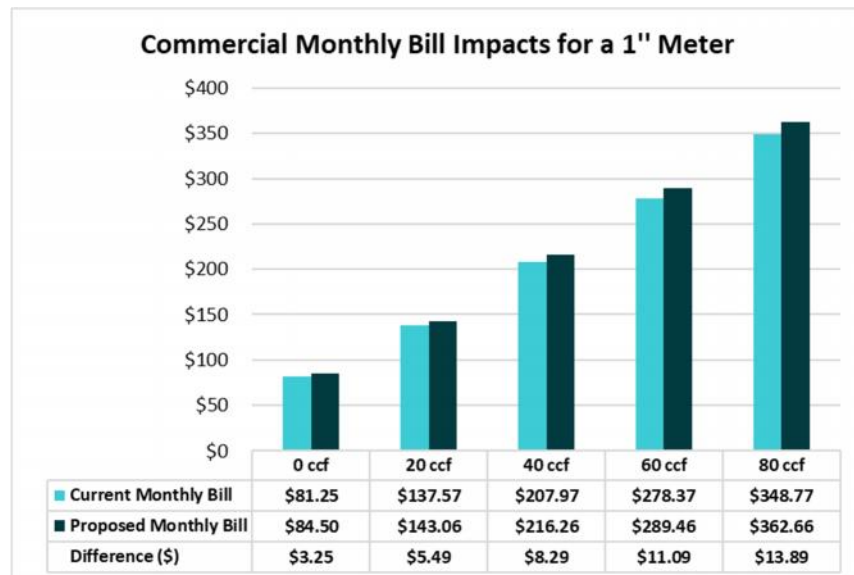


**Figure 6-2** and **Figure 6-3** show the monthly bill impacts for Commercial customers with a 5/8" and 1" meter (respectively) at various volumes of water use. The chart shows the impact between current FY 2023 charges and the proposed FY 2024 charges shown in the previous section of this Report. The proposed charges incorporate the proposed maximum 4% revenue adjustment. A Commercial customer with a 5/8" meter using 40 ccf per month (the class average) would experience a \$7.02 increase in their monthly bill. A Commercial customer with a 1" meter using 40 ccf per month would experience a \$8.32 increase.

**Figure 6-2: Commercial Bill Impacts for a 5/8-inch Meter (FY 2023 vs. Proposed FY 2024)**



**Figure 6-3: Commercial Bill Impacts for a 1-inch Meter (FY 2023 vs. Proposed FY 2024)**



# 7. Water Rate Survey

Raftelis and the DWP staff conducted a rate survey to benchmark current and proposed water rates against neighboring or similar water service providers. While a useful benchmark, it is worth noting that such comparisons only paint a partial picture since many factors, such as water sources, age and replacement of infrastructure, service area characteristics, revenue sources, and other local conditions affect the total cost of providing water service.

**Figure 7-1** shows a water bill comparison for the current (FY 2023) and adopted (FY 2024) rates. The survey assumes a SFR customer using the average volume of use within each of the agencies' service areas listed.

**Figure 7-1: Water Bill Comparison**

