



City of Waterford Sewer Rate and Fee Study

**Draft Report
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SECTION 1: INTRODUCTION AND EXECUTIVE SUMMARY

1.1 Background

The City of Waterford (City) provides sewer collection, treatment, and disposal service to about 2,600 accounts. The collection system is comprised of clay or polyvinyl chloride pipe varying in size from 6 inches to 12 inches. Wastewater is conveyed by gravity lines as well as force mains from 3 lift stations to the wastewater treatment plant for treatment through a series of 5 ponds. The current wastewater treatment plant has a 1 million gallon per day (MGD) capacity and currently treats an average flow of 0.57 million gallons per day (MGD). Treated wastewater is then pumped under the Tuolumne River to evaporation ponds.

The City last conducted an in-depth rate study in 2019 to review the cost of service and design appropriate rates and charges. Based on the results of that study, sewer rates have increased each July 1 from 2019 through 2023. Current sewer rate revenues are adequate to cover operations and debt service costs. However, rate changes are needed to keep up with inflationary operating cost increases and, more significantly, to fund necessary capital improvements. The City's rate structure consists of a fixed monthly bill for each customer based on customer class. The sewer rate structure is not proposed to be adjusted, but this study offers an updated analysis of the underlying wastewater flows and pollutant loadings of each customer class and recommends rate increases for the next five years.

1.2 Requirements of Proposition 218

Proposition 218, the "Right to Vote on Taxes Act", was approved by California voters in November 1996 and is codified as Articles XIII C and XIII D of the California Constitution. Proposition 218 establishes requirements for imposing any new or increasing any existing property-related fees and charges. For many years, there was no legal consensus on whether water and sewer service fees met the definition of "property-related fees." In July 2006, the California Supreme Court essentially confirmed that Proposition 218 applies to water and wastewater (sewer) service fees.

The City must follow the procedural requirements of Proposition 218 for all utility rate increases. These requirements include:

1. **Noticing Requirement** – The City must mail a notice of the proposed rate increases to all affected property owners or ratepayers. The notice must specify the amount of the fee, the basis upon which it was calculated, the reason for the fee, and the date/time/location of a public rate hearing at which the proposed rates will be considered/adopted.
2. **Public Hearing** – The City must hold a public hearing prior to adopting the proposed rate increases. The public hearing must be held not less than 45 days after the required notices are mailed.
3. **Rate Increases are Subject to Majority Protest** – At the public hearing, the proposed rate increases are subject to majority protest. If more than 50% of affected property owners or

ratepayers submit written protests against the proposed rate increases, the increases cannot be adopted.

Proposition 218 also established substantive requirements that apply to sewer rates and charges, including:

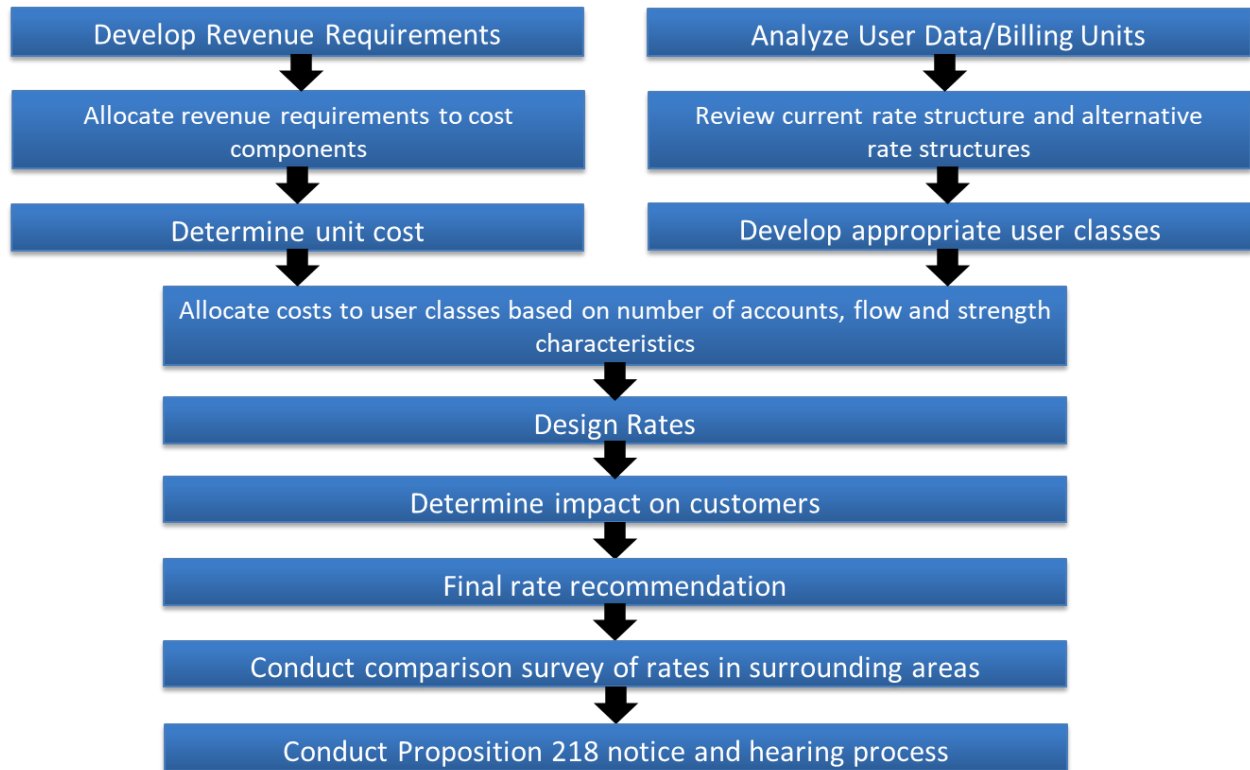
1. **Cost of Service** - Revenues derived from the fee or charge cannot exceed the funds required to provide the service. In essence, fees cannot exceed the “cost of service”.
2. **Intended Purpose** - Revenues derived from the fee or charge can only be used for the purpose for which the fee was imposed.
3. **Proportional Cost Recovery** - The amount of the fee or charge levied on any customer shall not exceed the proportional cost of service attributable to that customer.
4. **Availability of Service** - No fee or charge may be imposed for a service unless that service is used by, or immediately available to, the owner of the property.
5. **General Government Services** - No fee or charge may be imposed for general governmental services where the service is available to the public at large.

Charges for sewer service are exempt from additional voting requirements of Proposition 218, provided the charges do not exceed the cost of providing service and are adopted pursuant to procedural requirements of Proposition 218.

1.3 Rate Study Process

This section details the development of the City’s sewer rates via the Proposition 218 process as shown in the following figure.

Figure 1: Comprehensive Cost of Service Study Process



The following is a brief description of the rate study process:

- **Revenue Requirements** - Revenue requirements are analyzed via a financial plan developed from the Wastewater Fund budget. Based on the best information currently available, the financial plan incorporates projected operations and maintenance costs, capital expenditures, and debt service to estimate annual revenue requirements. The plan serves as a roadmap for funding the City’s future operating and capital programs while maintaining long-term fiscal stability.
- **Cost of Service Allocation** - The cost of service process builds on the financial plan analysis and assigns wastewater system costs to functional cost components: customer service, flow, and wastewater pollutant strength.

- **Rate Design** - Rate design involves developing a rate structure that proportionately recovers costs from customers. Final rate recommendations are designed to (a) fund the utilities' short- and long-term costs of providing service; (b) proportionately allocate costs to all customers and customer classes; and (c) comply with the substantive requirements of Proposition 218.

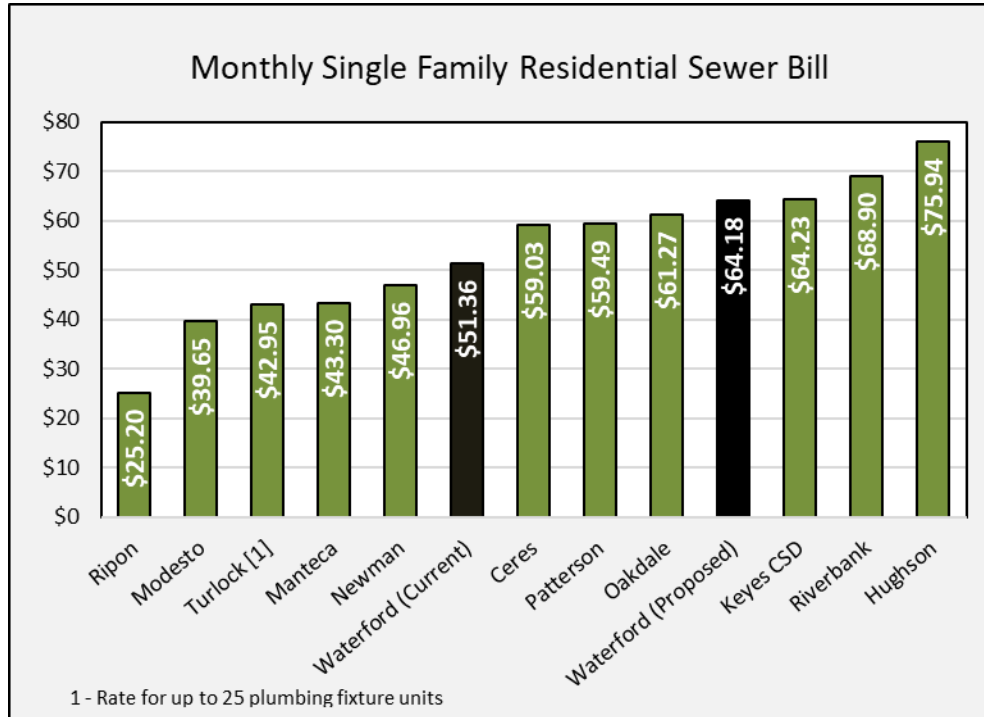
1.4 Proposed Rates

The findings and recommendations presented in this report were developed with substantial input from City staff and City Council. Current and proposed monthly sewer rates are provided below in Table 1. Rate changes are proposed to be implemented July 1 of each year for the next five years.

**Table 1: Proposed Monthly Sewer Rates
Sewer Rate and Fee Study
City of Waterford**

| Customer Class | Billing Unit Description | Current Rate | PROPOSED | | | | |
|---------------------------|-----------------------------|-----------------|----------------|----------------|----------------|----------------|----------------|
| | | | Jul 1, 2024 | Jul 1, 2025 | Jul 1, 2026 | Jul 1, 2027 | Jul 1, 2028 |
| Single Family Residential | per dwelling unit | \$51.36 | \$64.18 | \$70.60 | \$72.72 | \$74.90 | \$77.15 |
| Multifamily Residential | per dwelling unit | \$46.65 | \$59.69 | \$65.66 | \$67.63 | \$69.66 | \$71.75 |
| Beauty Salon/Barber | per basin | \$22.75 | \$26.95 | \$29.65 | \$30.54 | \$31.46 | \$32.40 |
| Car wash | per bay | \$32.31 | \$35.72 | \$39.29 | \$40.47 | \$41.68 | \$42.93 |
| Church | per 100 people | \$38.86 | \$48.31 | \$53.14 | \$54.73 | \$56.37 | \$58.06 |
| Commercial - Flat | per account | \$44.14 | \$44.55 | \$49.01 | \$50.48 | \$51.99 | \$53.55 |
| Fast Food | per account | \$64.81 | \$65.68 | \$65.87 | \$66.74 | \$67.61 | \$69.14 |
| Gas Station | per pump | \$18.20 | \$19.52 | \$21.47 | \$22.11 | \$22.77 | \$23.45 |
| Health Services | per account | \$50.94 | \$64.47 | \$70.92 | \$73.05 | \$75.24 | \$77.50 |
| Industrial | per account | \$77.69 | \$99.30 | \$109.23 | \$112.51 | \$115.89 | \$119.37 |
| Laundromat | per washer | \$13.37 | \$15.72 | \$17.29 | \$17.81 | \$18.34 | \$18.89 |
| Major Food Market | per 1,000 sq ft | \$47.82 | \$61.49 | \$67.64 | \$69.67 | \$71.76 | \$73.91 |
| Pharmacy/Prof Service | per account | \$44.14 | \$54.53 | \$59.98 | \$61.78 | \$63.63 | \$65.54 |
| Restaurant | per seat | \$4.22 | \$5.16 | \$5.68 | \$5.85 | \$6.03 | \$6.21 |
| Retail | per account | \$44.14 | \$58.51 | \$64.36 | \$66.29 | \$68.28 | \$70.33 |
| School | per school | \$1,033.45 | \$1,265.25 | \$1,391.78 | \$1,433.53 | \$1,476.54 | \$1,520.84 |

A sewer bill survey was conducted to compare the City of Waterford's current and proposed bill with other local agencies. Currently, the City's sewer bill is in the mid-range for the region. With the proposed rate increase, the City's single family residential sewer bill will be in the upper mid-range.



SECTION 2: CURRENT RATES AND CUSTOMER BASE

This section provides an overview of the City’s sewer rates, customer base, and current rate revenues.

2.1 Current Sewer Rates and Customer Base

The City charges all customers fixed monthly rates for sewer service. The current sewer rates have been in place since July 1, 2023. Single family residential customers pay \$51.36 per dwelling unit. Non-residential customers pay rates based on the type and size of the establishment. For example, beauty salons pay rates based on the number of wash basins and restaurants pay charges based on the number of seats. The City provides service to about 2,600 accounts. Table 2 provides the number of billing units and estimated sewer revenues for fiscal year (FY) 2024 by customer class. The City will generate an estimated \$1.6 million in sewer service charge revenues. Single family residential customers provide about 85% of the revenues, multifamily residential customers provide about 8% of the revenues, commercial customers provide about 4%, and churches and schools provide about 3%.

**Table 2: Current Sewer Rates and Rate Revenues
Sewer Rate and Fee Study
City of Waterford**

| Customer Class | Billing Unit Description | # of Billing Units | Current Rate (July 1, 2023) | Estimated FY2024 Revenues | % of Total |
|-------------------------------|--------------------------|--------------------|-----------------------------|---------------------------|---------------|
| Single Family Residential [1] | per dwelling unit | 2,249 | \$51.36 | \$1,385,989 | 85.1% |
| Multifamily Residential [1] | per dwelling unit | 220 | \$46.65 | \$123,335 | 7.6% |
| Beauty Salon/Barber | per basin | 3 | \$22.75 | \$803 | 0.0% |
| Car wash | per bay | 5 | \$32.31 | \$1,939 | 0.1% |
| Church | per 100 people | 25 | \$38.86 | \$11,658 | 0.7% |
| Commercial - Flat | per account | 13 | \$44.14 | \$6,870 | 0.4% |
| Fast Food | per account | 1 | \$64.81 | \$778 | 0.0% |
| Gas Station | per pump | 16 | \$18.20 | \$3,494 | 0.2% |
| Health Services | per account | 4 | \$50.94 | \$2,445 | 0.2% |
| Industrial | per account | 3 | \$77.69 | \$2,346 | 0.1% |
| Laundromat | per washer | 26 | \$13.37 | \$4,171 | 0.3% |
| Major Food Market | per 1,000 sq ft | 33 | \$47.82 | \$18,759 | 1.2% |
| Pharmacy/Prof Service | per account | 5 | \$44.14 | \$2,648 | 0.2% |
| Restaurant | per seat | 335 | \$4.22 | \$16,964 | 1.0% |
| Retail | per account | 18 | \$44.14 | \$9,534 | 0.6% |
| School | per school | 2 | \$1,033.45 | \$37,204 | 2.3% |
| Total | | 2,958 | | \$1,628,939 | 100.0% |

1 - Number of accounts is number of dwelling units

2.2 Total System Flows and Loads

The City does not directly meter the wastewater flow of individual utility accounts. However, water use can be used as a proxy for sewer flow. Many customers typically have high water use in the summer due to irrigation for landscaping. This water use occurs outdoors and does not flow into the sewer system. Therefore, it is necessary to isolate low water use periods during the winter to better estimate water use that flows into the sewer. As part of the rate study process, water usage data for 2019 through 2023 was analyzed to estimate sewer flow based on winter water use. The average single family residential sewer flow is estimated as 8.8 hundred cubic feet (HCF) per month (or 220 gallons per day) and the estimated multifamily residential sewer flow per dwelling unit is 8.0 HCF per month (about 200 gallons per day). Water usage data over the same period was also analyzed for commercial customer classes.

Total system flows and pollutant loads are estimated in Table 3. Pollutant loads consist of biochemical oxygen demand (BOD) and total suspended solids (TSS). The loading for residential customers is assumed to be 270 milligrams per liter (mg/l) for BOD and 310 mg/l for TSS. Loading estimates for non-residential customers is based on general industry guidelines. The estimates shown below result in a total calculated flow of about 0.592 million gallons per day (MGD). This is roughly equal to the actual flow of 0.565 MGD. To be fiscally conservative, it is assumed that the City will experience little to no growth over the next five years. Therefore, the flows and loads shown in Table 3 are assumed to remain constant through FY2029.

**Table 3: Total Flow and Load Estimates
Sewer Rate and Fee Study
City of Waterford**

| Customer Class | Billing Unit Description | Billing Unit Count | Flow (gallons per day) | BOD (mg/l) | TSS (mg/l) | Flow (gallons per year) | BOD (lbs/yr) | TSS (lbs/yr) |
|---------------------------|---------------------------------|---------------------------|-------------------------------|-------------------|-------------------|--------------------------------|---------------------|---------------------|
| Single Family Residential | per dwelling unit | 2,249 | 220 | 270 | 310 | 180,579,722 | 406,893 | 467,174 |
| Multifamily Residential | per dwelling unit | 220 | 200 | 270 | 310 | 16,083,363 | 36,240 | 41,609 |
| Beauty Salon/Barber | per basin | 3 | 85 | 200 | 200 | 91,220 | 152 | 152 |
| Car wash | per bay | 5 | 150 | 200 | 200 | 273,750 | 457 | 457 |
| Church | per 100 people | 25 | 225 | 130 | 130 | 2,053,125 | 2,227 | 2,227 |
| Commercial - Flat | per account | 13 | 150 | 200 | 200 | 708,256 | 1,182 | 1,182 |
| Fast Food | per account | 1 | 175 | 400 | 300 | 63,875 | 213 | 160 |
| Gas Station | per pump | 16 | 75 | 200 | 200 | 438,000 | 731 | 731 |
| Health Services | per account | 4 | 250 | 200 | 200 | 365,000 | 609 | 609 |
| Industrial | per account | 3 | 370 | 300 | 300 | 339,911 | 851 | 851 |
| Laundromat | per washer | 26 | 85 | 150 | 110 | 806,650 | 1,010 | 741 |
| Major Food Market | per 1,000 sq ft | 33 | 250 | 400 | 300 | 2,982,971 | 9,958 | 7,468 |
| Pharmacy/Prof Service | per account | 5 | 200 | 200 | 200 | 365,000 | 609 | 609 |
| Restaurant | per seat | 335 | 20 | 400 | 240 | 2,445,500 | 8,163 | 4,898 |
| Retail | per account | 18 | 220 | 200 | 200 | 1,445,400 | 2,412 | 2,412 |
| School | per school | 3 | 6,293 | 200 | 200 | <u>6,890,835</u> | <u>11,501</u> | <u>11,501</u> |
| Total | | | | | | 215,932,578 | 483,210 | 542,782 |
| | | | | estimate | | 0.592 | mgd | |
| | | | | actual [1] | | 0.565 | mgd | |

1 - Average daily mgd data for January through November 2023 provided by City staff
748 gallons = 1 HCF

SECTION 3: REVENUE REQUIREMENT

Proposition 218 requires that utility rates be based on the reasonable cost of providing service to customers. The cost of service includes annual operating expenses, debt service payments, capital projects, and the accumulation of appropriate reserves. The sewer utility cost of service was developed based on the FY2024 adopted budget, capital project list developed by staff, and reserve recommendations based on City policies.

3.1 Revenues

For FY2024, the City budgeted about \$1.6 million in Sewer Fund Revenues. The vast majority is made up of monthly service charges paid by ratepayers. Additional minor sources of operating revenues include other charges (such as delinquent penalties), interest earnings, fats, oils, and grease (FOG) permit fees, and miscellaneous.

3.2 Operations

In FY2024, sewer operating expenses total approximately \$1.1 million. Major line-items include staffing, an administrative reimbursement for general City overhead (office space at City Hall, utility billing, etc.), equipment, maintenance, and engineering. The Sewer Operating Fund is also responsible for repayment of the 2012 Refunding Bonds in the amount of about \$200,000 annually. The last payment will be in FY2028. As needed, rate revenue is transferred annually from the Operations Fund to the Capital Fund to pay for facility improvements. FY2024, about \$315,000 will be transferred to the Capital Fund. Total expenses for FY2024 including operating expenses, the debt service payment, and the transfer to the Capital Fund are about \$1.6 million.

Beyond FY2024, operating expenses are projected to increase annually based on cost escalation factors estimated by City staff. Staffing expenses are projected to increase by 9.0% for three years, followed by two years of 6.0% increases. Legal expenses and outside agency charges are projected to increase by 3.0% annually. Engineering services are projected to increase by 6.0% annually. Property, vehicle, and equipment maintenance are projected to increase by 7.0% annually. Office supplies and services as well as the administrative reimbursement are projected to increase by 5.0% annually. Electric, gas, and water are projected to increase by 7.5% in FY2025 followed by 5.5% annual increases.

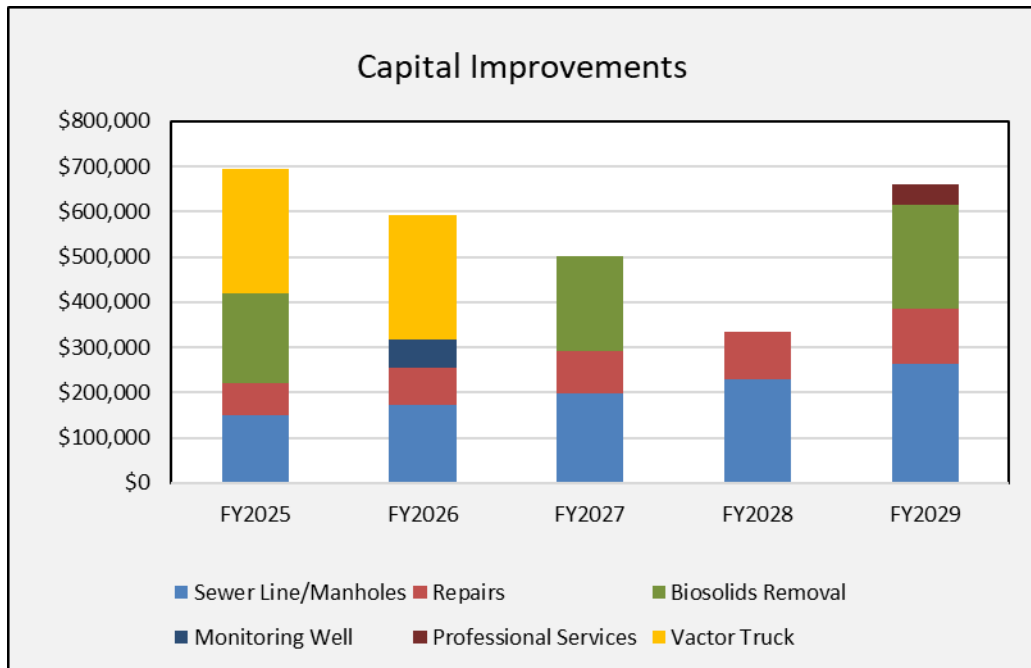
3.3 Capital

The Capital Fund is intended to provide cash flow for the City's sewer infrastructure repairs and replacements. Revenues include interest earnings on reserves, connection fees from new development, and transfers of rate revenues from the Operations Fund. The Capital Fund is responsible for debt service payments for the PNC equipment lease and Energy Commission loan. Over the next five years, the City expects to fund about \$2.78 million in capital improvements and replacements based on a capital improvement plan (CIP) developed by City staff. Major projects include sewer line and manhole replacements, biosolids removal, and purchasing a new vactor truck for sewer cleaning. The CIP also

includes annual funding for miscellaneous and unplanned repairs. Project timing and costs are provided in Table 4 and are summarized in the following figure.

**Table 4: Capital Improvement Plan
Sewer Rate and Fee Study
City of Waterford**

| Project Name | Budget | Projected | | | | | FY2025 to |
|--------------------------------|------------------|----------------|----------------|----------------|----------------|----------------|------------------|
| | FY2024 | FY2025 | FY2026 | FY2027 | FY2028 | FY2029 | FY2029 total |
| Professional Services | 40,000 | 0 | 0 | 0 | 0 | 45,000 | 45,000 |
| Biosolids Removal | 0 | 200,000 | 0 | 210,000 | 0 | 230,000 | 640,000 |
| Climber Screens | 750,000 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tim Bell Sewer Improvements | 457,317 | 0 | 0 | 0 | 0 | 0 | 0 |
| Plant Road Rehab | 1,100,000 | 0 | 0 | 0 | 0 | 0 | 0 |
| Monitoring Well | 0 | 0 | 62,700 | 0 | 0 | 0 | 62,700 |
| Sewer Line/Manhole Replacement | 75,000 | 150,000 | 172,500 | 198,375 | 228,131 | 262,351 | 1,011,357 |
| Miscellaneous Repairs | 0 | 35,500 | 40,825 | 46,949 | 53,991 | 62,090 | 239,355 |
| Annual Unplanned Repairs | 0 | 35,000 | 40,250 | 46,288 | 53,231 | 61,215 | 235,983 |
| Vehicles (Vactor Truck) | 0 | 275,000 | 275,000 | 0 | 0 | 0 | 550,000 |
| Total | 2,422,317 | 695,500 | 591,275 | 501,611 | 335,353 | 660,656 | 2,784,395 |



3.4 Cash Flow

3.4.1 Cash Flow Objectives

Based on the FY2024 adopted budget, the Sewer Operations Fund is projected to begin FY2025 with a fund balance of about \$240,000. Over the five-year rate study period, rate increases are proposed such that the following objectives are met, in order of importance:

- 1) Fund operating costs
- 2) Fund debt service payments on outstanding debt
- 3) Meet or exceed the debt service coverage requirement of 1.25 times the annual payment
- 4) Fund capital costs via transfers to the Capital Fund
- 5) The fund balance at the end of each year should meet or exceed the operating reserve fund target of 25 percent of annual operating expenses

Objectives number 2 and 3 listed above reference the pay-down of debt over time. Typically, legal covenants require a debt service coverage ratio of 1.25 times meaning that net operating revenues should exceed the annual debt service payment by 25%.

In addition to funding budgeted expenses, the cost of service includes the funding of adequate reserves. The current targeted reserve is 25% of annual Operations Fund expenses and it is proposed to be continued over the next five years. This is consistent with the current Water Fund reserve target.

3.4.2 Operations Fund Results

The cash flow of the Operations Fund is provided in Table 5. It is assumed that the first rate increase will go into effect July 1, 2024 and subsequent rate increases will go into effect July 1 of each year thereafter. To cover the costs described above, the FY2025 rate increase is proposed to be a 25.0% increase over current rates. The 25.0% increase is the average increase across all customers. Not all customers will receive exactly a 25.0% increase. The rate change for each customer will depend on that customer's flow and loading characteristics. To be fiscally conservative, the City is assumed to have little to no growth over the next five years and no new revenues from additional customers connecting to the sewer system.

The major driver for the rate increase is capital improvement funding. As shown in Table 5, the Operations Fund began FY2024 with about \$253,000 and is projected to end the year with about \$240,000 in fund reserves. Although this covers operating costs, it misses the fund target of \$323,000 (25% of expenses) and provides limited funding for capital improvements. Rate increases are needed to fully fund upcoming capital improvement projects and meet the City's financial targets.

**Table 5: Operations Cash Flow Analysis
Sewer Rate and Fee Study
City of Waterford**

| | Budget | Proposition 2018 | | | | |
|----------------------------------|----------------|------------------|----------------|----------------|----------------|----------------|
| | FY2024 | FY2025 | FY2026 | FY2027 | FY2028 | FY2029 |
| OPERATIONS FUND (#5050) | | | | | | |
| Annual Rate Rev Increase | | 25.0% | 10.0% | 3.0% | 3.0% | 3.0% |
| Cumulative Rate increase | | 25.0% | 37.5% | 41.6% | 45.9% | 50.2% |
| Beginning Balance | 252,700 | 240,400 | 259,100 | 391,800 | 494,400 | 516,500 |
| Revenues | | | | | | |
| Service Charges | 1,628,900 | 2,036,100 | 2,239,700 | 2,306,900 | 2,376,100 | 2,447,400 |
| Less 2.5% delinquency | (40,700) | (50,900) | (56,000) | (57,700) | (59,400) | (61,200) |
| Interest Earnings | 1,200 | 1,200 | 1,200 | 1,200 | 1,200 | 1,200 |
| FOG Permit Fee | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| Other & Misc. | <u>5,500</u> | <u>5,500</u> | <u>5,500</u> | <u>5,500</u> | <u>5,500</u> | <u>5,500</u> |
| Total Revenues | 1,595,900 | 1,992,900 | 2,191,400 | 2,256,900 | 2,324,400 | 2,393,900 |
| Expenses [1] | | | | | | |
| Staffing | 622,300 | 678,300 | 739,300 | 805,800 | 854,100 | 905,300 |
| Legal & Other Prof. Service | 36,000 | 37,100 | 38,200 | 39,300 | 40,500 | 41,700 |
| Engineering Prof. Service | 5,000 | 5,300 | 5,600 | 5,900 | 6,300 | 6,700 |
| Property & Vehicle Maint | 16,000 | 17,100 | 18,300 | 19,600 | 21,000 | 22,500 |
| Equipment Maint | 35,000 | 37,500 | 40,100 | 42,900 | 45,900 | 49,100 |
| Office Supplies & services | 69,000 | 72,500 | 76,100 | 79,900 | 83,900 | 88,100 |
| Electric, Gas, & Water | 75,000 | 80,600 | 85,000 | 89,700 | 94,600 | 99,800 |
| Outside Agency Charges | 40,000 | 41,200 | 42,400 | 43,700 | 45,000 | 46,400 |
| Admin Reimbursement | <u>196,900</u> | <u>206,700</u> | <u>217,000</u> | <u>227,900</u> | <u>239,300</u> | <u>251,300</u> |
| Total Expenses | 1,095,200 | 1,176,300 | 1,262,000 | 1,354,700 | 1,430,600 | 1,510,900 |
| Net Operating Revenue | 500,700 | 816,600 | 929,400 | 902,200 | 893,800 | 883,000 |
| Debt Service - 2012 Bonds | 198,400 | 197,900 | 196,700 | 199,600 | 196,700 | 0 |
| Debt Coverage Ratio | 2.52 | 4.13 | 4.72 | 4.52 | 4.54 | - |
| Transfer to CIP | 314,600 | 600,000 | 600,000 | 600,000 | 675,000 | 875,000 |
| Total Expenses | 1,608,200 | 1,974,200 | 2,058,700 | 2,154,300 | 2,302,300 | 2,385,900 |
| Total Net Revenue | (12,300) | 18,700 | 132,700 | 102,600 | 22,100 | 8,000 |
| Ending Fund Balance | 240,400 | 259,100 | 391,800 | 494,400 | 516,500 | 524,500 |
| Target Balance (25% of Expenses) | 323,400 | 343,600 | 364,700 | 388,600 | 406,800 | 377,700 |
| Target Met? | NO | NO | YES | YES | YES | YES |

Table does not include depreciation which is a non-cash expense

1 - Cost escalation estimated by City staff

3.4.3 Capital Fund Results

Table 6 provides the Capital Fund cash flow. Due to no or low growth projected over the next five years, it is assumed that the City will not receive connection fee revenues. Thus, capital project funding and capital debt service funding is dependent on transfers of rate revenues from the Operations Fund. As shown in the cash flows, the proposed rate increases are adequate to fully fund capital improvements without having to issue new debt. It should be noted that the Capital Fund is projected to begin FY2025 with about \$355,000 in available reserves. Most of this reserve will be spent down in the first three years of the rate study period but will be rebuilt in the final two years.

**Table 6: Capital Cash Flow Analysis
Sewer Rate and Fee Study
City of Waterford**

| | Budget | Proposition 2018 | | | | |
|------------------------------|------------------|------------------|---------------|---------------|---------------|---------------|
| | FY2024 | FY2025 | FY2026 | FY2027 | FY2028 | FY2029 |
| CAPITAL FUND (#4350) | | | | | | |
| Beginning Balance | 365,500 | 355,300 | 149,300 | 44,300 | 25,600 | 244,500 |
| Revenues | | | | | | |
| Interest Earnings | 500 | 500 | 500 | 500 | 500 | 500 |
| Transfers In from Operations | 314,600 | 600,000 | 600,000 | 600,000 | 675,000 | 875,000 |
| Other Transfers | 354,800 | 0 | 0 | 0 | 0 | 0 |
| Grants | <u>1,850,000</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |
| Total Revenues | 2,519,900 | 600,500 | 600,500 | 600,500 | 675,500 | 875,500 |
| Total Capital Projects | 2,422,300 | 695,500 | 591,300 | 501,600 | 335,400 | 660,700 |
| Debt Service | | | | | | |
| PNC Equipment Lease | 24,400 | 27,600 | 30,800 | 34,200 | 37,800 | 41,500 |
| Energy Commission Loan | <u>83,400</u> | <u>83,400</u> | <u>83,400</u> | <u>83,400</u> | <u>83,400</u> | <u>83,400</u> |
| Total Debt Service | 107,800 | 111,000 | 114,200 | 117,600 | 121,200 | 124,900 |
| Net Revenues | (10,200) | (206,000) | (105,000) | (18,700) | 218,900 | 89,900 |
| Ending Fund Balance | 355,300 | 149,300 | 44,300 | 25,600 | 244,500 | 334,400 |

3.4.4 Debt Service Coverage

Table 7 provides the combined debt service coverage ratio calculation for the Operations and Capital Funds. Net revenues are projected to provide coverage in excess of 1.25 times the annual payment for each year of the rate study period.

**Table 7: Debt Service Coverage
Sewer Rate and Fee Study
City of Waterford**

| | Budget | Proposition 2018 | | | | |
|------------------------|----------------|------------------|----------------|----------------|----------------|----------------|
| | FY2024 | FY2025 | FY2026 | FY2027 | FY2028 | FY2029 |
| Net Operating Revenues | 500,700 | 816,600 | 929,400 | 902,200 | 893,800 | 883,000 |
| Operating Debt Service | 198,400 | 197,900 | 196,700 | 199,600 | 196,700 | 0 |
| Capital Debt Service | <u>107,800</u> | <u>111,000</u> | <u>114,200</u> | <u>117,600</u> | <u>121,200</u> | <u>124,900</u> |
| Total Debt Service | 306,200 | 308,900 | 310,900 | 317,200 | 317,900 | 124,900 |
| Coverage Ratio | 1.64 | 2.64 | 2.99 | 2.84 | 2.81 | 7.07 |

SECTION 4: COST ALLOCATION

The revenue requirements detailed in the previous section determine the amount of revenue to be recovered from sewer rates. The cost of service allocation determines how revenues will be recovered from customers based on their estimated impact on the sewer system. Proposition 218 requires that agencies providing “property-related services” (including sewer service) set rates and charges that are based on the cost of providing those services.

4.1 Methodology

A revenue requirement analysis determines the utility’s overall financial needs, while the cost of service analysis determines the fair and equitable manner to collect that revenue requirement. The first step is classification where the functionalized costs are classified into specific cost components. The following cost classifiers were used to develop the cost of service analysis:

- *Customer Service Costs:* Customer service costs represent the sewer utility’s overhead and administrative costs such as utility billing and office space in City Hall.
- *Flow Costs:* Volume or flow related costs that vary with the total quantity of wastewater collected and treated.
- *Strength Costs:* Strength related costs are those expenditures associated with the additional handling and treatment of high strength sewer discharge. Sewer strength is typically measured in biochemical oxygen demand (BOD) and total suspended solids (TSS). Increased levels of BOD or TSS typically equate to increased treatment costs.

The second step is to proportionally allocate the cost components to each customer class. The allocation is based on each customer class’s relative contribution to the cost component using the following allocation factors:

- *Customer Service Allocation Factor:* Base or fixed costs are allocated to each customer class based on the total number of customer accounts in that class of service.
- *Flow Allocation Factor:* Flow-related costs are typically allocated on the basis of contribution to sewer flows. Because the City does not meter wastewater discharges, metered winter water consumption or industry standard flow generation rates are used to estimate wastewater flow for each customer class.
- *Strength Allocation Factor:* Strength-related costs are classified between BOD and TSS and are allocated to each customer class based upon assumed pollutant concentrations.

4.2 Cost Allocation Results

FY2025 is the year of the first proposed rate change and was selected as the test year for the sewer cost allocation. The budgeted expenses for FY2025 were allocated to customer service, flow, BOD, and TSS based on the type of expense and how the City incurs cost. Office supplies and administration reimbursements are allocated solely to customer service. Most operating and maintenance expenses are allocated 60% to flow, 20% to BOD, and 20% to TSS based on general industry guidance. A total of 22% of expenses are allocated to customer service, 49% are allocated to flow, 15% to BOD, and 15% to TSS, see Table 8.

**Table 8: Cost Allocation
Sewer Rate and Fee Study
City of Waterford**

| Expenses | FY2025 | Cust. Serv. | Flow | BOD | TSS | Cust. Serv. | Flow | BOD | TSS |
|-----------------------------|--------------------|--------------------|------------------|------------------|------------------|--------------------|-------------|------------|------------|
| Staffing | 678,300 | 135,660 | 339,150 | 101,745 | 101,745 | 20% | 50% | 15% | 15% |
| Legal & Other Prof. Service | 37,100 | 0 | 22,260 | 7,420 | 7,420 | 0% | 60% | 20% | 20% |
| Engineering Prof. Service | 5,300 | 0 | 3,180 | 1,060 | 1,060 | 0% | 60% | 20% | 20% |
| Property & Vehicle Maint | 17,100 | 0 | 10,260 | 3,420 | 3,420 | 0% | 60% | 20% | 20% |
| Equipment Maint | 37,500 | 0 | 22,500 | 7,500 | 7,500 | 0% | 60% | 20% | 20% |
| Office Supplies & services | 72,500 | 72,500 | 0 | 0 | 0 | 100% | 0% | 0% | 0% |
| Electric, Gas, & Water [1] | 80,600 | 0 | 72,540 | 4,030 | 4,030 | 0% | 90% | 5% | 5% |
| Outside Agency Charges | 41,200 | 30,900 | 6,180 | 2,060 | 2,060 | 75% | 15% | 5% | 5% |
| Admin Reimbursement | 206,700 | 206,700 | 0 | 0 | 0 | 100% | 0% | 0% | 0% |
| Debt Service (5-yr avg) | | | | | | | | | |
| 2012 Refunding Bonds | 158,180 | 0 | 94,908 | 31,636 | 31,636 | 0% | 60% | 20% | 20% |
| Transfer to CIP (5-yr avg) | 670,000 | 0 | 402,000 | 134,000 | 134,000 | 0% | 60% | 20% | 20% |
| Total | \$2,004,480 | \$445,760 | \$972,978 | \$292,871 | \$292,871 | 22% | 49% | 15% | 15% |

1 - Assumed to be mostly pumping (lift stations)

SECTION 5: RATE DESIGN

5.1 Rate Structure Considerations

As part of the rate study process, the City reviewed its current rate structure and potential alternative rate structures. Sewer rates in California are typically charged as either a fixed charge per billing unit, a volume rate per unit of wastewater flow, or as a combination of both fixed and volume charges.

Ultimately, this study does not recommend any changes to the current sewer rate structure. Instead, the amount charged to individual customers are proposed to change each year, but the categories of charges and customer classes are proposed to remain the same. Fixed sewer charges provide revenue stability, are easy for customers to understand, and are straightforward to bill. Rates are apportioned based on the updated flow and pollutant loadings for each customer provided in Table 3.

5.2 Unit Cost Calculation

Table 9 provides the unit cost calculation for the customer service, flow, BOD, and TSS cost categories. The total amount of proposed rate revenue for FY2025 (taken from Table 5) is divided between the categories based on the percentages developed in Table 8. The revenue requirement for each category is then divided by the billing units to calculate a unit charge.

Table 9: Unit Cost Calculation
Sewer Rate and Fee Study
City of Waterford

| Cost Allocation | Total | Cust. Serv. | Flow | BOD | TSS |
|----------------------------|--------------|------------------------|-------------------------|---------------------|---------------------|
| FY2025 Revenue Requirement | \$2,036,100 | 22.2% \$452,800 | 48.5% \$988,300 | 14.6% \$297,500 | 14.6% \$297,500 |
| Billing Units | | 2,551 # of accounts | 215,932,578 Gal/year | 483,210 lbs/year | 542,782 lbs/year |
| Rate | | \$14.79 \$/month | \$4.58 \$/1000 gal | \$0.62 \$/lb | \$0.55 \$/lb |

5.3 Proposed Sewer Rates

As a first step in calculating the final sewer rates, the unit charges detailed above were multiplied by the number of accounts, flow, and loading assumptions in Table 3 for each customer class to calculate the total rate. This first step was used to calculate rates for FY2025 (going into effect July 1, 2024). Table 10 shows the percentage change for each customer class and the estimated annual rate revenues. The rates for subsequent years were calculated as the FY2025 rate increased by the annual percent change (10.0% for FY2026, for example) to correspond to the increase in revenue requirement shown in Table 5. The five-year rate plan is provided in Table 11.

**Table 10: Current and FY2025 Proposed Rate Comparison
Sewer Rate and Fee Study
City of Waterford**

| Customer Class | Billing Unit Description | Current Rate | FY2025 Proposed Rate | Rate Change | Proposed FY2025 Revenue | % of Total Revenue |
|---------------------------|---------------------------------|---------------------|-----------------------------|--------------------|--------------------------------|---------------------------|
| Single Family Residential | per dwelling unit | \$51.36 | \$64.18 | 25% | \$1,731,946 | 85.1% |
| Multifamily Residential | per dwelling unit | \$46.65 | \$59.69 | 28% | \$157,811 | 7.8% |
| Beauty Salon/Barber | per basin | \$22.75 | \$26.95 | 18% | \$951 | 0.0% |
| Car wash | per bay | \$32.31 | \$35.72 | 11% | \$2,143 | 0.1% |
| Church | per 100 people | \$38.86 | \$48.31 | 24% | \$14,493 | 0.7% |
| Commercial - Flat | per account | \$44.14 | \$44.55 | 1% | \$6,934 | 0.3% |
| Fast Food | per account | \$64.81 | \$65.68 | 1% | \$788 | 0.0% |
| Gas Station | per pump | \$18.20 | \$19.52 | 7% | \$3,748 | 0.2% |
| Health Services | per account | \$50.94 | \$64.47 | 27% | \$3,095 | 0.2% |
| Industrial | per account | \$77.69 | \$99.30 | 28% | \$2,999 | 0.1% |
| Laundromat | per washer | \$13.37 | \$15.72 | 18% | \$4,905 | 0.2% |
| Major Food Market | per 1,000 sq ft | \$47.82 | \$61.49 | 29% | \$24,121 | 1.2% |
| Pharmacy/Prof Service | per account | \$44.14 | \$54.53 | 24% | \$3,272 | 0.2% |
| Restaurant | per seat | \$4.22 | \$5.16 | 22% | \$20,743 | 1.0% |
| Retail | per account | \$44.14 | \$58.51 | 33% | \$12,638 | 0.6% |
| School | per school | \$1,033.45 | \$1,265.25 | 22% | \$45,549 | 2.2% |
| | | | | | \$2,036,136 | 100.0% |

**Table 11: 5-Year Proposed Rate Plan
Sewer Rate and Fee Study
City of Waterford**

| Customer Class | Billing Unit Description | Current Rate | FY2025 | FY2026 | FY2027 | FY2028 | FY2029 |
|---------------------------|---------------------------------|---------------------|---------------|---------------|---------------|---------------|---------------|
| Annual Rate Change | | \$/month | Varies | 10.0% | 3.0% | 3.0% | 3.0% |
| Single Family Residential | per dwelling unit | \$51.36 | \$64.18 | \$70.60 | \$72.72 | \$74.90 | \$77.15 |
| Multifamily Residential | per dwelling unit | \$46.65 | \$59.69 | \$65.66 | \$67.63 | \$69.66 | \$71.75 |
| Beauty Salon/Barber | per basin | \$22.75 | \$26.95 | \$29.65 | \$30.54 | \$31.46 | \$32.40 |
| Car wash | per bay | \$32.31 | \$35.72 | \$39.29 | \$40.47 | \$41.68 | \$42.93 |
| Church | per 100 people | \$38.86 | \$48.31 | \$53.14 | \$54.73 | \$56.37 | \$58.06 |
| Commercial - Flat | per account | \$44.14 | \$44.55 | \$49.01 | \$50.48 | \$51.99 | \$53.55 |
| Fast Food | per account | \$64.81 | \$65.68 | \$65.87 | \$66.74 | \$67.61 | \$69.14 |
| Gas Station | per pump | \$18.20 | \$19.52 | \$21.47 | \$22.11 | \$22.77 | \$23.45 |
| Health Services | per account | \$50.94 | \$64.47 | \$70.92 | \$73.05 | \$75.24 | \$77.50 |
| Industrial | per account | \$77.69 | \$99.30 | \$109.23 | \$112.51 | \$115.89 | \$119.37 |
| Laundromat | per washer | \$13.37 | \$15.72 | \$17.29 | \$17.81 | \$18.34 | \$18.89 |
| Major Food Market | per 1,000 sq ft | \$47.82 | \$61.49 | \$67.64 | \$69.67 | \$71.76 | \$73.91 |
| Pharmacy/Prof Service | per account | \$44.14 | \$54.53 | \$59.98 | \$61.78 | \$63.63 | \$65.54 |
| Restaurant | per seat | \$4.22 | \$5.16 | \$5.68 | \$5.85 | \$6.03 | \$6.21 |
| Retail | per account | \$44.14 | \$58.51 | \$64.36 | \$66.29 | \$68.28 | \$70.33 |
| School | per school | \$1,033.45 | \$1,265.25 | \$1,391.78 | \$1,433.53 | \$1,476.54 | \$1,520.84 |