

Public Hearing
July 16, 2024

City of Dixon
2024 Cost-of-Service Water Rate Study



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Executive Summary

The City of Dixon (City) is located in Solano County in Northern California and served by two water purveyors: the City of Dixon water department and the California Water Service Company (Cal Water). Cal Water provides water service to the downtown core area and the City provides water service to the remaining areas within City limits. This report is a comprehensive cost-of-service update to the City's municipal water rates.

The City must collect sufficient revenues from its customers to pay the costs to (1) prudently operate and maintain its water enterprise or "utility"; (2) build, renew, replace, and upgrade its infrastructure, which includes pipelines, wells, storage tanks, and pumps, as well as administration buildings and related facilities; and (3) ensure a prudent reserve of funds. Revenues are primarily collected through user fees (rates and charges) that are designed to ensure that each customer pays their fair share based on their meter connection and total use of the water system. This report is intended to project the cost of operating the water utility over a 5-year period, Fiscal Year 2024-2025 (FY 2025) through FY 2029; and allocate those costs among customers in a way that ensures that each customer pays its fair share of those costs in compliance with Proposition 218.

The City's prior cost-of-service study was adopted on January 22, 2019, and set rates through FY 2023. However, in 2020 Measure S was placed on the ballot and approved by voters. Measure S amended the City's water rates, which rescinded the rates adopted in January 2019 and reverted the rates back to those that were in effect prior to January 2019. Today, the City's water rates are the same as they were in 2013.

Updating the water utility's long-term financial plan and performing a comprehensive cost-of-service analysis is a prudent business practice to ensure the utility can fully fund its revenue needs through FY 2029 (Rate Setting Period) and beyond. In reviewing and updating water rates, the first step is to thoroughly check the financial health of the water utility. Based on a financial review at current rates, revenues from existing rates are not sufficient to cover operating expenses over the Rate Setting Period. The water utility is projected to end FY 2024 with an operating deficit of approximately \$417k, which continues to grow annually. Additionally, the water utility has deferred a number of capital projects since rates were rescinded.

There are critical capital projects that must be addressed, other necessary improvements in the near-term, and standard annual repair and replacement needs. As part of this study, the City's Engineering Department developed three capital improvement plans (CIPs) reflecting different levels of capital spending to consider, which included:

1. **Critical:** Includes capital projects that *must* be addressed to ensure a safe and reliable water system
2. **Critical + Near-Term:** Includes all **Critical** projects plus necessary improvements within the next five years
3. **Near-Term + R&R:** Includes all **Critical + Near-Term** projects and funding for the annual repair and replacement of system assets

The Critical, Critical + Near-Term, and Near-Term + R&R each represented different levels of capital spending, equal to \$8.3M, \$13.5M, and \$20.1M, respectively. Without rate increases, none of the capital spending options can be addressed and the water utility's reserves would be depleted by FY 2026. Based on our review and analysis, three proposed financial plans were developed, one for each of the three CIPs.

Prior to this rate study, the City established a Water Rate Advisory Ad Hoc Committee (RAC) in anticipation of this new rate study. The RAC was established in April 2023 and held seven (7) public meetings leading up to this rate study to review financials and the operational history of the water system. The RAC was incorporated into the rate study by reviewing the proposed financial plans, cost-of-service analysis, and proposed rates. At each milestone of the project, our findings were first presented to the RAC before being

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presented to the City Council. Through this process, the City Council received feedback and recommendations from the RAC. The rate study spanned approximately six (6) months with nine (9) workshops and a Public Hearing. The workshops provided detailed information at each milestone of the project. Workshop topics included rate-setting in California, policy and rate objectives, financial planning, cost-of-service & rate design, rate options, and customer impacts. Prior to the rate study, the RAC held seven (7) meetings

The RAC recommended the proposed financial plan that incorporated funding the **Critical + Near-Term** CIP. The proposed financial plan would generate an additional \$12.4M in rate revenue, phased in over the Rate Setting Period. In addition, a new debt issuance is proposed to occur in FY 2026, providing proceeds of \$7M to cover a portion of capital expenses in FY 2026 and FY 2027. The debt financing assumes a 30-year term at a 5% annual interest rate, with a 2% issuance cost.

In addition, it is important to note that the water utility may require additional treatment improvements to address traces of Chromium 6 in the City's groundwater. The type and extent of improvements to treat Chromium 6 are not yet known and, therefore, not included within this study. The maximum contaminant level (MCL) has not yet been formally adopted by the State Water Resources Control Board (SWRCB). However, when the regulation setting the MCL is adopted, the City will determine the type of treatment technology to use and develop a cost estimate.

The current water rate structure of the City has both fixed and variable components. The fixed component consists of a based fixed charge that varies by meter size. Variable rates vary by customer class with Single-Family Residential customers subject to a three-tiered rate structure, charged in hundred cubic feet (ccf¹) increments. All other customer classes pay their proportionate share of costs through uniform rates per ccf.

The detailed cost-of-service analysis within this report includes adjustments to the existing rate structure. Single-Family residential will maintain a three-tiered rate structure, but tier allotments have been updated to reflect current water efficiency standards and water usage characteristics. Additionally, the Multi-Family residential customer class will be revised from a uniform rate to a two-tiered rate structure with Tier 1 reflecting the same water efficiency standard as Single-Family customers (6 ccf) and Tier 2 will be any water usage greater than Tier 1.

Due to the broad spectrum of possible commercial uses within the Non-Residential category, the Non-Residential rate structure will maintain a uniform rate to ensure equality between accounts within the customer class. Similarly, Irrigation will also maintain a uniform rate as tiered rates would require additional data related to the amount of irrigable area served by each meter.

By adopting the proposed financial plan and approving rates through FY 2029, the water utility will generate positive net income above operating expenses, cover its critical and near-term needs, and exceed its minimum reserve requirement by FY 2029. The proposed rates have been incorporated into a Proposition 218 Notice and mailed to each customer.

A Public Hearing was held on July 16, 2024, on the proposed rates identified in Table 1 and Table 2. A majority protest did not exist and the City Council adopted the proposed rates for FY 2025, which will go into effect on August 1, 2024.

¹ 1 CCF = 748.052 gallons

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Table 1: Proposed Monthly Fixed Charges

Proposed Monthly Fixed Charges					
Meter Size	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
3/4"	\$21.13	\$26.42	\$33.03	\$41.29	\$51.62
1"	\$30.25	\$37.82	\$47.28	\$59.10	\$73.88
1 1/2"	\$53.05	\$66.32	\$82.90	\$103.63	\$129.54
2"	\$80.41	\$100.52	\$125.65	\$157.07	\$196.34
3"	\$167.05	\$208.82	\$261.03	\$326.29	\$407.87
4"	\$294.73	\$368.42	\$460.53	\$575.67	\$719.59
6"	\$600.25	\$750.32	\$937.90	\$1,172.38	\$1,465.48

Table 2: Proposed Variable Rates (\$/ccf)

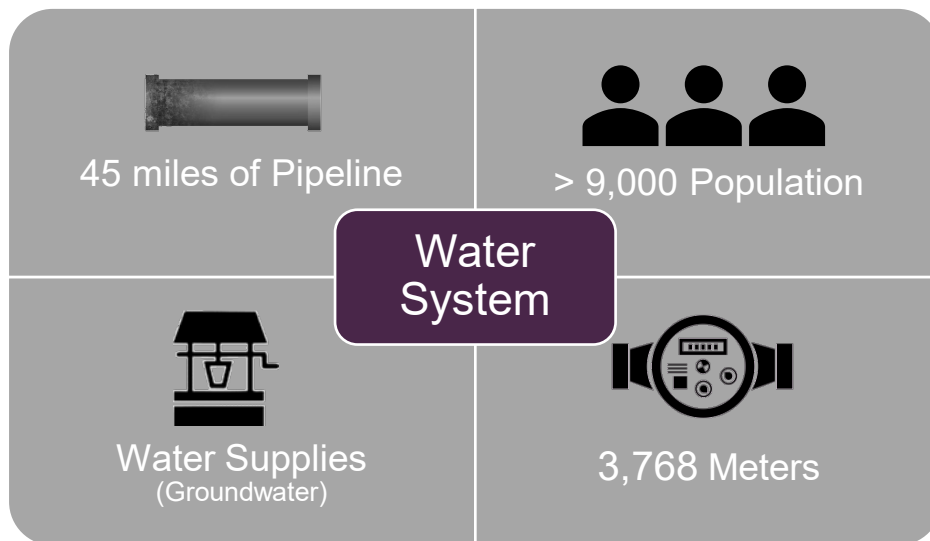
Proposed Variable Rates (\$/ccf)						
Customer Class	Tiers	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Single-Family						
Tier 1	0-6	\$1.74	\$2.18	\$2.73	\$3.42	\$4.28
Tier 2	7-21	\$1.97	\$2.47	\$3.09	\$3.87	\$4.84
Tier 3	>21	\$2.39	\$2.99	\$3.74	\$4.68	\$5.85
Multi-Family						
Tier 1	0-6	\$1.77	\$2.22	\$2.78	\$3.48	\$4.35
Tier 2	>6	\$2.30	\$2.88	\$3.60	\$4.50	\$5.63
Non-Residential	Uniform	\$1.89	\$2.37	\$2.97	\$3.72	\$4.65
Irrigation	Uniform	\$2.11	\$2.64	\$3.30	\$4.13	\$5.17

Water Utility

Water System

The City owns and operates the municipal water system and provides water service to the majority of customers within the City limits. The City relies exclusively on groundwater wells as its source of supply to provide water to a population of more than 9,000 customers through 3,768 service connections². The water system consists of four active wells, four water storage tanks, three booster pump stations, and approximately 45 miles of pipeline ranging from 4 to 14 inches in diameter.

Figure 1: City Water System

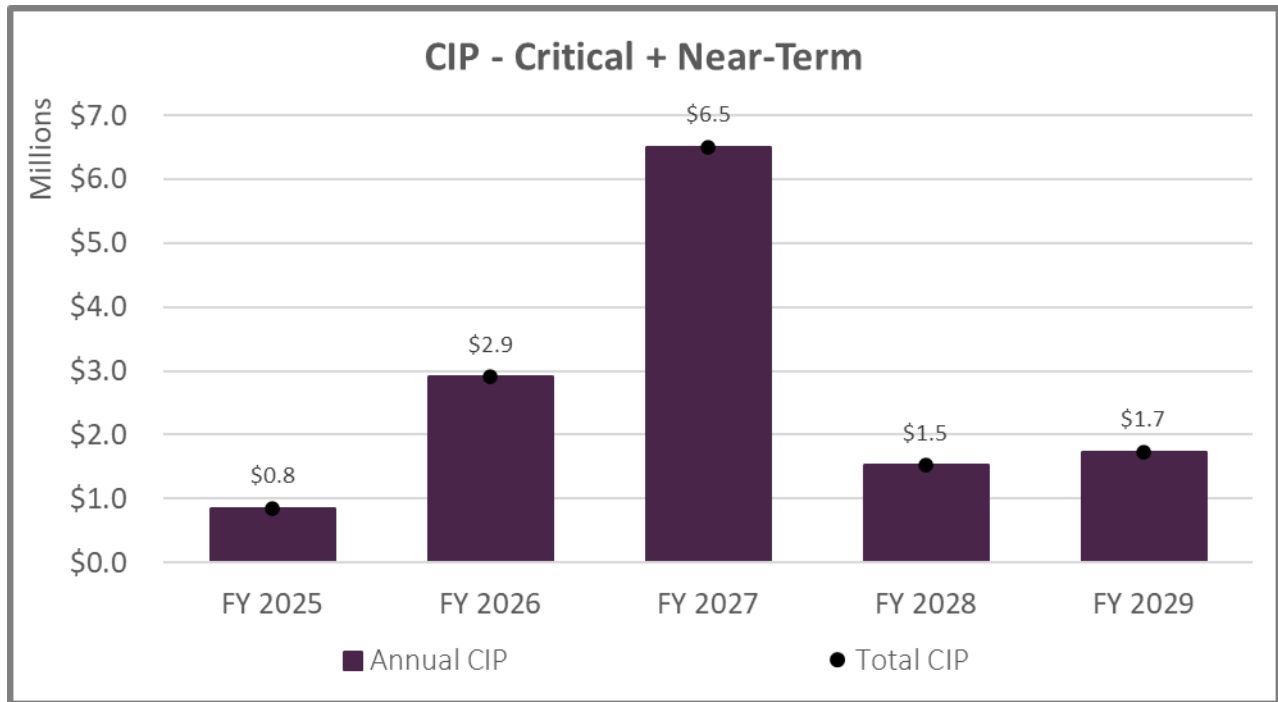


The capital projects within the selected CIP (**Critical + Near-Term**) are shown in Appendix A, equal to a total of \$13.5M. The CIP includes critical and near-term projects such as the water meter replacement program, a new well, electrical upgrades, well upgrades and replacement, and other necessary improvements. Figure 2 shows the selected CIP through FY 2029.

² Based on FY 2023 billing and consumption data.

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Figure 2: Capital Improvement Plan – Critical + Near-Term



Customers

The City serves 3,768 water meters, with approximately 92% of accounts classified as residential. Table 3 provides a summary of accounts by meter size.

Table 3: Accounts by Meter Size

Accounts by Meter Size					
Meter Size	Single-Family	Multi-Family	Non-Residential	Irrigation	Total Accounts
3/4"	3,458	20	27	15	3,520
1"	0	11	41	52	104
1 1/2"	0	3	36	20	59
2"	0	7	25	39	71
3"	0	1	3	2	6
4"	0	3	3	0	6
6"	0	0	0	2	2
Total	3,458	45	135	130	3,768

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As previously mentioned, the existing rate structure consists of a base monthly fixed service charge and variable rates that vary by customer class. Single-Family customers are subject to a three-tiered rate structure. Multi-Family, Non-Residential, and Irrigation are charged uniform rates. Current monthly fixed charges are identified in Table 4 followed by variable rates shown in Table 5.

Table 4: Existing Monthly Fixed Charges

Existing Fixed Charges (\$/Month)	
Meter Size	Current Charge
3/4"	\$14.34
1"	\$23.90
1 1/2"	\$47.79
2"	\$76.47
3"	\$160.10
4"	\$270.02
6"	\$573.49

Table 5: Existing Variable Rates (\$/ccf)

Existing Variable Rates (\$/ccf)		
Customer Class	Tiers	Current Rate
Single-Family		
Tier 1	(0-10 ccf)	\$1.23
Tier 2	(11-40 ccf)	\$1.54
Tier 3	(41+ ccf)	\$2.32
Multi-Family	(uniform)	\$1.40
Non-Residential	(uniform)	\$1.40
Irrigation	(uniform)	\$1.40

Financial Plan Overview

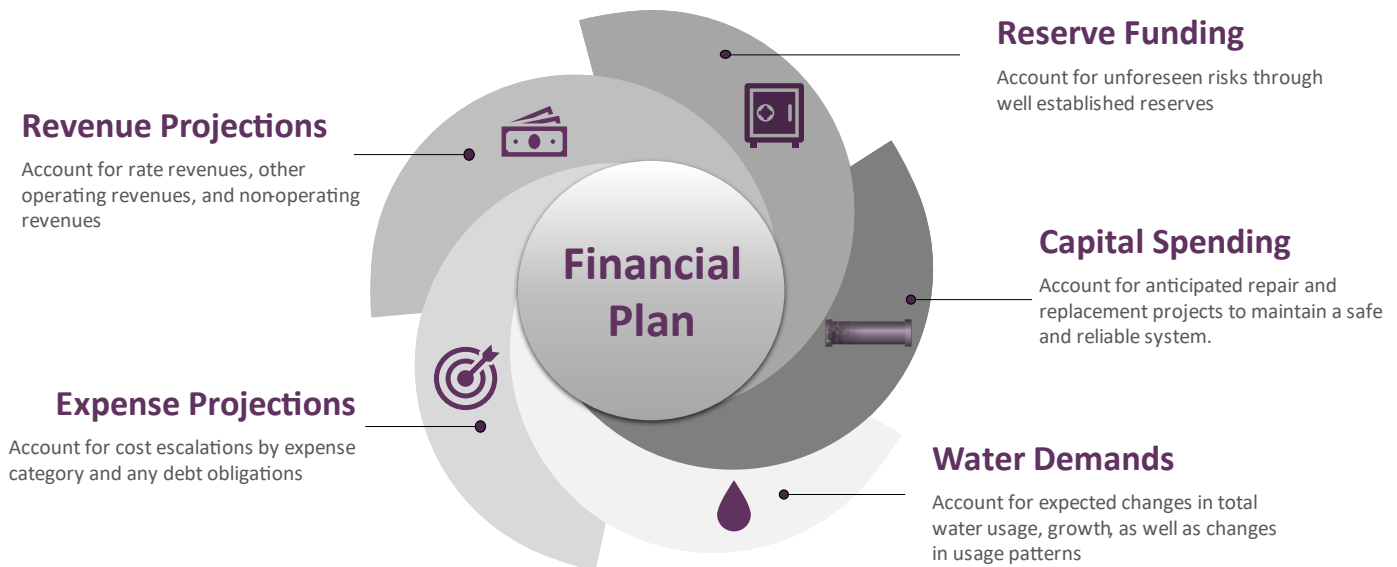
Financial Planning

Financial planning incorporates numerous considerations, including projecting revenues and forecasting expected costs using various inflationary adjustments. Utilities also need to account for changes in water demand driven by variations in weather, changes to water supplies and water availability, state mandates, growth, and economic factors. In addition, system maintenance and reinvestment, reserves, and debt service requirements all influence the revenues needed in future years. Therefore, a comprehensive financial plan reviews the following:

- 1) Historical water sales and consumption patterns to determine an appropriate usage level for projecting future water demands.
- 2) Operational costs that may change over the planning period because of inflation, unique circumstances of the agency, new expenditures added to meet strategic goals, state mandates, or changes in operations.
- 3) Multi-year system improvement needs, and scheduling based on priority. This review also considers available funding sources to complete projects such as PAYGO, grants, loans, and debt financing.
- 4) Satisfy debt service coverage ratio requirements for any existing or proposed debt (120%).
- 5) Reserve funding to meet adopted reserve policies. The goal is to generate adequate cash on hand to mitigate financial risks related to operating cashflow needs, unexpected increases in expenses, shortages in system reinvestment, and mitigating potential system failures.

Figure 3 illustrates the key elements when developing a long-term financial plan.

Figure 3: Financial Plan Key Elements



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Financial Planning Assumptions

Developing a long-term financial plan requires an understanding of the water utility’s financial position by evaluating existing revenue streams, ongoing expenses, how those expenses will change over time, existing debt requirements, and reserve policies. With these considerations, certain assumptions are required for projecting revenues, expenses, and expected ending fund balances. Through discussions with staff and their understanding of historical budget data and future obligations, Table 6 identifies assumptions used for forecasting revenues. Table 7 details the number of accounts by meter size, over the Rate Setting Period, and Table 8 identifies projected consumption by customer class and tier. For forecasting revenues, our analysis assumes a 2% growth in Single-Family accounts every year, which is represented by a slight increase in 3/4” meters and a corresponding increase in consumption each year.

Table 6: Assumptions for Forecasting Revenues

Revenue Forecasting					
Key Assumptions	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Revenue Escalation					
Reserve Interest	1.5%	1.5%	1.5%	1.5%	1.5%
Account Growth					
Single-Family	2.0%	2.0%	2.0%	2.0%	2.0%
Total Meters	3,768	3,837	3,908	3,980	4,053
Total Consumption (ccf)	776,380	785,657	795,120	804,772	814,617

Table 7: Accounts by Meter Size

Accounts by Meter Size					
Customer Accounts	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Meter Size					
3/4"	3,520	3,589	3,660	3,732	3,805
1"	104	104	104	104	104
1 1/2"	59	59	59	59	59
2"	71	71	71	71	71
3"	6	6	6	6	6
4"	6	6	6	6	6
6"	2	2	2	2	2
Total All Meters	3,768	3,837	3,908	3,980	4,053

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Table 8: Projected Consumption (ccf)

Projected Consumption					
Customer Class & Tier	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Single-Family					
Tier 1	289,494	295,284	301,190	307,214	313,358
Tier 2	161,558	164,789	168,085	171,447	174,876
Tier 3	12,807	13,063	13,324	13,590	13,862
Subtotal Single-Family	463,859	473,136	482,599	492,251	502,096
Multi-Family	37,348	37,348	37,348	37,348	37,348
Non-Residential	138,148	138,148	138,148	138,148	138,148
Irrigation	137,025	137,025	137,025	137,025	137,025
Total Consumption (ccf)	776,380	785,657	795,120	804,772	814,617

Table 9 identifies assumptions used for forecasting increases in expenses over the Rate Setting Period. The Capital and General Costs escalation factors reflect the 5-year average of the Engineering News-Record – Construction Cost Index (ENR CCI) and the Consumer Price Index (CPI), respectively, for the San Francisco area.

Table 9: Assumptions for Forecasting Expense Requirements

Expense Forecasting						
Key Assumptions	Source:	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Expenditure Escalation						
Benefits		5.0%	5.0%	5.0%	5.0%	5.0%
Capital	ENR - SF 5-Year Average	5.1%	5.1%	5.1%	5.1%	5.1%
Energy Costs		7.0%	7.0%	7.0%	7.0%	7.0%
General Costs	CPI - SF (BLS) 5-Year Average	3.5%	3.5%	3.5%	3.5%	3.5%
Retirement		5.0%	5.0%	5.0%	5.0%	5.0%
Salaries		5.0%	5.0%	5.0%	5.0%	5.0%

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Current Financial Position

Revenues

Based on the forecasting assumptions, fixed revenues were calculated by multiplying the existing fixed charges (Table 4) by accounts by meter size (Table 7) and factoring in the number of months the rate was in effect. Variable revenues were calculated using existing variable rates (Table 5) and projected total water consumption by customer class (Table 8). Table 10 shows the calculated rate revenues through the Rate Setting Period. Table 11 summarizes calculated rate revenues from Table 10 and Charges for Services and Miscellaneous and Non-operating revenues available through the Rate Setting Period with projections rounded to the nearest thousands. Interest earnings are zero for FY 2027 through FY 2029 because the utility has depleted reserves due to the annual operating deficit and capital spending needs.

Table 10: Calculated Rate Revenues

Calculated Rate Revenue					
Fixed Revenue	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Base Service Charge					
Single-Family	\$595,053	\$606,926	\$619,144	\$631,534	\$644,095
Multi-Family	\$26,382	\$26,382	\$26,382	\$26,382	\$26,382
Non-Residential	\$75,476	\$75,476	\$75,476	\$75,476	\$75,476
Irrigation	\$82,359	\$82,359	\$82,359	\$82,359	\$82,359
Total Base Service Charge	\$779,269	\$791,142	\$803,360	\$815,750	\$828,312
Variable Revenue					
Single-Family					
Tier 1	\$356,078	\$363,199	\$370,464	\$377,873	\$385,430
Tier 2	\$248,799	\$253,775	\$258,851	\$264,028	\$269,309
Tier 3	\$29,712	\$30,306	\$30,912	\$31,529	\$32,160
Single-Family Variable Revenue	\$634,589	\$647,281	\$660,226	\$673,430	\$686,899
Multi-Family	\$52,287	\$52,287	\$52,287	\$52,287	\$52,287
Non-Residential	\$193,407	\$193,407	\$193,407	\$193,407	\$193,407
Irrigation	\$191,835	\$191,835	\$191,835	\$191,835	\$191,835
Total Variable Rate Revenue	\$1,072,119	\$1,084,810	\$1,097,756	\$1,110,960	\$1,124,429
Total Rate Revenue	\$1,851,388	\$1,875,952	\$1,901,116	\$1,926,710	\$1,952,740

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Table 11: Projected Revenues

Projected Revenues					
Revenue Summary	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Rate Revenue					
Base Service Charge	\$779,000	\$791,000	\$803,000	\$816,000	\$828,000
Variable Revenue	\$1,072,000	\$1,085,000	\$1,098,000	\$1,111,000	\$1,124,000
Subtotal Rate Revenue	\$1,851,000	\$1,876,000	\$1,901,000	\$1,927,000	\$1,952,000
Charges for Services					
Installation	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000
Backflow	\$17,000	\$17,000	\$17,000	\$17,000	\$17,000
Subtotal Charges for Services	\$92,000	\$92,000	\$92,000	\$92,000	\$92,000
Misc. & Non-Operating					
Interest Earned	\$30,000	\$14,000	\$0	\$0	\$0
Penalties & Interest	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000
Administration	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
Subtotal Misc. & Non-Operating	\$46,000	\$30,000	\$16,000	\$16,000	\$16,000
Total Revenues	\$1,989,000	\$1,998,000	\$2,009,000	\$2,035,000	\$2,060,000

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Expenses

The FY 2024 budget was used as the baseline expenses of the utility and adjusted in subsequent years based on the escalation factors shown in Table 9. Table 12 provides projected Operational & Maintenance (O&M) costs through the Rate Setting Period, with future projections rounded to the nearest thousands. Each O&M expense category includes detailed line-item expenditures that were discussed with staff to determine the appropriate escalation factor for forecasting how costs will increase over time.

Table 12: Projected O&M Expenses

Projected Expenses					
O&M Expenses	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Operating Expenses					
Salaries and Benefits	\$666,000	\$700,000	\$735,000	\$771,000	\$810,000
Materials and Supplies	\$500,000	\$525,000	\$551,000	\$579,000	\$608,000
Contractual Services	\$342,000	\$359,000	\$378,000	\$397,000	\$417,000
Administration	\$90,000	\$93,000	\$96,000	\$100,000	\$103,000
Power and Utilities	\$515,000	\$557,000	\$604,000	\$654,000	\$708,000
Repairs and Maintenance	\$102,000	\$106,000	\$110,000	\$114,000	\$118,000
Central Service Costs	\$57,000	\$60,000	\$63,000	\$66,000	\$70,000
Finance Allocation	\$236,000	\$248,000	\$260,000	\$273,000	\$287,000
Subtotal Operating Expenses	\$2,508,000	\$2,648,000	\$2,797,000	\$2,954,000	\$3,121,000
Debt Service					
Existing Debt	\$0	\$0	\$0	\$0	\$0
New/Proposed Debt	\$0	\$0	\$0	\$0	\$0
Subtotal Debt Service	\$0	\$0	\$0	\$0	\$0
Total Expenses	\$2,508,000	\$2,648,000	\$2,797,000	\$2,954,000	\$3,121,000

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Reserves

Figure 4: Reserves

OPERATING RESERVE

Provides ongoing cash for daily operations and expenses of the utility. Covers variances between budgeted expenses and actuals.



EMERGENCY RESERVE

Mitigates risk due to system failures. These occurrences are typically separate from capital plan.

CAPITAL PROJECTS REHAB RESERVE

Provides funding for system improvements. Ensures system reinvestments occur without delays or deferrals. Also provides assurance when awarding construction contracts and matching funds for grants.

Established reserves include the Operating Reserve, Capital Projects Rehab Reserve, and Emergency Reserve. Reserves help mitigate risks to a utility by ensuring sufficient cash is on hand for daily operations and to fund annual system improvements. However, at current rates, the water utility does not generate sufficient positive net income above operating expenses to meet the minimum reserve requirements. Table 13 summarizes the minimum reserve requirements and ideal targets of each reserve.

Table 13: Reserve Requirements and Targets

Reserve	Minimum Requirement	Reserve Target
Operating	90 Days of Operating	120 Days of Operating
Capital Projects Rehab	1 year of 5-year CIP average	2 years of 5-year CIP average
Emergency	2% of Assets	3% of Assets

The projected beginning total water reserve balance for FY 2025 (July 1, 2024), is projected to be approximately \$1.7M.

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Financial Outlook at Existing Rates

Calculating revenue using existing rates and projecting expenses helps determine the current financial health of the utility. Revenues from current rates are not sufficient to cover operating expenses. In addition, capital spending towards repair and replacement would require using reserves as the primary funding source, which is not sustainable in the long-term. Table 14 forecasts existing revenues and expenses through the Rate Setting Period. Table 15 identifies reserve transfers and reserve activity, with projected FY 2025 starting reserve balances shown for each reserve.

Table 14: Financial Plan at Existing Rates

Financial Plan at Existing Rates						
Revenue		FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Rate Revenue						
Base Service Charge	Table 11	\$779,000	\$791,000	\$803,000	\$816,000	\$828,000
Variable Revenue		\$1,072,000	\$1,085,000	\$1,098,000	\$1,111,000	\$1,124,000
Total Rate Revenue		\$1,851,000	\$1,876,000	\$1,901,000	\$1,927,000	\$1,952,000
Charges for Services						
Installation	Table 11	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000
Backflow		\$17,000	\$17,000	\$17,000	\$17,000	\$17,000
Subtotal Charges for Services		\$92,000	\$92,000	\$92,000	\$92,000	\$92,000
Misc. & Non-Operating						
Interest Earned	Table 11	\$30,000	\$14,000	\$0	\$0	\$0
Penalties & Interest		\$13,000	\$13,000	\$13,000	\$13,000	\$13,000
Administration		\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
Subtotal Misc. & Non-Operating		\$46,000	\$30,000	\$16,000	\$16,000	\$16,000
Total Revenues		\$1,989,000	\$1,998,000	\$2,009,000	\$2,035,000	\$2,060,000
O&M Expenses						
O&M Expenses		FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Operating Expenses						
Salaries and Benefits	Table 12	\$666,000	\$700,000	\$735,000	\$771,000	\$810,000
Materials and Supplies		\$500,000	\$525,000	\$551,000	\$579,000	\$608,000
Contractual Services		\$342,000	\$359,000	\$378,000	\$397,000	\$417,000
Administration		\$90,000	\$93,000	\$96,000	\$100,000	\$103,000
Power and Utilities		\$515,000	\$557,000	\$604,000	\$654,000	\$708,000
Repairs and Maintenance		\$102,000	\$106,000	\$110,000	\$114,000	\$118,000
Central Service Costs		\$57,000	\$60,000	\$63,000	\$66,000	\$70,000
Finance Allocation		\$236,000	\$248,000	\$260,000	\$273,000	\$287,000
Subtotal Operating Expenses		\$2,508,000	\$2,648,000	\$2,797,000	\$2,954,000	\$3,121,000
Debt Service						
Existing Debt	Table 12	\$0	\$0	\$0	\$0	\$0
New/Proposed Debt		\$0	\$0	\$0	\$0	\$0
Subtotal Debt Service		\$0	\$0	\$0	\$0	\$0
Total Expenses		\$2,508,000	\$2,648,000	\$2,797,000	\$2,954,000	\$3,121,000
Net Operating Income	<i>(Revenues - Expenses)</i>	(\$519,000)	(\$650,000)	(\$788,000)	(\$919,000)	(\$1,061,000)

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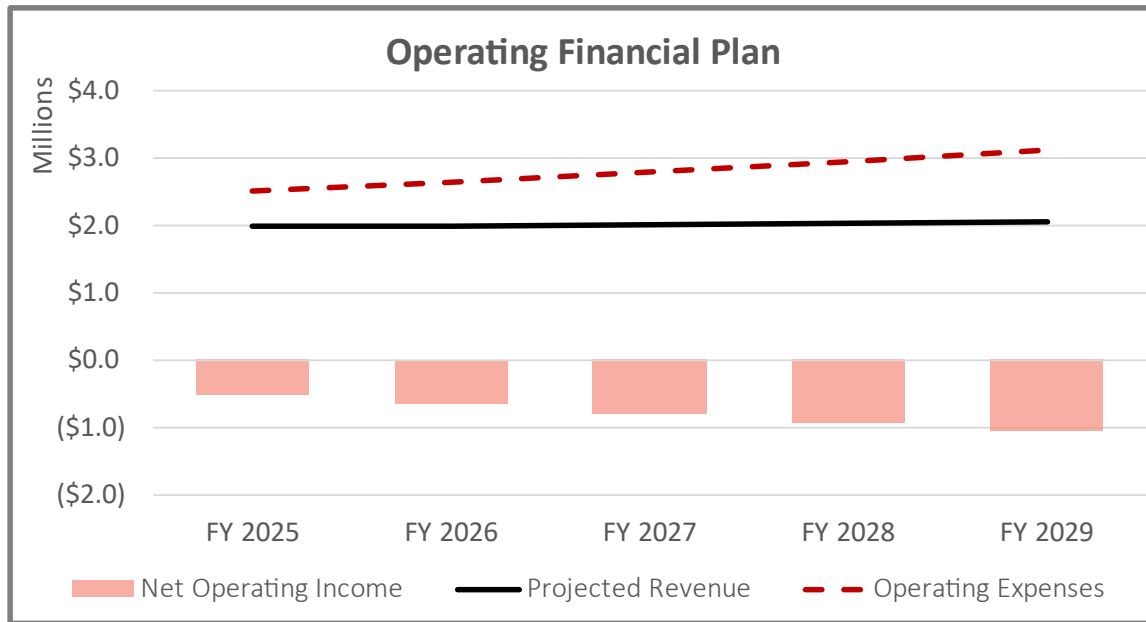
Table 15: Reserve Activity at Existing Rates

Reserve Activity at Existing Rates						
Line #	Operating Reserve	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	Beginning Balance	\$1,247,323	\$618,411	(\$31,589)	(\$819,589)	(\$1,738,589)
2	Transfers (Net Operating Income) Table 14	(\$519,000)	(\$650,000)	(\$788,000)	(\$919,000)	(\$1,061,000)
3	Transfers (to)/from Emergency Reserve	\$0	\$0	\$0	\$0	\$0
4	Transfers from/(to) Capital Projects Rehab	(\$109,912)	\$0	\$0	\$0	\$0
5	Ending Balance	\$618,411	(\$31,589)	(\$819,589)	(\$1,738,589)	(\$2,799,589)
Capital Projects Rehab						
		FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
6	Beginning Balance	\$477,018	(\$259,815)	(\$2,166,046)	(\$7,371,081)	(\$8,891,342)
7	Plus:					
8	Transfers from/(to) Operating Rese <i>Line 4</i>	\$109,912	\$0	\$0	\$0	\$0
9	New Debt Proceeds	\$0	\$0	\$0	\$0	\$0
10	Use of Capacity Fees	\$0	\$1,000,000	\$1,300,000	\$0	\$0
11	Less:					
12	CIP	(\$846,745)	(\$2,906,231)	(\$6,505,035)	(\$1,520,261)	(\$1,732,885)
13	Subtotal Capital Projects Rehab	(\$259,815)	(\$2,166,046)	(\$7,371,081)	(\$8,891,342)	(\$10,624,228)
14	Interest Earnings	\$0	\$0	\$0	\$0	\$0
15	Ending Balance	(\$259,815)	(\$2,166,046)	(\$7,371,081)	(\$8,891,342)	(\$10,624,228)
Emergency Reserve						
		FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
16	Beginning Balance	\$0	\$0	\$0	\$0	\$0
17	Direct Transfer from/(to) Operating Reserve	\$0	\$0	\$0	\$0	\$0
18	Ending Balance	\$0	\$0	\$0	\$0	\$0
19	Total Ending Balance	\$358,596	(\$2,197,635)	(\$8,190,670)	(\$10,629,931)	(\$13,423,817)

Figure 5 illustrates the operating position of the utility, where O&M expenses are identified with the dashed red trendline, and the horizontal black trendline shows total revenues at existing rates. The bars represent the net operating income, with grey bars reflecting positive net income for capital spending and reserve funding and red bars reflecting an operating deficit absorbed by reserves.

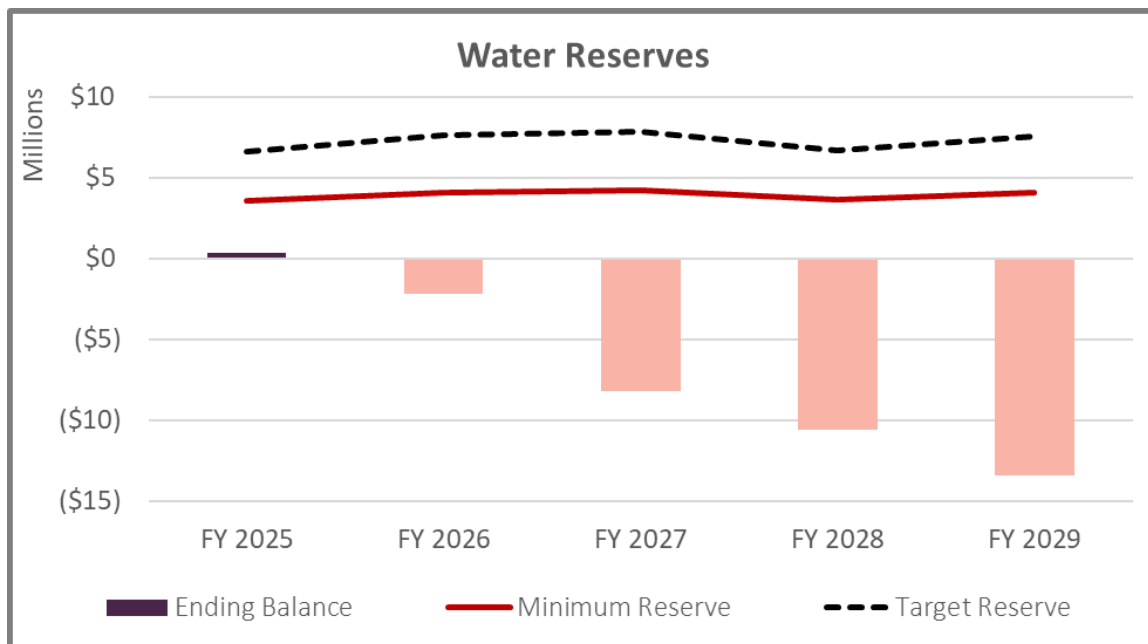
City of Dixon – 2024 Cost-of-Service Utility Rate Study

Figure 5: Current Operating Financial Position



Capital spending over the Rate Setting Period is approximately \$13.5M, as shown in Figure 2. Without increases in rate revenue, the water utility would not meet its minimum target in FY 2025. By FY 2026 reserves would be depleted and funding would not be available for the CIP. Figure 6 reflects the projected ending balances of reserves after funding operating and capital projects.

Figure 6: Projected Ending Reserves at Existing Rates



Proposed Financial Plan

From our review of the utility's financial outlook at existing rates, a proposed financial plan is developed to fund the multi-year revenue requirements. The proposed financial plan generates approximately \$12.4M in additional revenue over the Rate Setting Period. Table 16 forecasts projected revenues, **with annual revenue adjustments**, and expenses through FY 2029. In addition, \$7M of capital costs are expected to be debt-financed through a bond issue in FY 2026. This allows rates to increase over the five years and cover capital spending in FY 2028 and FY 2029 on a pay-as-you-go basis. However, the City's financial advisor will determine the specific terms and timing of the bonds. Table 17 identifies the projected FY 2025 total starting reserve balances, activity within each reserve (including net operating income transfer from Table 16, transfers between reserves, and annual CIP), and projected ending balances for each fiscal year of the Rate Setting Period. By FY 2029, rate revenues are sufficient to fund the Emergency Reserve above the minimum reserve requirement.

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Table 16: Proposed Financial Plan

Proposed Financial Plan				FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	
Revenue									
Rate Revenue									
	Base Service Charge		Table 11	\$779,000	\$791,000	\$803,000	\$816,000	\$828,000	
	Variable Revenue			\$1,072,000	\$1,085,000	\$1,098,000	\$1,111,000	\$1,124,000	
Total Rate Revenue				\$1,851,000	\$1,876,000	\$1,901,000	\$1,927,000	\$1,952,000	
Additional Revenue (from revenue adjustments):									
Fiscal Year	Revenue Adjustment	Effective Month	# of Months Effective						
FY 2025	40.0%	August	11	\$678,000	\$750,000	\$760,000	\$770,000	\$780,000	
FY 2026	25.0%	July	12		\$656,000	\$665,000	\$674,000	\$683,000	
FY 2027	25.0%	July	12			\$831,000	\$842,000	\$853,000	
FY 2028	25.0%	July	12				\$1,053,000	\$1,067,000	
FY 2029	25.0%	July	12					\$1,333,000	
Total Additional Revenue				\$678,000	\$1,406,000	\$2,256,000	\$3,339,000	\$4,716,000	
Projected Rate Revenue				\$2,529,000	\$3,282,000	\$4,157,000	\$5,266,000	\$6,668,000	
Charges for Services									
	Installation		Table 11	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000	
	Backflow			\$17,000	\$17,000	\$17,000	\$17,000	\$17,000	
Subtotal Charges for Services				\$92,000	\$92,000	\$92,000	\$92,000	\$92,000	
Misc. & Non-Operating									
	Interest Earned		Table 11	\$30,000	\$14,000	\$10,000	\$11,000	\$13,000	
	Penalties & Interest			\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	
	Administration			\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	
Subtotal Misc. & Non-Operating				\$46,000	\$30,000	\$26,000	\$27,000	\$29,000	
Total Revenues				\$2,667,000	\$3,404,000	\$4,275,000	\$5,385,000	\$6,789,000	
O&M Expenses									
Operating Expenses									
	Salaries and Benefits		Table 12	\$666,000	\$700,000	\$735,000	\$771,000	\$810,000	
	Materials and Supplies			\$500,000	\$525,000	\$551,000	\$579,000	\$608,000	
	Contractual Services			\$342,000	\$359,000	\$378,000	\$397,000	\$417,000	
	Administration			\$90,000	\$93,000	\$96,000	\$100,000	\$103,000	
	Power and Utilities			\$515,000	\$557,000	\$604,000	\$654,000	\$708,000	
	Repairs and Maintenance			\$102,000	\$106,000	\$110,000	\$114,000	\$118,000	
	Central Service Costs			\$57,000	\$60,000	\$63,000	\$66,000	\$70,000	
	Finance Allocation			\$236,000	\$248,000	\$260,000	\$273,000	\$287,000	
Subtotal Operating Expenses				\$2,508,000	\$2,648,000	\$2,797,000	\$2,954,000	\$3,121,000	
Debt Service									
	Existing Debt			\$0	\$0	\$0	\$0	\$0	
	New/Proposed Debt			\$0	\$0	\$517,000	\$517,000	\$517,000	
Subtotal Debt Service				\$0	\$0	\$517,000	\$517,000	\$517,000	
Total Expenses				\$2,508,000	\$2,648,000	\$3,314,000	\$3,471,000	\$3,638,000	
Net Operating Income									
				(Revenues - Expenses)	\$159,000	\$756,000	\$961,000	\$1,914,000	\$3,151,000

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Table 17: Proposed Transfers and Reserves Activity

Reserve Activity at Proposed Rates						
Line #	Operating Reserve	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	Beginning Balance	\$1,247,323	\$618,411	\$652,932	\$817,151	\$855,863
2	Transfers (Net Operating Income) Table 16	\$159,000	\$756,000	\$961,000	\$1,914,000	\$3,151,000
3	Transfers (to)/from Emergency Reserve	\$0	\$0	\$0	\$0	(\$300,000)
4	Transfers from/(to) Capital Projects Rehab	(\$787,912)	(\$721,479)	(\$796,781)	(\$1,875,288)	(\$2,809,822)
5	Ending Balance	\$618,411	\$652,932	\$817,151	\$855,863	\$897,041
Capital Projects Rehab						
		FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
6	Beginning Balance	\$477,018	\$424,899	\$6,290,135	\$1,943,171	\$2,330,008
7	Plus:					
8	Transfers from/(to) Operating Reserve <i>Line 4</i>	\$787,912	\$721,479	\$796,781	\$1,875,288	\$2,809,822
9	New Debt Proceeds	\$0	\$7,000,000	\$0	\$0	\$0
10	Use of Capacity Fees	\$0	\$1,000,000	\$1,300,000	\$0	\$0
11	Less:					
12	CIP	(\$846,745)	(\$2,906,231)	(\$6,505,035)	(\$1,520,261)	(\$1,732,885)
13	Subtotal Capital Projects Rehab	\$418,185	\$6,240,147	\$1,881,881	\$2,298,198	\$3,406,945
14	Interest Earnings	\$6,714	\$49,988	\$61,290	\$31,810	\$43,027
15	Ending Balance	\$424,899	\$6,290,135	\$1,943,171	\$2,330,008	\$3,449,972
Emergency Reserve						
		FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
16	Beginning Balance	\$0	\$0	\$0	\$0	\$0
17	Direct Transfer from/(to) Operating Reserve <i>Line 3</i>	\$0	\$0	\$0	\$0	\$300,000
18	Ending Balance	\$0	\$0	\$0	\$0	\$300,000
19	Total Ending Balance	\$1,043,310	\$6,943,066	\$2,760,322	\$3,185,871	\$4,647,013

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The operating position based on the proposed financial plan is identified in Figure 7. Figure 8 and Figure 9 show the capital plan with funding sources and projected ending reserve balances, respectively.

Figure 7: Proposed Operating Financial Position

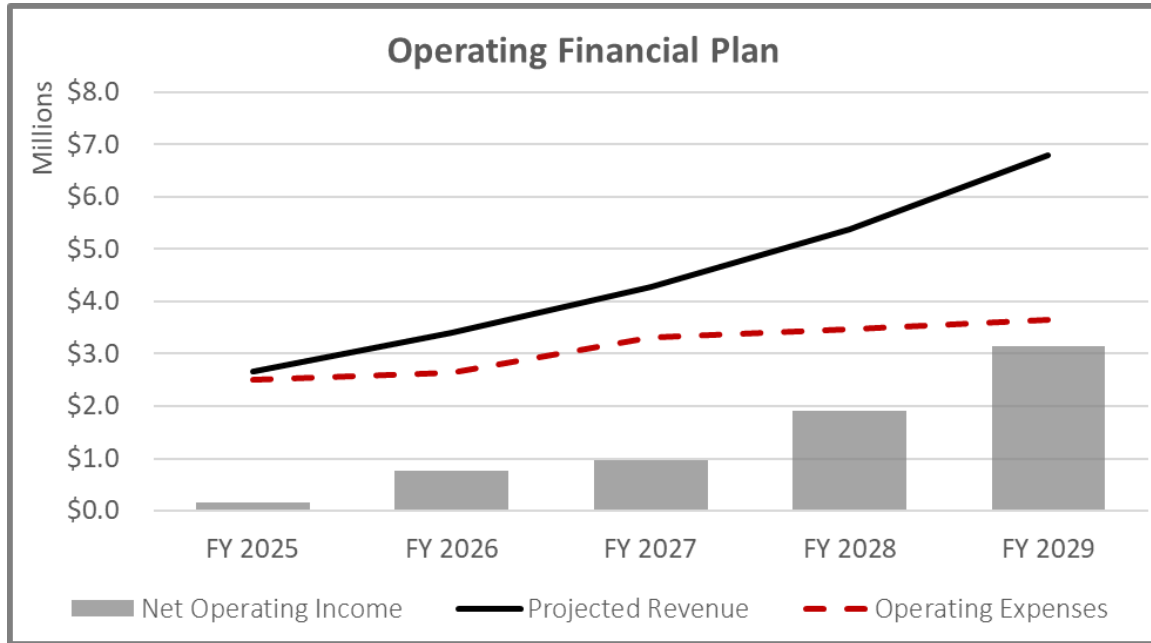
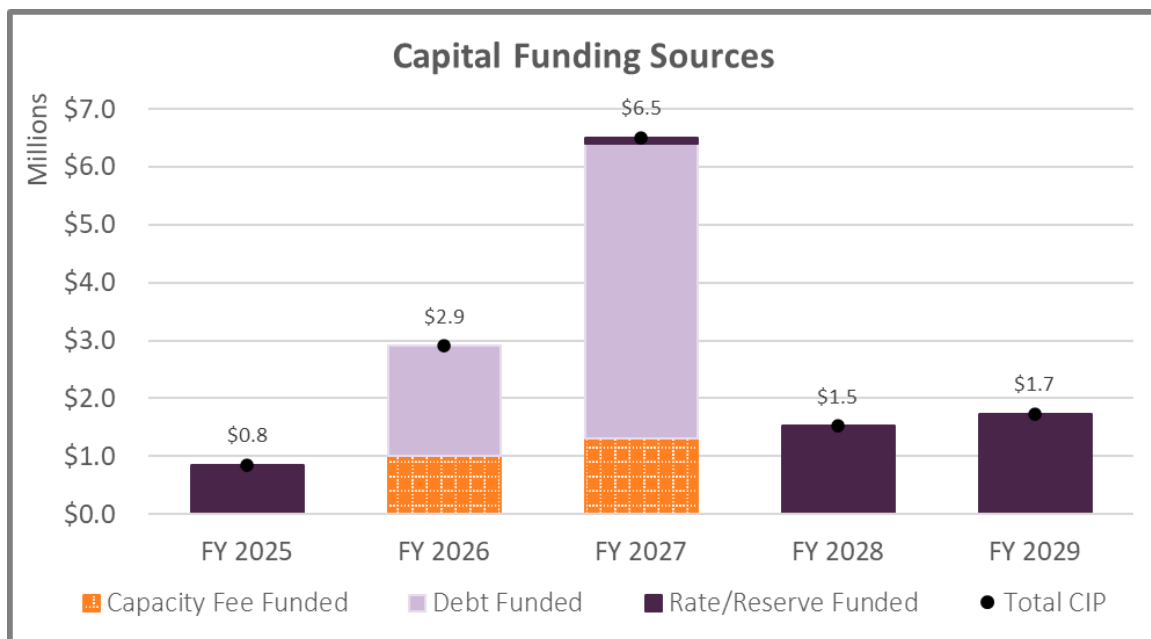
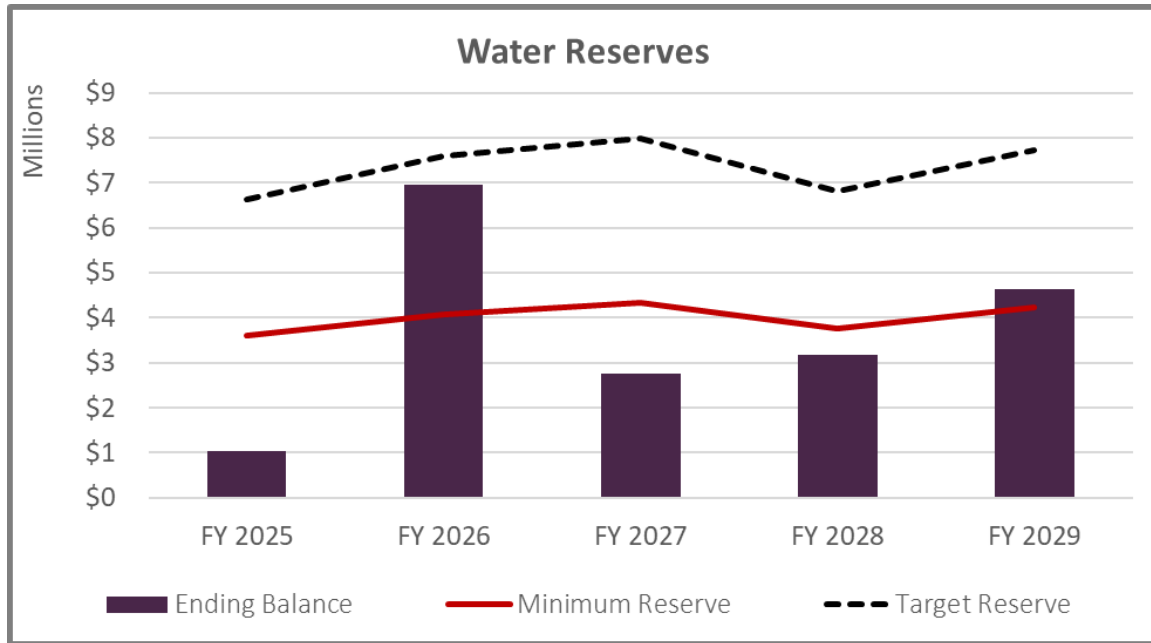


Figure 8: Capital Improvement Plan with Funding Sources



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Figure 9: Proposed Ending Reserves



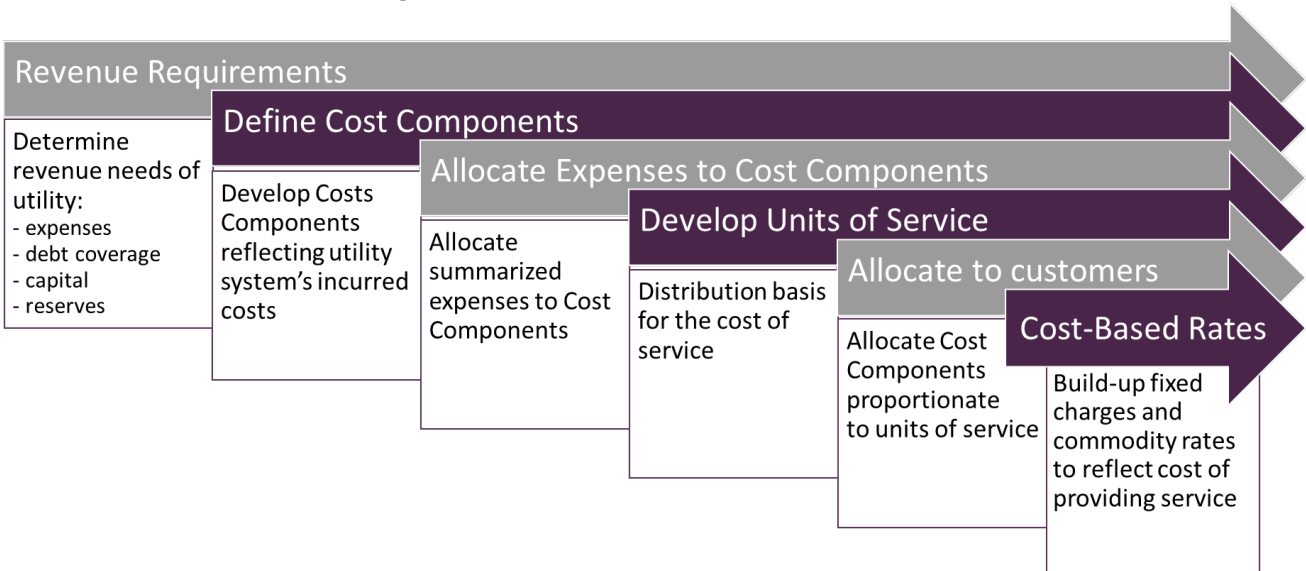
Cost-of-Service Analysis

Cost-of-Service Process

The next step in developing rates is to perform a cost-of-service analysis. This step develops proposed water rates that are cost-based and equitable. Meeting the requirements of Proposition 218 is of paramount importance in developing utility rates. Proposition 218 does not provide a particular methodology for establishing cost-based rates. This study and analysis herein allocate costs proportionately to each parcel served by the City and derives water rates that adhere to the cost-of-service provisions of Proposition 218.

It is important to understand **how** costs are incurred to determine the most appropriate way to recover them. The following graphic summarizes the cost-of-service process. This process allocates costs incurred to customer classes and tiers based on their proportional share. As a result, the proposed rates are cost-based and reflect the costs incurred to deliver water service to all customers.

Figure 10: Cost-of-Service Process



Revenue Requirements

With FY 2025 as the first year of the proposed rate schedule, revenue requirements are determined for FY 2025 and used for the cost-of-service. Revenue requirements include O&M expenses, available offsets from other operating and non-operating revenues, annual net income, and any mid-year adjustments if rates are implemented after the start of the fiscal year. The mid-year adjustment annualizes the proposed revenue adjustment to account for the time elapsed before new rates take effect to connect to the annual units of service used within this report for deriving rates. A new debt issuance is proposed to occur in FY 2026 with repayment of the debt beginning in FY 2027. The proposed revenue adjustments and corresponding rates generate the necessary funding over the Rate Setting Period to fund total revenue requirements, including the **Critical + Near-Term** capital spending plan and satisfy minimum reserve requirements by FY 2029. The results of the financial plan analysis are summarized in Table 18 and represent the revenue required from rates over the Rate Setting Period.

City of Dixon – 2024 Cost-of-Service Utility Rate Study

Table 18: Revenue Requirements

Rate Setting Period	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Revenue Requirements	Total	Total	Total	Total	Total
Operating Expenses					
Salaries and Benefits	\$666,000	\$700,000	\$735,000	\$771,000	\$810,000
Materials and Supplies	\$500,000	\$525,000	\$551,000	\$579,000	\$608,000
Contractual Services	\$342,000	\$359,000	\$378,000	\$397,000	\$417,000
Administration	\$90,000	\$93,000	\$96,000	\$100,000	\$103,000
Power and Utilities	\$515,000	\$557,000	\$604,000	\$654,000	\$708,000
Repairs and Maintenance	\$102,000	\$106,000	\$110,000	\$114,000	\$118,000
Central Service Costs	\$57,000	\$60,000	\$63,000	\$66,000	\$70,000
<i>Finance Allocation</i>	\$236,000	\$248,000	\$260,000	\$273,000	\$287,000
Total Operating Expenses	\$2,508,000	\$2,648,000	\$2,797,000	\$2,954,000	\$3,121,000
Debt Service					
Existing Debt	\$0	\$0	\$0	\$0	\$0
New/Proposed Debt	\$0	\$0	\$517,000	\$517,000	\$517,000
Total Debt Service	\$0	\$0	\$517,000	\$517,000	\$517,000
Other Funding					
<i>Revenue Offsets</i>					
Charges for Services	(\$92,000)	(\$92,000)	(\$92,000)	(\$92,000)	(\$92,000)
Misc. & Non-Operating	(\$46,000)	(\$30,000)	(\$26,000)	(\$27,000)	(\$29,000)
Total Revenue Offsets	(\$138,000)	(\$122,000)	(\$118,000)	(\$119,000)	(\$121,000)
<i>Adjustments</i>					
CIP / Reserve Funding	\$159,000	\$756,000	\$961,000	\$1,914,000	\$3,151,000
Adjustment for Mid-Year Increase	\$61,636	\$0	\$0	\$0	\$0
Total Adjustments	\$220,636	\$756,000	\$961,000	\$1,914,000	\$3,151,000
Total Other Funding	\$82,636	\$634,000	\$843,000	\$1,795,000	\$3,030,000
Revenue Requirement from Rates	\$2,590,636	\$3,282,000	\$4,157,000	\$5,266,000	\$6,668,000

City of Dixon – 2024 Cost-of-Service Utility Rate Study

Define Cost Components

The water utility incurs costs to accommodate total water demand throughout the year. Therefore, to determine the most appropriate way to recover the utility's expenses, cost components are identified to allocate expenses based on how they are incurred. By reviewing the revenue requirements and understanding the utility system, it is appropriate and reasonable to utilize the base-extra capacity methodology outlined in the American Water Works Association M1 Manual. This methodology accounts for utility systems costs to meet revenue needs based on average annual usage and total demand. The cost components shown in Figure 11 reflects the cost components used for this study.

Figure 11: Cost Components



Cost Components:

Account Services: Fixed expenses that do not necessarily fluctuate based on usage nor are a function of meter size.

Meter Capacity: Fixed expenses associated with system demand to be recovered based on meter capacity.

Delivery: Operating and capital expenses of the water system associated with serving customers at a constant average use or average daily demand. These costs tend to vary with the total water used.

Peaking: Expenses incurred to meet customer peak demands in excess of average day usage.

Allocate Expenses to Cost Components

When allocating expenses to the defined costs components, it is important to have a sound basis as to why an expense was allocated to a certain fixed cost component versus a variable cost component or split between both fixed and variable. The distribution of expenses to the cost components should be straightforward to ensure the method of apportionment is **understandable** and easily **correlates to how expenses are incurred**. A description of each expense category is identified on the next page.

City of Dixon – 2024 Cost-of-Service Utility Rate Study

O&M Expense Categories:

Salaries and Benefits: Costs associated with employee salaries and benefits.

Materials and Supplies: Costs associated with materials and supplies required for running the water system, including equipment repairs and rentals, office supplies and maintenance, chemicals, vehicle maintenance and fuel, and other general supplies.

Contractual Services: Costs associated with consultants, legal services, and other contract services.

Administration: Costs associated with the administration of the water utility such as bank fees, credit card and payment fees.

Power and Utilities: Costs associated with electricity and utilities required for running the water system.

Repairs and Maintenance: Costs associated with repairs and maintenance of the water system including capital outlay and permitting fees.

Central Service Costs: Costs associated with the City's central services, such as human resources, information technology, City clerk, and City manager.

Finance Allocation: Central service costs associated with the City's finance department.

The water system is sized to provide sufficient capacity to the City's water users that place the highest levels of demand on the system. To accommodate water users that place higher demands on the water system, the City incurs operating and maintenance costs to serve such users. For this study, Materials and Supplies and Repairs and Maintenance of the water system are allocated between Delivery and Peaking.

System peaking factors were used to allocate costs between Average Day Demand (Average Day) and Max Day Demand (Max Day). The Peaking factors shown in Table 19 were based on the max day demand in gallons per minute (gpm) provided by City staff, with Average Day assigned a value of 1.0 and Max Day assigned a value of 2.9. The Max Day factor of 2.9 means that the system delivers approximately 2.9 times the average daily demand during a peak day. Therefore, the Average Day factor of 1.0 makes up approximately 34.5% of Max Day ($1.0 / 2.9 = 0.345$). These peaking factors and corresponding allocations provide a means to spread costs incurred as a function of serving Average Day and Max Day proportionately between Delivery and Peaking, respectively.

City of Dixon – 2024 Cost-of-Service Utility Rate Study

Table 19: System Peaking Factors and Distribution Basis

System Peak Analysis				
System Peak	System Demand	Factor	Base	Peaking
	[A]	[B] = A ÷ Average Day	[C] = B ÷ Average Day	[D] = 100% - C
Average Day	1,092 gpm	1.0	100.0%	0.0%
Max Day	3,165 gpm	2.9	34.5%	65.5%

With the distribution basis for Average Day and Max Day identified in Table 19, the operating expenses can be allocated to the cost components. Table 20 summarizes the percent allocation of Operating Expenses to the cost components and corresponding values in dollars to each cost component.

Table 20: Operating Expense Allocation to Cost Components

Operating Expenses	Methodology / Allocation Basis	Cost Components				Total
		Account Services	Meter Capacity	Delivery	Peaking	
Salaries and Benefits	Specific	0.0%	100.0%	0.0%	0.0%	100.0%
Materials and Supplies	Max Day	0.0%	0.0%	34.5%	65.5%	100.0%
Contractual Services	Average Day	0.0%	0.0%	100.0%	0.0%	100.0%
Administration	Specific	100.0%	0.0%	0.0%	0.0%	100.0%
Power and Utilities	Average Day	0.0%	0.0%	100.0%	0.0%	100.0%
Repairs and Maintenance	Max Day	0.0%	0.0%	34.5%	65.5%	100.0%
Central Service Costs	Specific	0.0%	100.0%	0.0%	0.0%	100.0%
Finance Allocation	Specific	100.0%	0.0%	0.0%	0.0%	100.0%
Chromium 6 Ops	Specific	0.0%	0.0%	0.0%	0.0%	100.0%

Operating Expenses	Methodology / Allocation Basis	Account Services	Meter Capacity	Delivery	Peaking	Total
Salaries and Benefits	Specific	\$0	\$666,000	\$0	\$0	\$666,000
Materials and Supplies	Max Day	\$0	\$0	\$172,512	\$327,488	\$500,000
Contractual Services	Average Day	\$0	\$0	\$342,000	\$0	\$342,000
Administration	Specific	\$90,000	\$0	\$0	\$0	\$90,000
Power and Utilities	Average Day	\$0	\$0	\$515,000	\$0	\$515,000
Repairs and Maintenance	Max Day	\$0	\$0	\$35,192	\$66,808	\$102,000
Central Service Costs	Specific	\$0	\$57,000	\$0	\$0	\$57,000
Finance Allocation	Specific	\$236,000	\$0	\$0	\$0	\$236,000
Chromium 6 Ops	Specific	\$0	\$0	\$0	\$0	\$0
Total Allocation (\$)		\$326,000	\$723,000	\$1,064,705	\$394,295	\$2,508,000
<i>Operating Expenses Allocation (%)</i>		<i>13.0%</i>	<i>28.8%</i>	<i>42.5%</i>	<i>15.7%</i>	<i>100.0%</i>

Other Funding includes revenue offsets and adjustments. All items within Other Funding were allocated to the cost components based on the O&M percentages derived in Table 20 to maintain the proportionality in how O&M expenses were allocated to each cost component. Table 21 summarizes the percent allocation of Other Funding to the cost components and corresponding values in dollars to each cost component.

City of Dixon – 2024 Cost-of-Service Utility Rate Study

Table 21: Other Funding Allocation to Cost Components

Other Funding	Methodology / Allocation Basis	Cost Components				Total
		Account Services	Meter Capacity	Delivery	Peaking	
<i>Revenue Offsets</i>						
Charges for Services	O&M Allocation	13.0%	28.8%	42.5%	15.7%	100.0%
Misc. & Non-Operating	O&M Allocation	13.0%	28.8%	42.5%	15.7%	100.0%
<i>Adjustments</i>						
CIP / Reserve Funding	O&M Allocation	13.0%	28.8%	42.5%	15.7%	100.0%
Adjustment for Mid-Year Increase	O&M Allocation	13.0%	28.8%	42.5%	15.7%	100.0%
Other Funding	Methodology / Allocation Basis	Account Services	Meter Capacity	Delivery	Peaking	Total
<i>Revenue Offsets</i>						
Charges for Services	O&M Allocation	(\$11,959)	(\$26,522)	(\$39,056)	(\$14,464)	(\$92,000)
Misc. & Non-Operating	O&M Allocation	(\$5,979)	(\$13,261)	(\$19,528)	(\$7,232)	(\$46,000)
<i>Adjustments</i>						
CIP / Reserve Funding	O&M Allocation	\$20,667	\$45,836	\$67,499	\$24,997	\$159,000
Adjustment for Mid-Year Increase	O&M Allocation	\$8,012	\$17,768	\$26,166	\$9,690	\$61,636
Total Allocation (\$)		\$10,741	\$23,822	\$35,081	\$12,992	\$82,636

Table 22 summarizes the total revenue requirement derived in Table 18 by cost component. As previously mentioned, the proposed debt issuance will occur in FY 2026 and is, therefore, not part of the FY 2025 revenue requirements. However, the debt service amount shown in Table 18 will be allocated based on the O&M percentages shown in Table 20.

Table 22: FY 2025 Cost-of-Service Revenue Requirements

FY 2025 Revenue Requirements					
Revenue Requirement	Account Services	Meter Capacity	Delivery	Peaking	Total
Operating Expenses	\$326,000	\$723,000	\$1,064,705	\$394,295	\$2,508,000
Other Funding	\$10,741	\$23,822	\$35,081	\$12,992	\$82,636
COS Requirements	\$336,741	\$746,822	\$1,099,786	\$407,287	\$2,590,636

Rate Design

Develop Units of Service

Unit rates for each cost component are derived by spreading the corresponding revenue requirements over appropriate units of service (distribution basis). This approach provides a clear connection between costs incurred and the proportionate share attributable to each customer class, corresponding tier, and customer account. When designing rates, the most critical component is to connect costs to the proposed rates, resulting in a rate structure that is cost-based and in compliance with Proposition 218. The previous section summarized costs by expense category and then allocated to cost components based on how each cost is incurred. The next step in designing rates is to allocate each cost component to customers in relation to their use of the system and facilities.

The method of apportionment considers each customer's share of system costs and is reflected by the units of service used to equitably distribute the cost components to each customer account. The distribution basis varies by cost component and includes annual bills (total accounts multiplied by 12 billing periods), Meter Equivalents (MEs), which reflect demand placed on the system based on meter size, total projected water consumption, and usage by tier. Each meter size was assigned an equivalency factor using the flow characteristics of a 3/4" meter, equal to 30 gpm. The City's meter inventory was reviewed, and the specifications of the meters were provided for determining the safe operating yield (in gpm) for each meter size. The safe maximum operating flow capacity for each meter size was divided by the safe operating flow capacity of the 3/4" meter (30 gpm) to determine the equivalent meter ratios identified in Table 23.

The Capacity Ratio represents the potential flow through each meter size compared to the flow through the base 3/4" meter to establish parity between meter sizes. Total MEs are determined by multiplying the number of meters by the Capacity Ratio and then multiplying the result by the billing periods in a year (12 billing periods). Table 23 summarizes the annual units of service related to Total Accounts (Annual Bills) and MEs.

Table 23: Accounts and Meter Equivalents

Annual Fixed Units of Service					
	Meter Size	AWWA Capacity (gpm)	Capacity Ratio	Accounts	3/4" Meter Equivalents
Line #		[A]	[B] = A ÷ 30	[C]	[D] = B x C
1	3/4"	30	1.00	3,520	3,520
2	1"	50	1.67	104	173
3	1 1/2"	100	3.33	59	197
4	2"	160	5.33	71	379
5	3"	350	11.67	6	70
6	4"	630	21.00	6	126
7	6"	1,300	43.33	2	87
8	Total			3,768	4,551
9	Annual Units (Line 8 x 12 Billing Periods)			45,216	54,616

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Total usage by customer class and tier must be known to derive the units of service for allocating variable costs. As part of this rate study and cost-of-service, Single-Family residential tier widths have been revised. The revised Tier 1 allotment for Single-Family customers will be based on the water efficiency standard of the State of California, as amended by Senate Bill 1157 (SB1157). This efficiency standard was calculated by multiplying 47 gallons per capita per day (gpcd) by the average people per household (pph) and then multiplying by the number of days in the average billing cycle as shown in Table 24. Single-Family Tier 2 is based on the peak month (August) average usage per account equal to 21 ccf, and Tier 3 captures all remaining usage over Tier 2. Multi-Family residential customers rate structure will be revised to a two-tiered rate structure instead of a uniform rate. Tier 1 will be based on the efficiency standards similar to Single-Family. Table 25 provides the projected usage for FY 2025, broken out by customer class and tier and the peak month usage.

Table 24: Water Efficiency Standard (ccf)

Water Efficiency Standard	
Efficiency Standard	47 gpcd
× People Per Household	2.87 pph
× Billing Cycle	30 days
Efficient Water Needs	4,051 gallons
Converted to ccf (divided by 748.052)	6.0 ccf

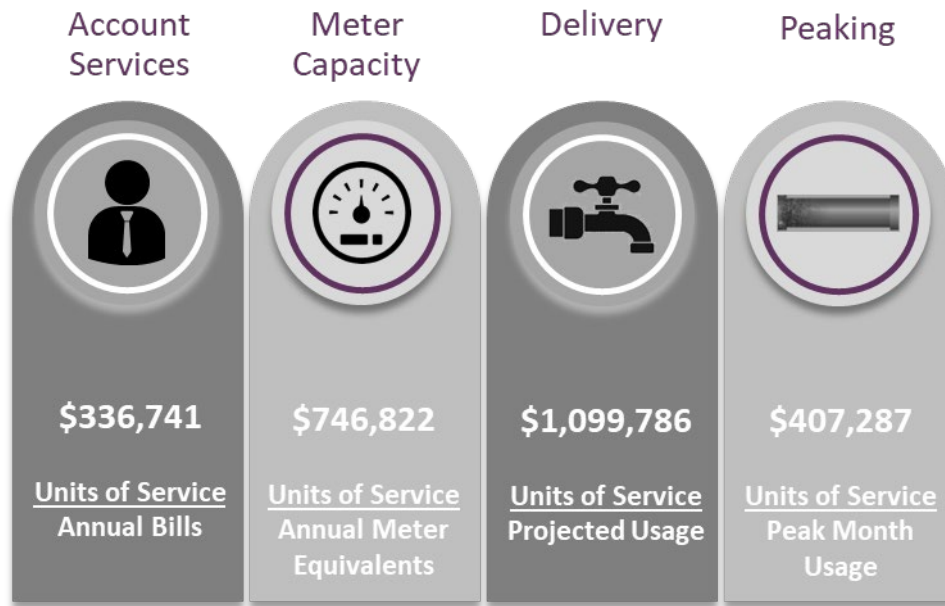
Table 25: Projected Usage and Peak Month Usage by Customer Class and Tier (ccf)

Projected Usage by Customer Class and Tier			
Customer Class & Tier	Tiers (ccf)	Projected Usage [A]	Peak Month Usage [B]
Single-Family			
Tier 1	0 - 6	205,094	17,860
Tier 2	7 - 21	197,335	29,587
Tier 3	>21	61,429	16,199
Subtotal Single-Family		463,859	63,646
Multi-Family			
Tier 1	0 - 6	29,275	2,778
Tier 2	>6	8,073	1,928
Subtotal Multi-Family		37,348	4,706
Non-Residential	Uniform	138,148	17,605
Irrigation	Uniform	137,025	25,737
Total		776,380	111,694

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With the units of service shown in Table 23 and Table 25, we can select the appropriate distribution basis for each cost component. Figure 12 identifies the total revenue requirements by cost component from Table 22 and the corresponding units of service.

Figure 12: Distribution Basis and Units of Service by Cost Component



Using the FY 2025 revenue requirements, the cost-of-service allocates expenses to customers based on the service demands that each place on the system (cost causation). This approach ensures that each customer proportionately shares in the financial obligation of the water utility. For the following unit rate computations for each cost component, unit rates were rounded up to the nearest penny.

Fixed Cost Recovery

Account Services

Each customer incurs Account Services costs regardless of the type of land use, meter size, or total amount of water used. These costs should be spread equally across all accounts. This is achieved by spreading the cost over total Annual Bills. Annual Bills are determined by multiplying the total accounts by the 12 billing periods over the fiscal year (Table 23). Therefore, the revenue requirement for Account Services is apportioned based on the Annual Bills to determine the monthly unit cost-of-service shown in Table 26.

Table 26: FY 2025 Account Services Monthly Unit Rate

Account Services Component - Unit Rate	
Revenue Requirement	\$336,741
÷ Annual Bills	45,216
Monthly Unit Rate	\$7.45

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Meter Capacity

The Meter Capacity Component includes operational costs and a portion of system-wide operations capital and reserve funding. The revenue requirement for Meter Capacity is apportioned based on meter size. Larger sized meters can generate a greater demand on the system from the amount of potential water flow that may pass through the meter. The revenue requirement for Meter Capacity is apportioned to meter size as represented by Annual MEs (Table 23), as shown in Table 27.

Table 27: FY 2025 Meter Capacity Monthly Unit Rate

Meter Capacity Component - Unit Rate	
Revenue Requirement	\$746,822
÷ Annual ME's	54,616
Monthly Unit Rate	\$13.68

Variable Cost Recovery

The remaining cost components are recovered through the variable rates. The proposed variable rate structure includes tiers for residential customers (Single-Family and Multi-Family) and uniform rates for all non-residential accounts (Non-Residential and Irrigation).

Delivery

Delivery costs are incurred based on the total volume of water produced and delivered to customers throughout the year. Therefore, the revenue requirement for Delivery is apportioned based on the projected total water usage to determine the unit cost-of-service, irrespective of tier, as shown in Table 28.

Table 28: FY 2025 Delivery Cost Unit Rate per ccf

Delivery Component Unit Rate	
Revenue Requirement	\$1,099,786
÷ Projected Usage	776,380
Unit Rate (\$/ccf)	\$1.42

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Peaking

Peaking costs are incurred not only based on the total volume of water produced and delivered but also as a function of the peaking characteristics of customer classes and tiers. Therefore, the revenue requirement for Peaking is first allocated to each customer class based on their Peak Month Usage characteristics as shown in Table 29. Table 30 takes the Peaking cost allocated to Single-Family and Multi-Family and further allocates the costs to the corresponding tiers utilizing the Peak Month Usage by tier and derives unit rates for each customer class and tier.

Table 29: FY 2025 Peaking Allocation to Customer Classes

Peaking Allocation to Customer Classes			
Customer Class	Peak Month Usage [A]	% Allocation [B] = A as %	Revenue Requirement [C] = Rev Req x B
Single-Family	63,646	57.0%	\$232,082
Multi-Family	4,706	4.2%	\$17,160
Non-Residential	17,605	15.8%	\$64,196
Irrigation	25,737	23.0%	\$93,849
Total	111,694	100.0%	\$407,287

Table 30: FY 2025 Peaking Unit Rate by Customer Class and Tier per ccf

Peaking Allocation to Customer Class and Tiers						
Customer Class & Tier	Tiers (ccf)	Projected Usage [A]	Peak Month Usage [B]	% Allocation [C] = B as a %	Revenue Requirement [D] = Rev Req x C	Unit Rate [E] = D ÷ A
Single-Family						
Tier 1	0 - 6	205,094	17,860	28.1%	\$65,126	\$0.32
Tier 2	7 - 21	197,335	29,587	46.5%	\$107,888	\$0.55
Tier 3	>21	61,429	16,199	25.5%	\$59,069	\$0.97
Subtotal Single-Family		463,859	63,646	100.0%	\$232,082	
Multi-Family						
Tier 1	0 - 6	29,275	2,778	59.0%	\$10,130	\$0.35
Tier 2	>6	8,073	1,928	41.0%	\$7,030	\$0.88
Subtotal Multi-Family		37,348	4,706	100.0%	\$17,160	
Non-Residential	<i>Uniform</i>	138,148	17,605	100.0%	\$64,196	\$0.47
Irrigation	<i>Uniform</i>	137,025	25,737	100.0%	\$93,849	\$0.69
Total		776,380	111,694		\$407,287	

FY 2025 Cost-of-Service Rates

Proposed FY 2025 Monthly Fixed Charges

The proposed monthly fixed charges for FY 2025 are shown in Table 31, reflecting the combined charges of Account Services and Meter Capacity. Meter Capacity charges increase with the size of the meter in relation to the Capacity Ratios, rounded up to the next whole penny.

Table 31: FY 2025 Monthly Fixed Charges by Meter Size

Proposed Monthly Fixed Charges				
Meter Size	Capacity Ratio	Account Services	Meter Capacity	FY 2025 Proposed Fixed Charge
	[A]	[B] = \$7.45	[C] = \$13.68 x A	[D] = B + C
3/4"	1.00	\$7.45	\$13.68	\$21.13
1"	1.67	\$7.45	\$22.80	\$30.25
1 1/2"	3.33	\$7.45	\$45.60	\$53.05
2"	5.33	\$7.45	\$72.96	\$80.41
3"	11.67	\$7.45	\$159.60	\$167.05
4"	21.00	\$7.45	\$287.28	\$294.73
6"	43.33	\$7.45	\$592.80	\$600.25

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Proposed FY 2025 Variable Rates

The proposed variable rates for FY 2025 are shown in Table 32 for each customer class and tier, reflecting the combined variable rate components of Delivery and Peaking.

Table 32: FY 2025 Variable Rates by Customer Class and Tier (ccf)

Proposed Variable Rates (\$/ccf)				
Customer Class & Tier	Tiers	Delivery	Peaking	FY 2025 Proposed Variable Rates
	<i>(ccf)</i>	[A]	[B]	[C] = A + B
Single-Family				
Tier 1	0 - 6	\$1.42	\$0.32	\$1.74
Tier 2	7 - 21	\$1.42	\$0.55	\$1.97
Tier 3	>21	\$1.42	\$0.97	\$2.39
Multi-Family				
Tier 1	0 - 6	\$1.42	\$0.35	\$1.77
Tier 2	>6	\$1.42	\$0.88	\$2.30
Non-Residential	<i>Uniform</i>	\$1.42	\$0.47	\$1.89
Irrigation	<i>Uniform</i>	\$1.42	\$0.69	\$2.11

Cost-Based Rates

Cost-of-Service and Rate Summary

The comprehensive cost-of-service analysis and rate development meet the requirements of Proposition 218 and identify the cost components that make up the proposed water fixed charges and variable rates. Proposition 218 requires the following conditions:

1. An agency cannot collect revenue beyond what is necessary to provide service.
The long-term financial plan identifies the City's revenue requirements for the water utility, including operating expenses, capital improvement programs, debt, and reserves.
2. Revenues derived by the charge shall not be used for any other purpose other than that for which the charge was imposed.
The City's water utility is analyzed as a separate business enterprise to track revenues and expenses and do not fund services other than those necessary for the provision of water.
3. The amount of the fee may not exceed the proportional cost-of-service for the parcel.
The comprehensive cost-of-service analysis, updated fixed charges, and variable rates reflect each customer's fair share of water costs, respectively. Through this updated analysis, each customer will pay the proportional cost of providing service to that parcel.
4. No charge may be imposed for a service unless that service is actually used or immediately available to the owner of a property.
Only properties that are actually receiving utility service or have service immediately available to them are required to pay the fixed and variable charges described in this study.
5. A written notice of the proposed charge shall be mailed to the record owner of each parcel at least 45 days prior to the public hearing.
Notices were mailed to each affected parcel owner at least 45 days before the July 16, 2024, Public Hearing.

The proposed water 5-year rate schedule (FY 2025 through FY 2029) is shown in the following section. A majority protest did not occur at the July 16th Public Hearing, and the City Council adopted the proposed rates with an effective date of August 1, 2024.

City of Dixon – 2024 Cost-of-Service Utility Rate Study

5-Year Rate Schedules

Table 33 and Table 34 provide the 5-year water rate schedule over the Rate Setting Period for monthly fixed charges and variable rates, respectively. For FY 2026 through FY 2029, the revenue adjustments are applied across the board to the cost-of-service rates derived for FY 2025 to maintain the proportionality of the cost allocations between customers derived within this updated cost-of-service analysis.

Table 33: Proposed Monthly Fixed Charge (FY 2025 – FY 2029)

Proposed Monthly Fixed Charges					
Revenue Adjustment	25.0%	25.0%	25.0%	25.0%	25.0%
Meter Size	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
3/4"	\$21.13	\$26.42	\$33.03	\$41.29	\$51.62
1"	\$30.25	\$37.82	\$47.28	\$59.10	\$73.88
1 1/2"	\$53.05	\$66.32	\$82.90	\$103.63	\$129.54
2"	\$80.41	\$100.52	\$125.65	\$157.07	\$196.34
3"	\$167.05	\$208.82	\$261.03	\$326.29	\$407.87
4"	\$294.73	\$368.42	\$460.53	\$575.67	\$719.59
6"	\$600.25	\$750.32	\$937.90	\$1,172.38	\$1,465.48

Table 34: Proposed Variable Rates (FY 2025 – FY 2029)

Proposed Variable Rates (\$/ccf)						
Revenue Adjustment	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Customer Class	Tiers	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Single-Family						
Tier 1	0-6	\$1.74	\$2.18	\$2.73	\$3.42	\$4.28
Tier 2	7-21	\$1.97	\$2.47	\$3.09	\$3.87	\$4.84
Tier 3	>21	\$2.39	\$2.99	\$3.74	\$4.68	\$5.85
Multi-Family						
Tier 1	0-6	\$1.77	\$2.22	\$2.78	\$3.48	\$4.35
Tier 2	>6	\$2.30	\$2.88	\$3.60	\$4.50	\$5.63
Non-Residential	Uniform	\$1.89	\$2.37	\$2.97	\$3.72	\$4.65
Irrigation	Uniform	\$2.11	\$2.64	\$3.30	\$4.13	\$5.17

City of Dixon – 2024 Cost-of-Service Utility Rate Study

Appendix A – Capital Improvement Plan

Table 35 identifies assumptions used for inflating CIP costs over the Rate Setting Period. The same capital escalation factor shown in Table 9 reflecting the 5-year average of the ENR CCI for the San Francisco area was used to calculate a cumulative inflationary factor. Table 36 shows the capital projects within the selected CIP (**Critical + Near-Term**). The subtotal of the **Critical + Near-Term** CIP costs for each fiscal year were then multiplied by the corresponding cumulative inflationary factor to calculate the total inflated CIP costs.

Table 35: Assumptions for Forecasting CIP

CIP Forecasting					
Key Assumptions	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Capital	5.1%	5.1%	5.1%	5.1%	5.1%
Cumulative Inflationary Factor	105.1%	110.5%	116.2%	122.1%	128.4%

Table 36: Detailed Critical + Near-Term CIP

Critical + Near-Term CIP					
Project Description	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Tier 1 - Critical Projects					
Water Meter Replacement Program	\$0	\$250,000	\$250,000	\$250,000	\$250,000
Watson Ranch Well Improvements	\$205,000	\$0	\$0	\$0	\$0
New Well at Industrial	\$100,000	\$1,000,000	\$2,000,000	\$0	\$0
Arc Flash Study & Labeling	\$25,000	\$0	\$0	\$0	\$0
Parklane Electrical Upgrades	\$0	\$0	\$0	\$150,000	\$200,000
Watson Range Tank Rehab	\$0	\$0	\$0	\$150,000	\$0
School Well Site Upgrades	\$0	\$0	\$0	\$495,000	\$600,000
Urban Water Management Plan	\$50,500	\$0	\$0	\$0	\$0
Storage Tank Management Plan	\$0	\$30,000	\$0	\$0	\$0
Parklane Tank #1 Rehab	\$200,000	\$0	\$0	\$0	\$0
Parklane Tank #2 Rehab	\$0	\$0	\$0	\$200,000	\$0
Water Ops: Cyber Security Implementation	\$50,000	\$150,000	\$0	\$0	\$0
Water Ops: Cyber Security - Telecom Upgrades	\$0	\$500,000	\$0	\$0	\$0
Tier 2 - Near Term Projects					
Generator Replacement Program	\$0	\$150,000	\$150,000	\$0	\$150,000
Fitzgerald Tank Rehab	\$0	\$100,000	\$0	\$0	\$0
Hydropneumatic Tank Rehab	\$30,000	\$0	\$0	\$0	\$0
Watson Ranch Well Replacement	\$0	\$450,000	\$3,200,000	\$0	\$0
Parklane Instrumentation Upgrades	\$55,000	\$0	\$0	\$0	\$0
Valley Glen Well Instrumentation Upgrades	\$35,000	\$0	\$0	\$0	\$0
Valley Gley Hydropneumatic Tank Rehab	\$30,000	\$0	\$0	\$0	\$0
Watson Ranch Instrumentation Upgrades	\$25,000	\$0	\$0	\$0	\$0
Dorset Court Fire Flow Deficiency	\$0	\$0	\$0	\$0	\$150,000
Subtotal Critical + Near-Term CIP	\$805,500	\$2,630,000	\$5,600,000	\$1,245,000	\$1,350,000
Inflated Critical + Near-Term CIP Total Costs	\$846,745	\$2,906,231	\$6,505,035	\$1,520,261	\$1,732,885