WATERWORTH™

# LOS FRESNOS, TX –
# WATERWORTH SCENARIO DEMONSTRATION

# Introduction

Waterworth is a planning tool used by hundreds of communities and districts across North America. Our job is to help water systems like yours plan ahead financially — so you can avoid surprises, avoid emergency rate hikes, and make smart choices about how to invest in your infrastructure.

The goal is to simply show you:

- **Where Los Fresnos Water and Sewer Fund stands financially**
- **Why it is important to address equity amongst customer categories**
- **What could happen if we don’t plan ahead**
- **And how this staff is being proactive— not reactive — to protect the system**

# What Does It Mean to ‘Plan Ahead’?

- **Anticipate Tomorrow’s Needs Today:**
  - O&M costs and new SRF debt rising faster than existing revenue growth
  - Without action, reserves would erode in a few years

- **Avoid Reactive Emergencies:**
  - Waiting until cash hits zero forces larger, sudden rate hikes
  - Proactive adjustment lets staff and customers budget gradually

- **Maintain Strong Financial Posture:**
  - Preserve a 25 percent O&M and Debt cash target
*(three months of operating expenses and yearly debt expense)*
  - Secure low-cost borrowing for future capital needs

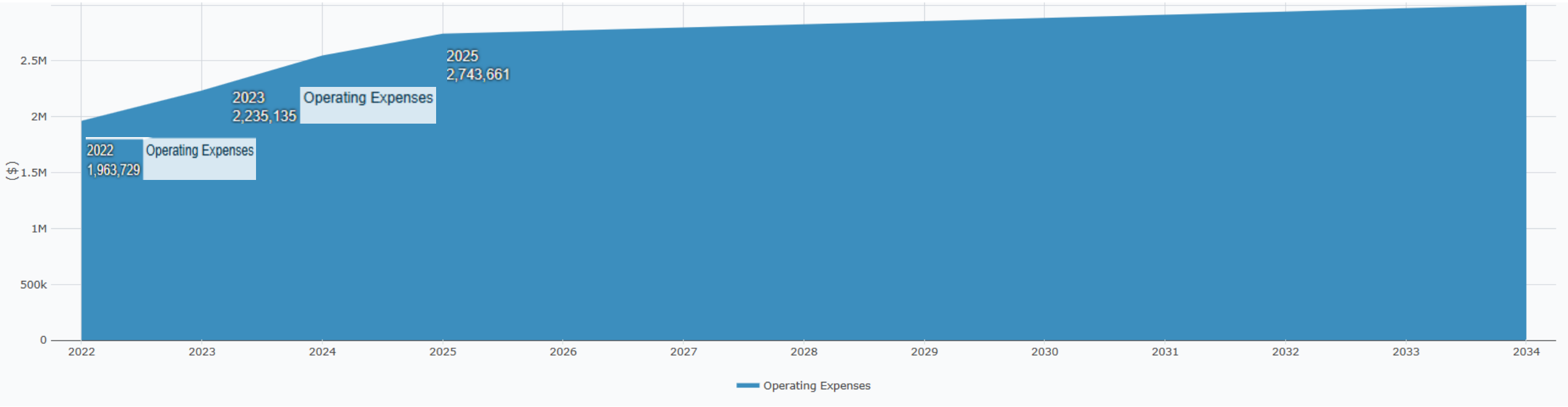
In this presentation, we will review why our combined water and sewer fund is forecast to dip below required reserves if rates remain unchanged, show how different customer groups currently subsidize one another.
Finally, we’ll demonstrate how one change stabilizes the fund—without further rate hikes.

# **Revenue Requirements -**
# The Financial Snapshot Today

# 1 – Operating Expenses

The blue layer represent the Los Fresnos' Water and Sewer Operating Expenses over time.
These are the day-to-day costs of running the system: salaries, power, chemicals, billing, repairs.
They go up steadily every year, just like groceries or gas.

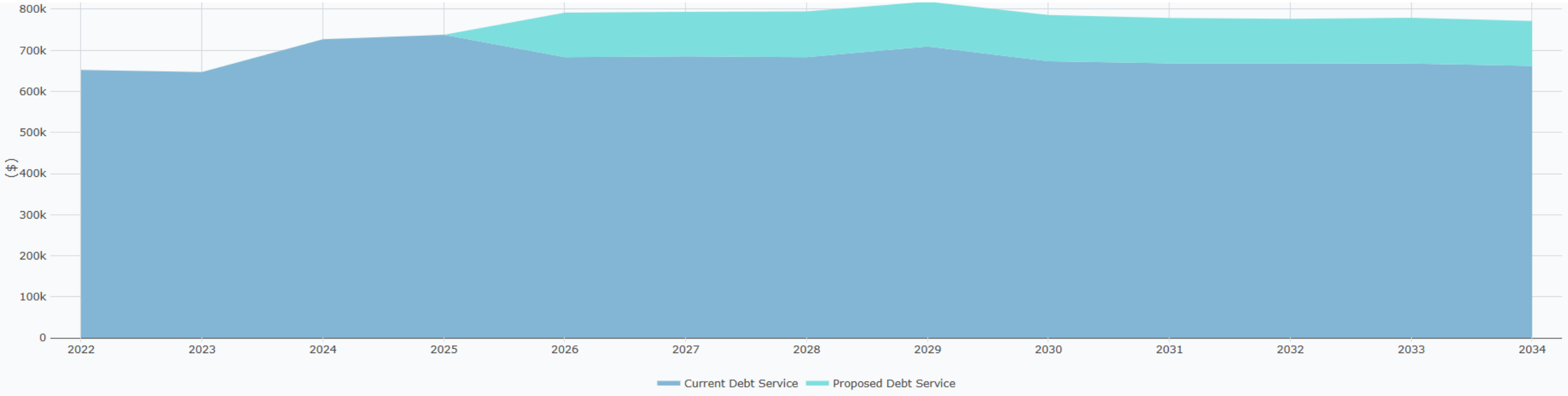
We see a steep growth over time, from the data received from the City. From 2025 on, we're projecting an annual 1% inflation, every year.



# 2 – Debt

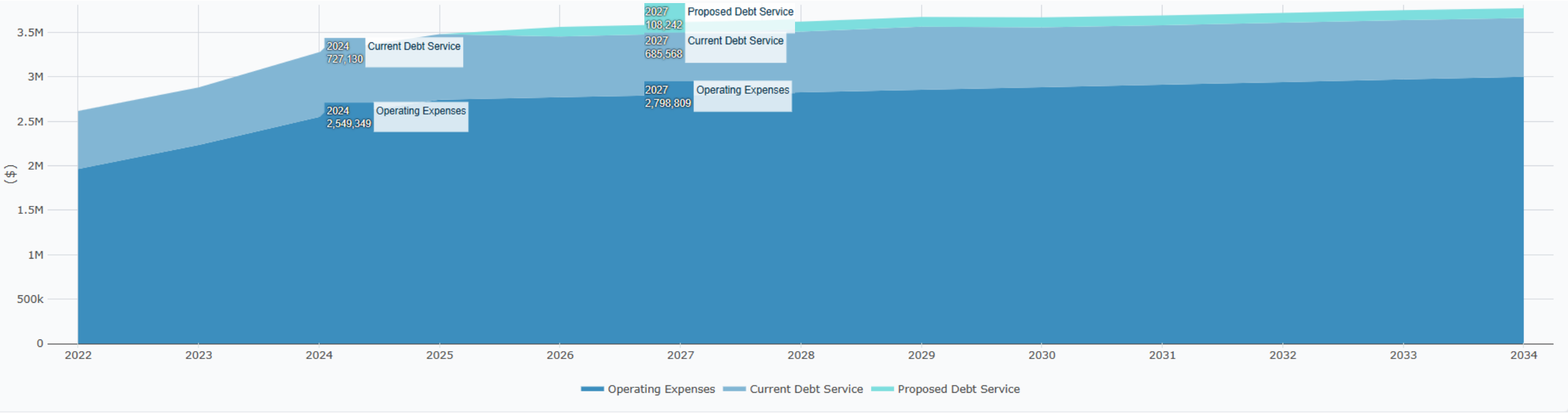
This chart shows the utility's existing debt-service payments with the new CWSRF debt forecast for wastewater infrastructure.
Under the current debt schedule, annual payments run roughly $700 K.
Adding the CWSRF loan increases total debt service by about $100 K per year, bringing combined debt payments to approximately $800 K annually.

- **Existing Debt (Light Blue):** Represents scheduled amortization of all outstanding loans (USDA, TWDB, etc.).
- **Proposed CWSRF Debt (Turquoise):** Illustrates the incremental $100 K annual payment for the new wastewater SRF loan beginning in FY 2026.



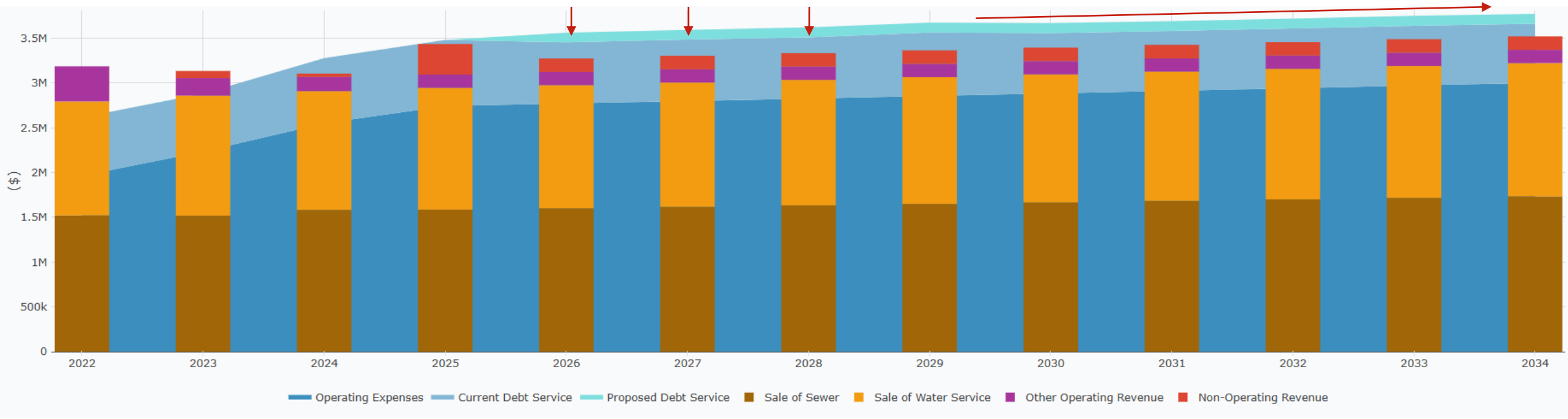
# 3 – Revenue Requirements

Here's the full picture.
Everything in the background: operations, debt; is what the utility is projected to pay for each year.
This becomes your **total revenue requirement.** What the system needs to bring in to stay solvent, stable, and proactive.




Total Revenue Requirements: from $3.27M, in FY 2024, to projected 3.6M, in FY 2027.

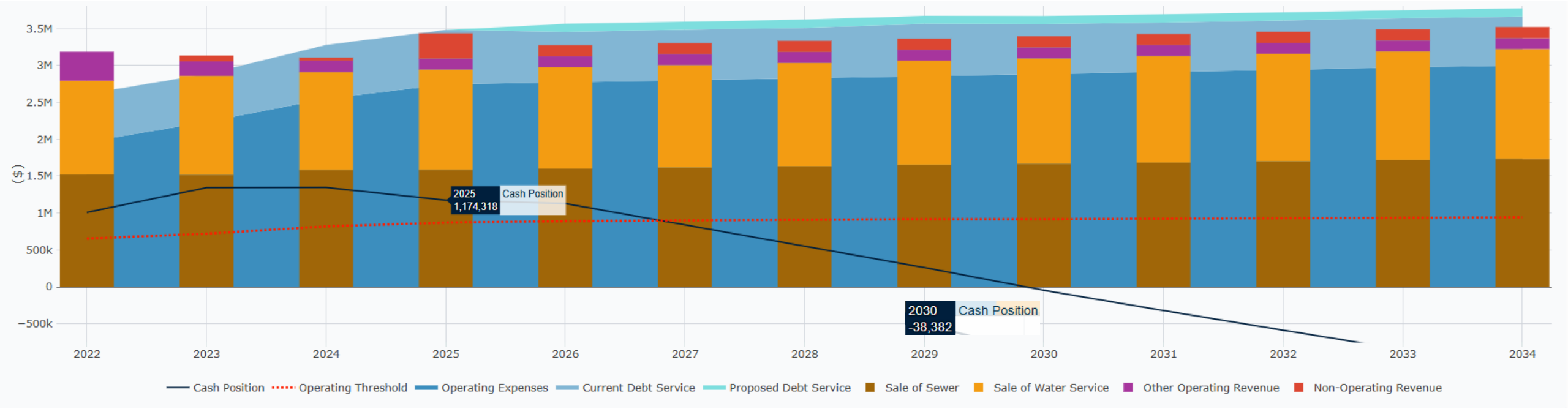
# Status Quo Dashboard – Revenues vs. Expenses




When comparing yearly revenues (vertical bars) with current and projected expenses, under current rates and no revenue increases, Los Fresnos' Water and Sewer revenues are projected to remain marginally sufficient through approximately the end of **2025**.

Beginning **2026**, expenses begin to significantly outpace revenues. This results in annual deficits that gradually erode the system's cash reserves.
See the red arrows demonstrating years when projected expense (background) are taller than revenues (vertical bars).

# Status Quo Full Dashboard




The **black line** represents the system's cash balance over time. From FY 2024 on, it's projected to decline every year.
At the start of 2025, the fund has about $1.17 million in cash; comfortably above the reserve target (25 percent of operating costs).

Beginning in 2026, rising costs and an added debt payment push projected expenses above revenue, dropping cash below its reserve target.
A similar shortfall in 2027 brings the balance down to $0.6 million; well under the $0.90 million it should hold.

Continued projected deficits through 2029 fully deplete the fund (it dips slightly negative that year) and reaches about –$0.3 million in 2030.

# Dashboard - Explanation

The last few slides showed the financial outlook for Los Fresnos' Water and Sewer system under a "do nothing" scenario.

We saw reserves slipping below the target as soon as 2026/2027, and fund balances turning negative by 2030.

That projection made clear that simply "tweaking" overall rates wouldn't be enough; we needed to rethink how each customer category pays.

Because the long-term forecast showed a funding gap emerging by 2026, we turned to the utility's own billing and consumption data to design a solution that isn't just a blanket rate hike but a fair restructuring.

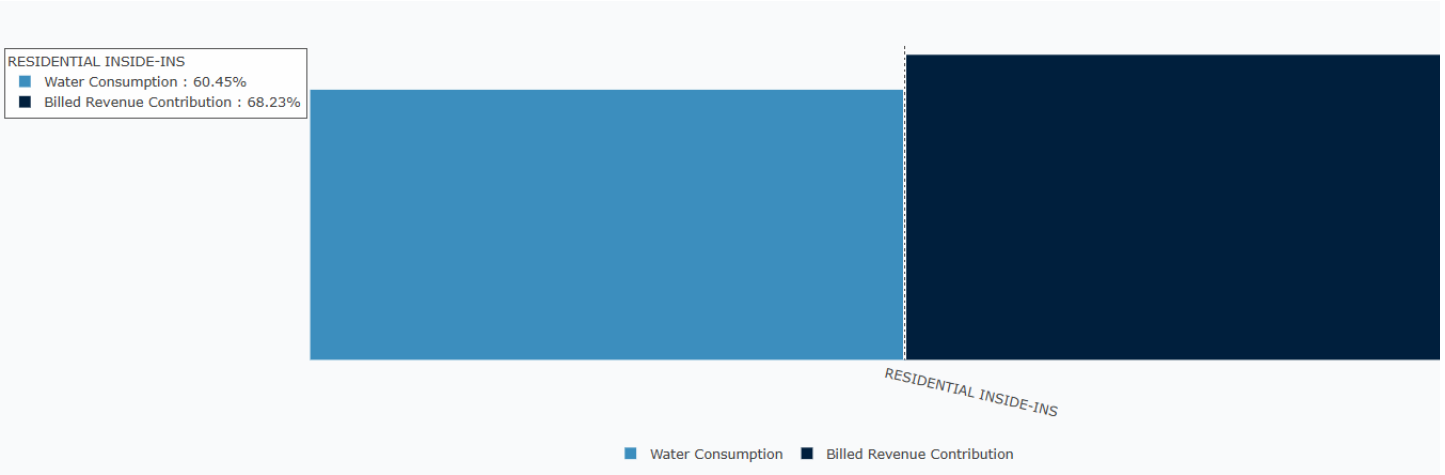
By grouping customers (residential, commercial, multifamily, etc.) and comparing each group's share of total usage against its share of revenue, we discovered that small residential accounts were carrying a disproportionate cost burden, while commercial and multifamily accounts were under-contributing relative to their system impact.

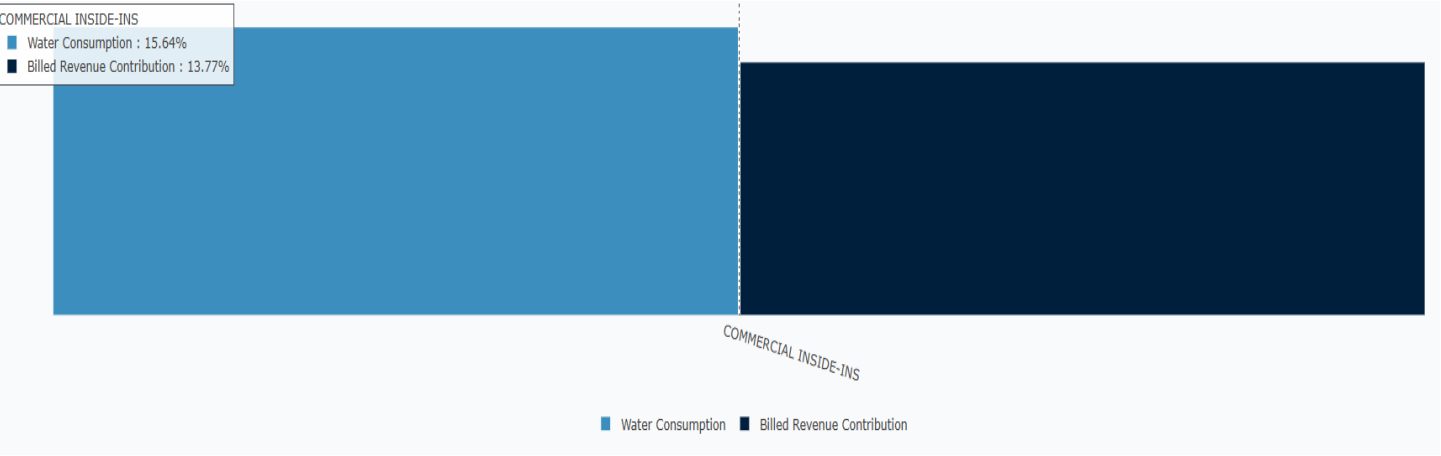
Using those insights, we crafted a new rate structure—adjusting base charges and creating modest volumetric tiers—so higher-use and higher-impact classes pay in line with their usage.

This targeted restructuring fills the roughly $200 K gap in 2026 without overloading low-use or fixed-income households.

**Rate Structures -**
What could be changed to address funding gaps?

# Current Rates: Consumption Vs. Revenues (WATER)




We loaded FY2024 each account's actual volumes and corresponding charges into our model. This let us calculate, for each customer class (residential inside, commercial inside, multifamily, outside, etc.), the percentage of total water consumed versus the percentage of total revenue paid over a year.

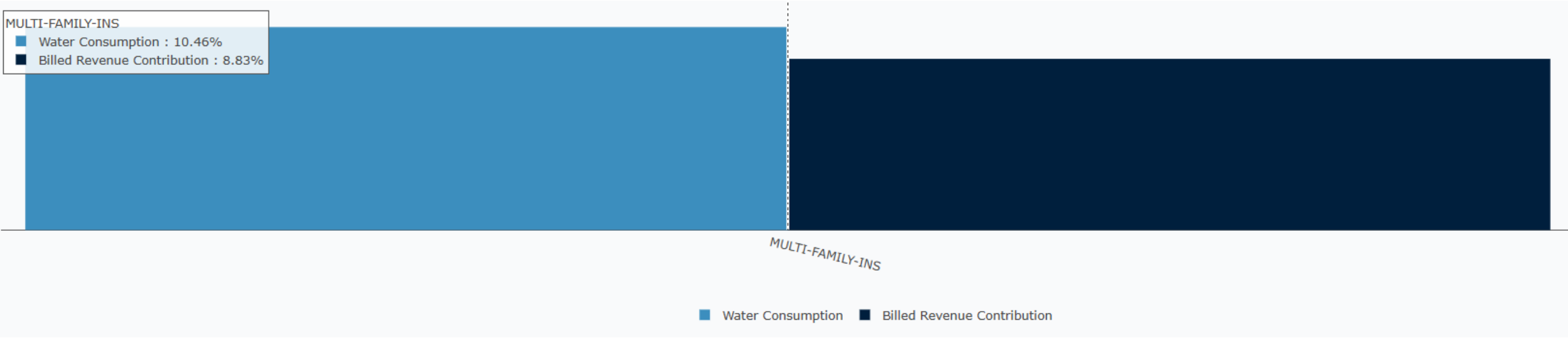
**According to AWWA (American Water Works Association) cost-of-service principles, a class should pay roughly as much revenue as its share of usage; any gap indicates cross-subsidy.**

In the top chart, "Residential Inside" shows that this group consumed 60.5 percent of the water produced in FY 2024 but generated 68.2 percent of total water revenue. **In other words, inside-city residential customers could be effectively subsidizing other groups by covering about 7.7 percent more revenue than their proportional use**.

By contrast, the bottom chart's "Commercial Inside" bar reveals 15.6 percent of consumption but only 13.8 percent of revenue—so commercial users are underpaying by roughly 1.8 percent relative to their actual water use.

**We saw the same pattern when we ran sewer data using each account's winter-average consumption: residential inside paid about 47 percent of revenue while accounting for only 43 percent of usage, whereas commercial inside paid 27 percent versus 30 percent usage volume.**

# Consumption Vs. Revenues (WATER)




This chart shows that in 2024, multifamily-inside customers used 10.5 percent of all water but only paid 8.8 percent of total water revenue—meaning they underpay by about 1.7 percent.

**Across all classes, residential inside was overpaying, commercial inside underpaying, and multifamily also underpaying relative to usage.**

Spotting these gaps lets us tweak base fees or usage tiers so each group's revenue share more closely matches its consumption, filling the funding gap in 2026 without overburdening low-use households.

# Proposed Structure – Water Rates

| Customer & Location | Current (Oct 2019) | Proposed (2025 + Updates) |
|---|---|---|
| **Residential – Inside City** | • Base (0 – 2 kgal/month): $25.09<br>• 2 – 10 kgal: $4.41/kgal<br>• 10 – 20 kgal: $4.56/kgal<br>• 20 – 40 kgal: $4.92/kgal<br>• > 40 kgal: $5.34/kgal | • Base 0–2 kgal: $25.50 (+ $0.41)<br>• 2 – 10 kgal: $4.41/kgal (+ $0)<br>• 10 – 20 kgal: $4.75/kgal (+ $0.19)<br>• 20 – 40 kgal: $5.50/kgal (+ $0.58)<br>• > 40 kgal: $6.25/kgal (+ $0.91) |
| | | |
| **Residential – Outside City** | • Base (0 – 2 kgal/month): $31.36<br>• 2 – 10 kgal: $5.51/kgal<br>• 10 – 20 kgal: $5.71/kgal<br>• 20 – 40 kgal: $6.15/kgal<br>• > 40 kgal: $6.68/kgal | • Base 0–2 kgal: $31.88/kgal<br>• 2 – 10 kgal: $5.51/kgal<br>• 10 – 20 kgal: $5.94/kgal<br>• 20 – 40 kgal: $6.88/kgal<br>• > 40 kgal: $7.81/kgal |
| | | |
| **Commercial & Multi-Family – Inside City** | Same Structure as Inside Residential | • Base 0–2 kgal: $29.33/kgal<br>• 2 – 10 kgal: $5.07/kgal<br>• 10 – 20 kgal: $5.46/kgal<br>• 20 – 40 kgal: $6.33/kgal<br>• > 40 kgal: $7.19/kgal |
| | | |
| **Commercial & Multi-Family – Outside City** | Same Structure as Outside Residential | • Base 0–2 kgal: $36.66/kgal<br>• 2 – 10 kgal: $6.34/kgal<br>• 10 – 20 kgal: $6.83/kgal<br>• 20 – 40 kgal: $7.91/kgal<br>• > 40 kgal: $8.99/kgal |

# Key Takeaways – Water Restructure

We loaded every 2024 consumption record into Waterworth, applied the proposed rates, and then calculated each class's "projected revenue share."

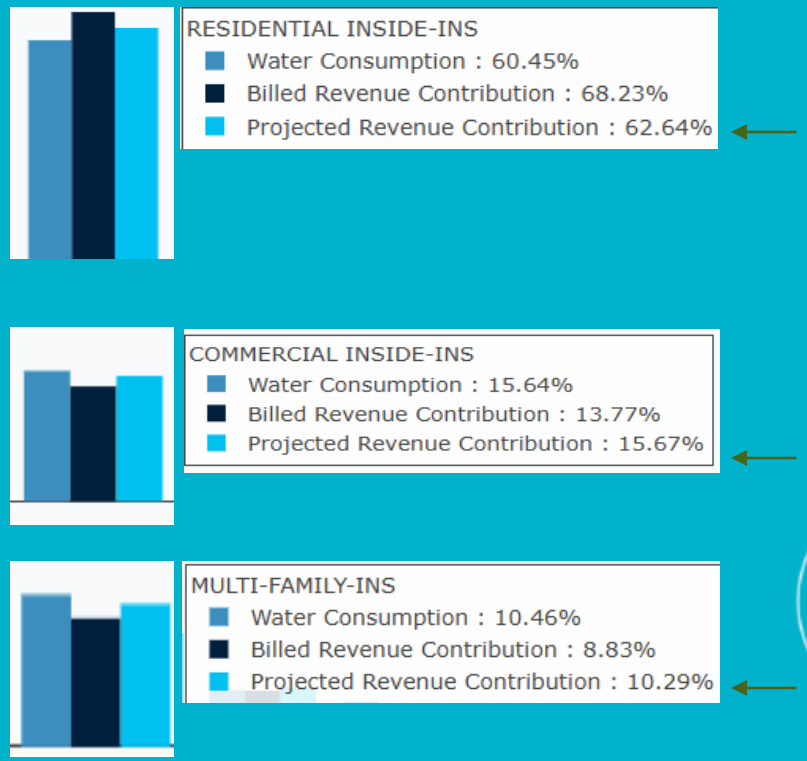
• Those projections were tuned until total water revenues matched the FY 2026 target, ensuring system needs are still met.

**1.Residential Inside (60.45% of Use → 63.87% of Revenue)**
• Under current rates, this class paid 68.23% of revenue—well above its 60.45% of total gallons.
• With only minor base/volumetric tweaks, residential inside slides to 62.64% of revenue, much closer to its consumption stake.

**2.Commercial Inside (15.64% of Use → 15.03% of Revenue)**
• Today, commercial inside covers just 13.77% of water revenue despite using 15.64% of gallons.
• After adding a slightly higher base plus a modest volumetric rise, its contribution becomes 15.69%, nearly matching its 15.67% usage.

**3.Multi-Family Inside (10.46% of Use → 9.81% of Revenue)**
• Previously under-billed at 8.83% of revenue for 10.46% of consumption.
• The new structure pushes it up to 10.29% of revenue—much closer to its 10.46% share.

**4.Always Room to Fine-Tune**
• No structure is perfectly 1:1, but this redesign flips each class's billed share toward its consumption share while still hitting total revenue needs.
• By running 2024's month-by-month volumes through Waterworth, we know exactly how each proposed block affects every customer.



# Proposed Structure – Sewer Rates

| Class & Tier | Current (Oct 2019) | New Proposed |
|---|---|---|
| **Inside City Residential** | • Base (0–2 kgal): $26.59 | • Base (0–2 kgal): $28.25 |
| | • Volumetric (>2 kgal): $4.43/kgal | • Volumetric (2-15 kgal): $4.60/kgal<br>(>15kgal): $5.00/kgal |
| | | |
| **Inside City Commercial & Multi-Family** | • Base (0–2 kgal): $26.59 | • Base (0–2 kgal): $32.49 |
| | • Volumetric (>2 kgal): $4.43/kgal | • 2–15 kgal: $5.29/kgal<br>• >15 kgal: $5.75/kgal |
| | | |
| **EDAP (Indian Lake & Rio Hondo)** | • Base (0–2 kgal): $30.58 | • Base (0–2 kgal): $35.31 |
| | • Volumetric (>2 kgal): $5.09/kgal | • 2–15 kgal: $5.75/kgal<br>• >15 kgal: $6.25/kgal |
| | | |
| **Outside City** | • Base (0–2 kgal): $33.24 | • 35.31 [res]/40.61 [nonres] |
| RES | • Volumetric (>2 kgal): $5.54/kgal | • 2–15 kgal: $5.75/kgal<br>• >15 kgal: $6.25/kgal |
| Nonresidential | | • 2–15 kgal: $6.61/kgal<br>• >15 kgal: $7.19/kgal |

# Key Takeaways – Sewer Restructure

**1.Tiered Structure for Alignment**

By widening the number of tiers (especially for commercial/multi-family), high-volume users now pay proportionally more, to address current inequities, while small residential customers remain relatively protected.

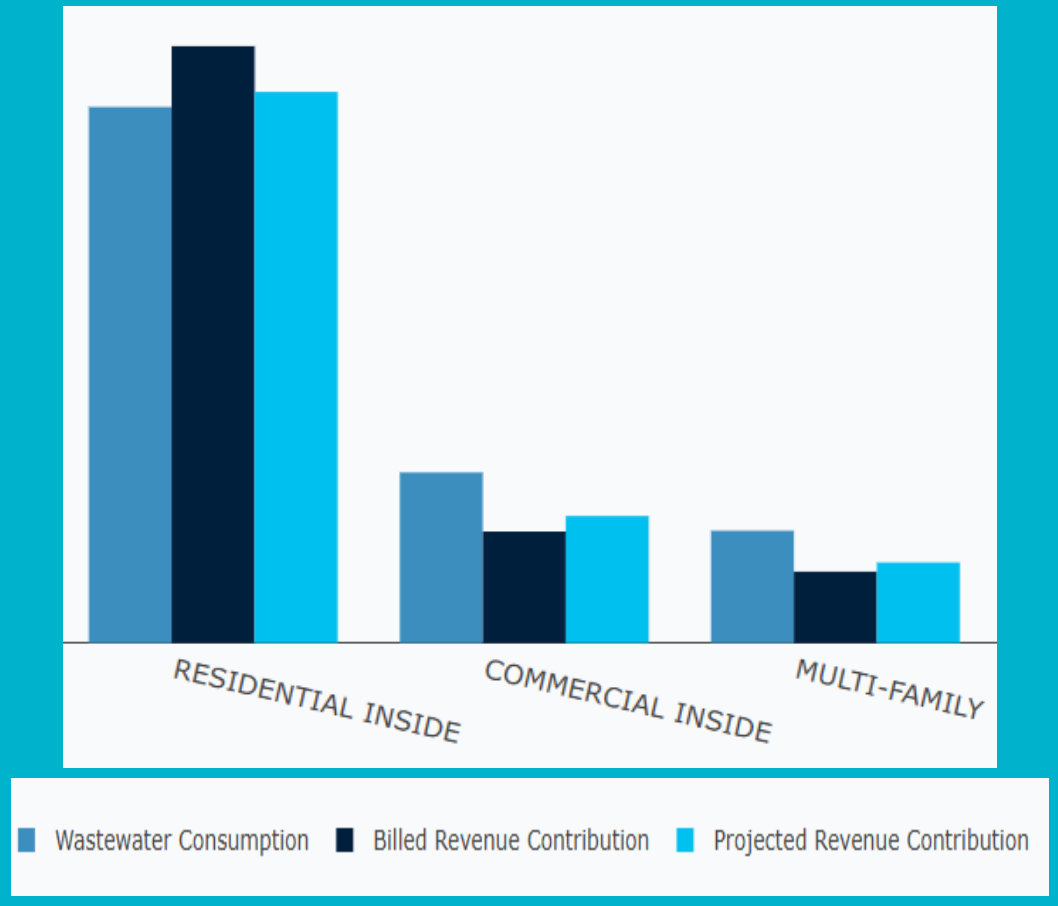
**2.Residential Impact**

1. Most residential customers (0–10 kgal) see very small changes; about $1.66 per bill.
2. Higher-usage residential blocks (>20 kgal) see larger—but still moderated—jumps

**3.Commercial & Multi-Family**

1. Inside customers move from $26.59 base → $32.49 and from $4.43 flat rate to tiered: $5.29–$5.75.
2. Outside customers move from $33.24 base → $35.31, but volumetric goes from $5.54 flat → $5.75–$6.25 tiers.

# Key Takeaways – Sewer Restructure



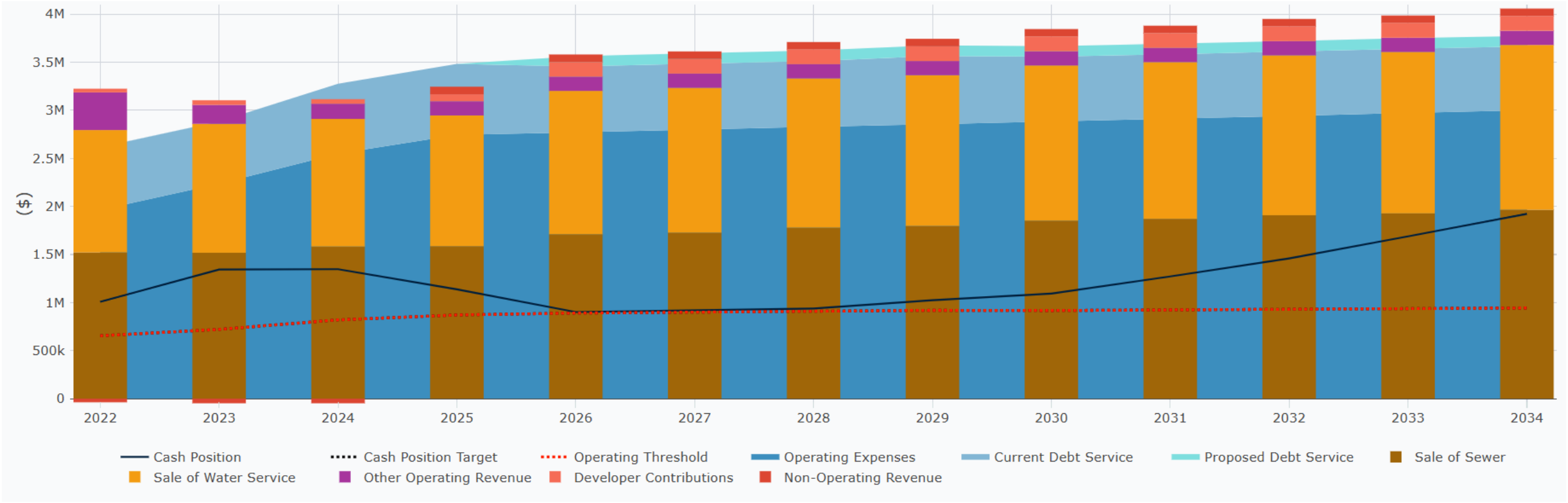

RESIDENTIAL INSIDE
- Wastewater Consumption : 49.58%
- Billed Revenue Contribution : 55.21%
- Projected Revenue Contribution : 50.98%

COMMERCIAL INSIDE
- Wastewater Consumption : 15.77%
- Billed Revenue Contribution : 10.30%
- Projected Revenue Contribution : 11.74%

MULTI-FAMILY
- Wastewater Consumption : 10.38%
- Billed Revenue Contribution : 6.59%
- Projected Revenue Contribution : 7.44%

Proposed Structure

# Dashboard With Rate Updates




This chart shows the utility's cash balance over time once our new water + sewer rates take effect.
Thanks to those revenue tweaks, cash no longer falls toward zero; it stays above the red "operating-reserve" line each year and meets our minimum cash target.
In other words, under this scenario, the utility maintains a healthy cash cushion rather than running a deficit.

# Future Rate Maintenance

| Id | Escalation Rates | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sale of Water Service | | | | | | | | | | | | | | |
| S1 | Population Growth | 0.00% | 0.00% | 0.00% | 0.00% | 1.00% | 1.00% | 1.00% | 1.00% | 1.00% | 1.00% | 1.00% | 1.00% | 1.00% |
| S2 | Decline | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| S3 | Rate Increase | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 2.00% | 0.00% | 2.00% | 0.00% | 1.00% | 0.00% | 1.00% |
| Sale of Sewer | | | | | | | | | | | | | | |
| S4 | Population Growth | 0.00% | 0.00% | 0.00% | 0.00% | 1.00% | 1.00% | 1.00% | 1.00% | 1.00% | 1.00% | 1.00% | 1.00% | 1.00% |
| S5 | Decline | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| S6 | Rate Increase | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 2.00% | 0.00% | 2.00% | 0.00% | 1.00% | 0.00% | 1.00% |
| Sale of Water Service Total | | | | | | | | | | | | | | |
| T | Revenue (5 Rows) | 2,793,740 | 2,858,806 | 2,909,611 | 2,946,000 | 3,204,056 | 3,236,097 | 3,333,827 | 3,367,165 | 3,468,853 | 3,503,542 | 3,573,963 | 3,609,703 | 3,682,258 |

Beginning in 2026, our model assumes that water revenues grow simply with a 1 % annual increase in billed volumes.
In other words, once water's tiered rates take effect, population growth alone keeps the water fund balanced in this scenario.
The sewer fund must also cover a new CWSRF loan.

From 2026 onward, sewer volumes likewise rise 1 % each year.

But we layer in extra rate adjustments in 2028 (a 2 %increase), 2030 (another 2 %), 2032 (1 %), and 2034 (1 %).
Those periodic sewer rate steps, combined with ongoing 1 % volume growth, generate enough additional revenue to cover debt service (without forcing a large increase all at once.)
Important to note: City is advised to monitor inflation closely, and re-evaluate the % increases, after incorporating these new structures, every year.

# Summary and Path Forward

Throughout this analysis, we have demonstrated that under today's rates, our combined water and sewer funds face a growing shortfall.

To address these challenges, we mined 2024's actual billing and consumption data in Waterworth and discovered that residential customers were covering a larger share of revenue than their proportional use, while commercial and multi-family accounts were underpaying.

By carefully adjusting base charges and introducing modest tiered volumetric rates, we realigned each customer group's revenue contribution much closer to its share of total usage, generating additional revenue.

Under these tweaks, cash remains comfortably around our 25 % operating-reserve target each year, restoring financial stability and preserving borrowing capacity for future capital needs.

This plan is proactive, not reactive—by employing efforts to address cost-of-service today, we prevent emergency rate shocks tomorrow.

Moving forward, we will continue to track actual billing versus consumption and inflation, making predictable adjustments as needed.
In doing so, we protect our lowest-use customers, hold fees predictable, and ensure Los Fresnos' water and sewer systems remain financially resilient for the long term.

WATERWORTH™