RESOLUTION 2022-002 CHANGING AND ESTABLISHING CERTAIN RATES AND CHARGES FOR WATER, SEWER, AND PROCESS WATER SERVICE BY TRI GENERAL IMPROVEMENT DISTRICT

WHEREAS, Storey County (the "County") by and through the Board of County Commissioners (the "BCC"), approved on February 1, 2000 pursuant to Resolution 00-50 a service plan for the TRI General Improvement District ("TRIGID" or "District") within the County to supply electric power and space heating to customers. On the same date Ordinance No. 164 was passed by unanimous vote of the Board creating TRIGID.

WHEREAS, the County by and through the BCC approved on July 18, 2000 pursuant to Resolution 00-85 a service plan modification for TRIGID to supply water and sewer services to customers. On the same date Ordinance No. 171 passed by unanimous vote of the BCC to add basic powers of furnishing water service and sewer service.

WHEREAS, the Tahoe-Reno Industrial Center ("TRI Center") is an area planned by the Storey County Master Plan to be a large industrial business park located in the northern portion of the County, in which water and sewer service is currently provided by TRIGID, and process water service is anticipated to be provided by TRIGID in early 2023.

WHEREAS, general improvement districts are authorized under state law, NRS Chapter 318, to supply water and sanitary sewerage facilities to customers, and NRS 318.197 and 318.199 specify criteria to create rates, tolls, charges and services by a general improvement district for water and sewer service.

WHEREAS, A Utility Rate Analysis was completed by Farr West Engineering in 2022, and the Technical Memorandum Preliminary User Rate Analysis dated May 11, 2022 ("Rate Study TM") were made available to customers for review. The Final User Rate Analysis is attached to this Resolution as Exhibit A.

WHEREAS, the Rate Study analyzed revenue and expenditures of the TRIGID water and sewer system, and existing rates and charges of TRIGID to customers, along with anticipated revenue and expenditures of the TRIGID process water system, in order to recommend proposed rates and charges that meet the future level of TRIGID expenditures for the water, sewer, and process water utilities.

WHEREAS, pursuant to NRS 318.199, a 30 days' notice of a public hearing by the TRIGID Board of Trustees (the "Board") on proposed rates and charges for water and sewer service, set for July 7, 2022 at 2:00 p.m. at the Storey County Administrative Center, 1705 Peru Drive, McCarran, Nevada 89434, was published in the Comstock Chronicle on June 3, 2022. Said Notice of Hearing is attached to this Resolution as Exhibit B.

WHEREAS, on or about May 19, 2022, the Notice of Hearing and information on how to obtain the proposed rates was made available to all customers as an insert in the monthly utility billing statements.

WHEREAS, on April 18, 2001, the Board adopted Resolution 2001-04 Establishing Rates, Tolls, Charges And Services For Water And Sewer Service By TRI General Improvement District, which approved the following:

- Rules, Regulations And Rates Of The TRI General Improvement District For Sewer Service

- Rules, Regulations And Rates Of The TRI General Improvement District For Water Service

These documents were updated by Board action on October 7, 2021, and are referred to as the "Sewer Rules" and the "Water Rules", respectively, the provisions of which are incorporated into the Resolution by reference.

WHEREAS, an open public hearing on the adoption of amended rates and charges was held by the Board on July 7, 2022 at 2:00 p.m. within the District at the Storey County Administrative Center, located at 1705 Peru Drive, McCarran, Nevada 89434, and via Zoom. The general public and TRIGID customers were given the opportunity to testify and comment, as well as to submit data, views or arguments orally or in writing at the hearing, whereupon the Board discussed and deliberated the proposed rates and charges.

WHEREAS, after discussion, upon motion made, seconded and approved, the Board made the following findings and passed the following resolutions.

Findings. The Board finds as follows.

1. Pursuant to NRS 318.197 and 318.199 the Board of Trustees of TRI General Improvement District may establish rates and charges for water and sewer service and may set new and changed rates and charges from time to time.
2. Pursuant to NRS 318.199(2) the Board caused the Notice of Hearing to be mailed by regular mail to all users (customers) of TRIGID more than 30 days prior to the scheduled hearing date.
3. Pursuant to NRS 318.199(3) notice was given by publication in a newspaper published in Storey County, the Comstock Chronicle.
4. Pursuant to NRS 318.199(4), all users of water and sewer service in TRIGID were afforded a reasonable opportunity to submit data, views or arguments orally or in writing, both before the hearing set for 2:00 p.m. on July 7, 2022 and at said hearing.
5. The Board, having considered the Rate Study and all other data, views and arguments submitted, finds that in order for TRIGID to meet future obligations to provide water

and sewer service and to pay expenditures of TRIGID to provide said services it is required that rates and charges be changed as proposed in the Rate Study.

6. Sections 4.1 of the Water Rules and the Sewer Rules provide that the Board may raise water and sewer rates when current rates are insufficient to pay all operating costs and the monthly rates proposed in the Rate Study raise rates to a level that are projected to cover all operating costs.

Resolutions: The Board therefore passes the following resolutions.

RESOLVED, that rates and charges specified below are the new and changed rates and charges of TRIGID.

SUMMARY OF PROPOSED WATER RATES

COMMERCIAL

		FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
	Customer	$37.61	$38.70	$45.80	$49.48	$50.92
	Fire	$109.37	$112.54	$133.17	$143.89	$148.06
	Total Fixed	**$146.98**	**$151.24**	**$178.97**	**$193.37**	**$198.98**
Meter Charge	3/4"	$31.02	$31.91	$37.77	$40.80	$41.99
	1"	$51.69	$53.19	$62.94	$68.01	$69.98
	1-1/2"	$103.38	$106.38	$125.89	$136.01	$139.96
	2"	$165.41	$170.21	$201.42	$217.62	$223.93
	3"	$330.83	$340.42	$402.84	$435.25	$447.87
	4"	$516.92	$531.91	$629.43	$680.07	$699.79
	6"	$1,033.84	$1,063.82	$1,258.87	$1,360.14	$1,399.59
	8"	$1,654.14	$1,702.11	$2,014.19	$2,176.23	$2,239.34
	10"	$4,342.11	$4,468.03	$5,287.24	$5,712.60	$5,878.27
	Volume per kgal:	$3.44	$3.54	$4.19	$4.53	$4.66

INDUSTRIAL

		FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
	Customer	$ 37.61	$38.70	$45.80	$ 49.48	$50.92
	Fire	$218.73	$225.08	$266.34	$287.77	$296.12
	Total Fixed	**$256.34**	**$263.78**	**$312.14**	**$337.25**	**$347.03**
Meter Charge	3/4"	$31.02	$31.91	$37.77	$40.80	$41.99
	1"	$51.69	$53.19	$62.94	$68.01	$69.98
	1-1/2"	$103.38	$106.38	$125.89	$136.01	$139.96
	2"	$165.41	$170.21	$201.42	$217.62	$223.93
	3"	$330.83	$340.42	$402.84	$435.25	$447.87
	4"	$516.92	$531.91	$629.43	$680.07	$699.79
	6"	$ 1,033.84	$ 1,063.82	$ 1,258.87	$1,360.14	$1,399.59
	8"	$ 1,654.14	$ 1,702.11	$ 2,014.19	$2,176.23	$2,239.34
	10"	$ 4,342.11	$ 4,468.03	$ 5,287.24	$5,712.60	$5,878.27
	Volume per kgal:	$3.44	$3.54	$4.19	$4.53	$4.66

CONSTRUCTION WATER/HYDRANT METER

	FY 2023	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**
Volume per kgal:	**$3.44**	**$ 3.54**	**$ 4.19**	**$4.53**	**$ 4.66**

IRRIGATION

		FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
	Customer	$37.61	$38.70	$45.80	$49.48	$50.92
	Fire	$ -	$ -	$ -	$ -	$ -
	Total Fixed	**$37.61**	**$38.70**	**$45.80**	**$49.48**	**$50.92**
Meter Charge	3/4"	$31.02	$31.91	$37.77	$40.80	$41.99
	1"	$51.69	$53.19	$62.94	$68.01	$69.98
	1-1/2"	$103.38	$106.38	$125.89	$136.01	$139.96
	2"	$165.41	$170.21	$201.42	$217.62	$223.93
	3"	$330.83	$340.42	$402.84	$435.25	$447.87
	4"	$516.92	$531.91	$629.43	$680.07	$699.79
	6"	$1,033.84	$1,063.82	$1,258.87	$1,360.14	$1,399.59
	8"	$1,654.14	$1,702.11	$2,014.19	$2,176.23	$2,239.34
	10"	$4,342.11	$4,468.03	$5,287.24	$5,712.60	$5,878.27
	Volume per kgal:	$3.44	$3.54	$4.19	$4.53	$4.66

SUMMARY OF PROPOSED SEWER RATES

COMMERCIAL AND INDUSTRIAL

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Base	$ 392.42	$ 403.80	$ 560.94	$ 634.93	$ 653.34
Volume per kgal:	$ 2.37	$ 2.44	$ 3.38	$ 3.83	$ 3.94

HIGH STRENGTH INDUSTRIAL

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Base	$ 392.42	$ 403.80	$ 560.94	$ 634.93	$ 653.34
Volume per kgal:	$ 3.10	$ 3.19	$ 4.43	$ 5.02	$ 5.16

SUMMARY OF PROPOSED INDUSTRIAL DISCHARGE TDS MITIGATION FEE

Industrial Discharge Permittees who violate the Total Dissolved Solids (TDS) limit under the current permit conditions on a 12-month rolling average will be subject to a TDS Mitigation Charge of $106,514, effective January 1, 2024, and billed annually thereafter upon determination of non-compliance, in order to provide a revenue stream for TRIGID to mitigate TDS accumulation in the Asamera Effluent Reservoir.

SUMMARY OF PROPOSED PROCESS WATER RATES

		FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
	Customer	$3,620.54	$3,725.53	$3,833.57	$3,944.75	$4,059.14
Meter Charge	3/4"	$199.60	$205.39	$211.34	$217.47	$223.78
	1"	$332.67	$342.31	$352.24	$362.45	$372.97
	1-1/2"	$665.33	$684.63	$704.48	$724.91	$745.93
	2"	$1,064.53	$1,095.40	$1,127.17	$1,159.86	$1,193.49
	3"	$2,129.06	$2,190.80	$2,254.33	$2,319.71	$2,386.98
	4"	$3,326.65	$3,423.13	$3,522.40	$3,624.55	$3,729.66
	6"	$6,653.31	$6,846.25	$7,044.80	$7,249.09	$7,459.32
	8"	$10,645.29	$10,954.01	$11,271.67	$11,598.55	$11,934.91
	10"	$27,943.89	$28,754.27	$29,588.14	$30,446.20	$31,329.14
	Volume per kgal:	$2.68	$2.76	$2.84	$2.92	$3.01

RESOLVED, that any rates, tolls, charges, services to be performed or products to be furnished which are currently in place other than the new and changed rates and charges established above remain unchanged.

RESOLVED, that the effective date of these resolutions shall be July 7, 2022.

MOTION MADE BY Trustee Mitchell

AND SECONDED BY Trustee Gilman

THOSE VOTING AYE: C. Mitchell, L. Gillman, and J. Carmona

THOSE VOTING NAY: None

TRUSTEES OF THE TRI GENERAL IMPROVEMENT DISTRICT

By: Jay Carmona (Jul 13, 2022 11:03 PDT)

Julian “Jay”Carmona, President

Exhibit A
Rate Study

FARR WEST ENGINEERING

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Utility Rate Study

Tahoe-Reno Industrial General Improvements District

July 2022

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

1.0 EXECUTIVE SUMMARY

Tahoe-Reno Industrial General Improvements District (TRI GID) retained Farr West Engineering (Farr West) to provide an analysis of user rates for the water, sewer, and process water utilities.

The GID serves approximately 205 water customers and 118 sewer customers, all of which are classified as commercial or industrial. The emergence of the unique economy in TRI GID, which consists of large industrial customers with high water demand, has led to concerns about future sustainability. The process water utility, which will begin operations midway through Fiscal Year (FY) 23, will allow the GID to put effluent to beneficial use and will ultimately free up potable water for other uses while reducing capital costs to store the effluent. It is assumed that 4 accounts that are currently served by the water and sewer utilities, will transfer to the process water utility when operations are due to commence. In the long term, the process water utility is a critical component to improve the viability and sustainability of the GID's water resources. In the short term, however, the process water system will reduce the demand for potable water, impacting both water and sewer fund revenues. As a result of these changes, the GID concluded that an evaluation of all user rates should be completed. To address these needs, this study examined existing water and sewer user rates and developed user rates for the new process water utility.

1.1 STUDY GOALS AND OBJECTIVES

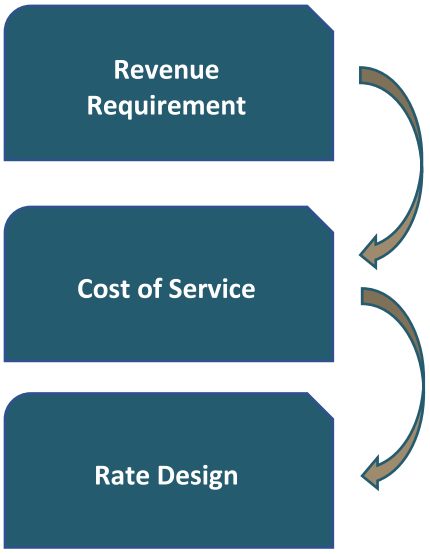
The following goals and objectives were used as guiding principles in preparation for the user rate analysis.

- Examine water and sewer fund user rates over a 5-year study period or through FY 27. All rate model calculations are based on a fiscal year starting on July 1st of each year and ending on June 30th of the following calendar year.
- Develop the new process water utility user rates over a 5-year study period or through FY 27.
- Financial policies shall be met throughout the study period. These policies include:
    - All operating funds shall maintain a minimum Operating Reserve equal to 60 days of utility operating expenses
    - Debt Service Reserve[1] shall accrue at the rate of one-tenth of the annual average loan installment for ten years until a full year of debt service payments has accumulated.
    - Maintain a positive ending cash balance throughout the study period.

1.2 RATE STUDY APPROACH

The successful and sustainable operation of any utility is contingent on sound financial policy and proper utility planning. This study was conducted based on methodologies and principles established by the American Water Works Association (AWWA) in the *Manual of Water Supply Practices M1 – Principles of Water Rates, Fees, and Charges – Manual of Practice No. 27* published by the Water Environment Federation. The rate study process uses three interrelated analyses to address the adequacy and equity of the utility's rates. The process used is summarized below in Figure 1.

[1] Depending on the funding source, the terms of the funding agreement may require this reserve to be restricted to debt payment related activities only.



Compares the revenues of the utility to future expenses to assess the adequacy of the existing rates and determine size of any required rate adjustments

Equitably allocates the revenue requirement between the various customer classes of service

Design rates for each class of service to meet the revenue requirement plus any additional rate design goals or objectives

Figure 1: Process of Rate Making

There are two industry-standard methods used to project the revenue required on an annual basis. These methods are the Cash Basis approach and the Utility Basis approach. The primary difference between the two methods is that the duty of the Cash Basis approach is to recover annual costs, while the Utility Basis approach sets out to earn a fair return on its investment. This rate study utilizes a Cash Basis approach which is most common for public utilities. Figure 2 displays a comparison of the two approaches.

Cash Basis	Utility Basis
+ O&M expenses	+ O&M expenses
+ Taxes, transfer payments	+ Taxes, transfer payments
+ Debt service	+ Depreciation Expense
+ Capital projects	+ Return on rate base
= Total Revenue Requirement	= Total Revenue Requirement
Typical "Cash Basis" Situations • Commonly used by municipal/governmental utilities. • Conforms to most cash budgets. • Revenue in = Costs out. • Duty to recover costs.	**Typical "Utility Basis" Situations** • Commonly used by privately owned utilities. • Earn "fair" return on investment (Duty to investors). • Revenue in = Operating costs (loss of investment).

Figure 2: Revenue Requirement Methods

1.3 SUMMARY OF KEY FINDINGS AND RECOMMENDATIONS

The findings and recommendations presented in this study were developed in coordination with GID staff from February through May 2022. This study has found that the current water and sewer rates do not generate sufficient revenues to maintain financial solvency. For customers of the water fund, it is recommended that the GID implement annual increases ranging from 8 to 18 percent. For the sewer fund, it is recommended that the GID implement an annual increase, ranging between 13 to 39 percent. These increases also include an automatic annual increase equal to the Consumer Price Index for all Urban Consumers (CPI).

The process water fund used the water and sewer funds as a basis for projecting annual expenses, which ultimately developed the revenue requirement. For the process water utility, it is recommended that the GID pass an ordinance that adopts the rates developed in this study and also includes an annual CPI adjustment, perpetually.

2.0 DATA USED AND GENERAL ASSUMPTIONS

The GID provided historical financial reports, budgets, and other financial information regarding the water and sewer utility for FY 17 through FY 22. This information was used to develop long-term financial projections for the utilities. This report presents a 5-year financial plan and proposes rates through FY 27. The assumptions used to evaluate the financial stability of the utility were developed in coordination with or provided by GID staff. Assumptions such as future inflation factors, customer account growth rates, and beginning cash balances are summarized in this section.

2.1 INFLATION

To prepare the 5-year financial plan, inflation factors were applied to future revenue and expense projections over the study period. The inflation factors used, shown in Table 1, were developed in coordination with GID staff and considered commonly used price indices. CPI is assumed to escalate by 2.9% based on average 5-year historical increases that took place between 2017 to 2021. In this study, all rate revenues escalate by CPI on an annual basis. Both labor and benefits cost inflation factors were assumed to escalate by 5 percent. A detailed summary of inflation factors used in this analysis can be found in Appendix B through Appendix D.

Table 1: Inflation Factor Assumptions

Key Factors	Inflation Rate per Year
General (CPI)	2.9%
Construction Costs	3%
Salaries	5%
Benefits	5%
Customer Growth	0%

2.2 CUSTOMER BASE AND GROWTH

The GID only serves commercial and industrial customers. Due to the uniqueness of the customer base, historical customer growth is not a reliable predictor of future development trends. This study projects no growth throughout the study period for all utilities.

2.3 ACCOUNT BALANCES

Based on the GID's financial records, the combined water and sewer fund beginning cash balance in FY 22 was $5.6 million, including approximately $2.8 million for the water, and $2.9 million for the sewer operating funds (Table 2). In FY 23 the water and sewer funds will transfer an equal amount ($750 thousand in total) to the process water fund

Table 2: Beginning FY 22 Cash Balance for Operating Funds.

FY 22	Beginning Cash Balance
Water Operating Fund	$2,770,440
Sewer Operating Fund	$2,877,180

Maintaining a cash balance that allows for variability in annual revenues and expenses is important for any utility. This is best accomplished by adequately funding the reserve(s) identified in the financial policies first in addition to maintaining cash on hand to cover unforeseen expenses. If annual shortfalls are expected or encountered, they should be covered with cash reserves first before tapping into any specific or named reserve (e.g., Operating, Debt Service, etc). Additionally, the financial model used for this analysis also operates according to this order of operations.

In developing the revenue requirement presented in Section 3.0 the following financial policies have been incorporated:

Operating Reserve

Water

The Water Operating Fund shall maintain a minimum reserve balance of at least 90 days of Operating Expenses[2]. This value increased from $295,453 in FY 23 to $329,285 in FY 27.

Sewer

The Sewer Operating Fund shall maintain a minimum reserve balance of at least 90 days of Operating Expenses. This value increased from $325,813 in FY 23 to $384,914 in FY 27.

Process Water

The Process Water Operating Fund shall maintain a minimum reserve balance of at least 90 days of Operating Expenses. This value increased from $184,169 in FY 23 to $335,350 in FY 27.

Debt Reserve

The Debt Service reserve accrues at the rate of one-tenth of the annual average loan installment for ten years until a full year of debt service payments has accumulated. This restricted reserve balance is projected to be $17,883 in FY 26 to $53,650 in FY 27 for water and starting at $18,531 in FY 27 for sewer.

2.4 ASSUMPTIONS ON REVENUE AND EXPENSE DATA

To account for the fact that the process water utility will assume a portion of the operating costs currently borne by the water and sewer utilities, the GID projects a 40/40/20 percent split on fixed expenses (i.e. salaries and benefits) between the water, sewer, and process water utilities, respectively. Services and Supplies expenses and rate revenues for the water and sewer funds were determined based on the FY 22 6-month actuals. A portion of the process water expenses is dedicated to purchasing 500 acre-feet of effluent for an annual fee of $187,192. A technical memorandum, located in Appendix F, documents the assumptions and methodology used to determine this fee. These assumptions established the starting points for making long-term financial projections for the GID's utilities with the new process water system in place.

[2] Daily Operating Expenses are defined as: (Annual O&M Expenses + Annual Non-Operating Expenses) / 365

3.0 DEVELOPMENT OF THE WATER RATE STUDY

3.1 REVENUE REQUIREMENT

The revenue requirement evaluates the relationship between revenue collected from user rates and the costs incurred by serving those customers. This study performs an analysis over the 5-year study period and is used to determine the approximate rate adjustments needed to support budgeted expenses and capital improvement projects for the water system. In the course of developing the revenue requirement, it is assumed that the GID's water utility, as an enterprise fund, is self-sufficient and does not receive financial support from other funds.

3.1.1 Projected Revenues

The GID's historic actuals for FY 17 through FY 22 were reviewed for this study, however changes in system size, water use, and data accuracy over the past decade make the historic data unreliable for future projections. The GID also provided the FY 23 budget[3] which was used as the basis for all calculations moving forward. Table 3 below shows the projected revenues from FY 23 through FY 27.

Table 3: Projected Total Water System Revenues

	FY 23	FY 24	FY 25	FY 26	FY 27
w/o Rate Adjustments	**$1,948,420**	**$1,228,092**	**$1,263,644**	**$1,300,228**	**$1,337,872**
w/ Rate Adjustments	**$2,140,460**	**$1,545,913**	**$1,824,854**	**$1,970,081**	**$2,027,150**

As seen in Table 3, revenues in FY 24 are anticipated to decrease with the process water utility starting operations midway through FY 23.

3.1.2 Projected Expenses

Expenses incurred by the water utility can be classified as operation and maintenance (O&M), Capital Outlay (e.g., CIP projects), or debt service. Similar to the revenue forecast, FY 24 was selected to be the starting point or basis for the projection of system costs. Table 4 below shows the projected expenses from FY 23 through FY 27. The total projected costs for the utility will reach $2.6 million in FY 27

Table 4: Projected Water System Costs

	FY 23	FY 24	FY 25	FY 26	FY 27
O&M	$1,198,226	$1,169,528	$1,221,740	$1,276,969	$1,335,434
CIP Funded by Rates	$50,200	$901,500	$990,375	$829,094	$869,748
Future Debt Service	$-	$-	$-	$178,835	$357,670
Total Expenses	**$1,248,426**	**$2,071,028**	**$2,212,115**	**$2,284,898**	**$2,562,853**

[3] The FY 23 budget accounts for an adjustment in water usage and system operating expenses as a result of the Process Water utility coming on-line in January 2023. For FY 24 projections these 6-month estimates were extrapolated to the full fiscal year.

3.1.2.1 Operating Expenses and Forecast

The GID's O&M expenses consist of ongoing annual costs which can generally be classified as treatment, distribution, and administrative. Over the 5-year study period, the total water O&M expenses are projected to increase from $1.2 million in FY 23 to more than $1.3 million by FY 27.

3.1.2.2 Capital Projects and Funding

The GID developed a 5-year CIP to document and plan for improvement projects that address the needs of the system.

Repair and replacement projects maintain the existing system capacity that is currently required to serve existing customers. As the system ages, regular investments to repair these facilities are critical to maintaining the integrity of the system. Due to the significant cost of the Arsenic Treatment/Blending project, external funding will be needed to remain solvent throughout the study period. User rate revenues and water fund reserves will be used to fund the remainder of repair and replacement projects shown in Table 5. Table 6 breaks down CIP costs by fiscal year.

Table 5: Water Repair and Replacement Capital Projects

Project	Cost
Potable Water Sample Stations	$25,000
Arsenic Treatment/Blending	$5,350,000
Structures, Equipment, and Automotive	$437,200
Chlorine Storage Upgrades at Well Houses	$431,013
Spare Submersible Pump for Potable Wells	$161,630
Interior/Exterior Tank Recoat	$2,586,075

Table 6: 5-year outlook on Repair and Replacement Capital Project Costs

FY 23	FY 24	FY 25	FY 26	FY 27
$150,200	$1,151,500	$5,990,375	$829,094	$869,748

3.1.2.3 Future Debt Service

The water utility does not have any existing debt. This study proposes an external funding source (i.e., loan) for the Arsenic Treatment/Blending project that is scheduled for construction from FY 23 to FY 26. The specific source of this funding is unknown at this time, but it is anticipated that it will be available at an interest rate of 3 percent for a period of 20 years. Cash reserves will fund the remaining project costs that rates are unable to cover. Figure 3 illustrates the timing and funding source for each CIP project.

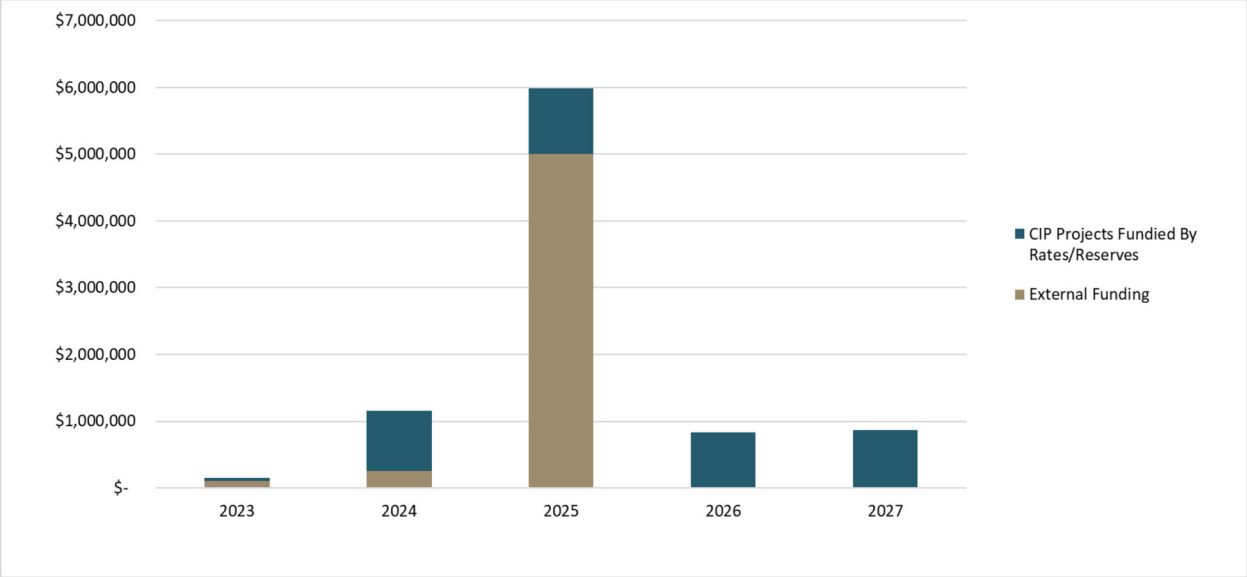


Figure 3: Funding Sources for CIP Projects

3.1.3 Revenue Requirement Analysis

The adequacy of rates was evaluated in each FY using the revenue and expense data that was summarized in the previous sections. The financial model compared rate revenues with annual expenses to identify any shortfalls that may occur during the study period. If shortfalls were identified, then unrestricted cash reserves would fund those shortfalls. If the unrestricted cash reserves were not able to fund the shortfalls, rates were adjusted to maintain the minimum reserve amount required by the GID's financial policies.

3.1.4 Revenue Requirement Results

Figure 4 compares existing and proposed annual revenues with projected annual expenses. The reduction in revenues seen in FY 23 and FY 24 is due to accounts transferring to the process water utility midway through FY 23 and for a full year in FY 24. Based on the analysis, revenue under the existing rates is not sufficient to fund CIP projects starting in FY 24 and falls short of annual debt service payments starting in FY 26. These annual cashflow deficiencies will ultimately violate financial policies in FY 26, therefore, rate adjustments were proposed as a part of this study. Under the proposed rate adjustments, annual revenues are expected to fund all fixed expenses while cash reserves are projected to fund the remaining CIP expense that will not be covered by user rates.

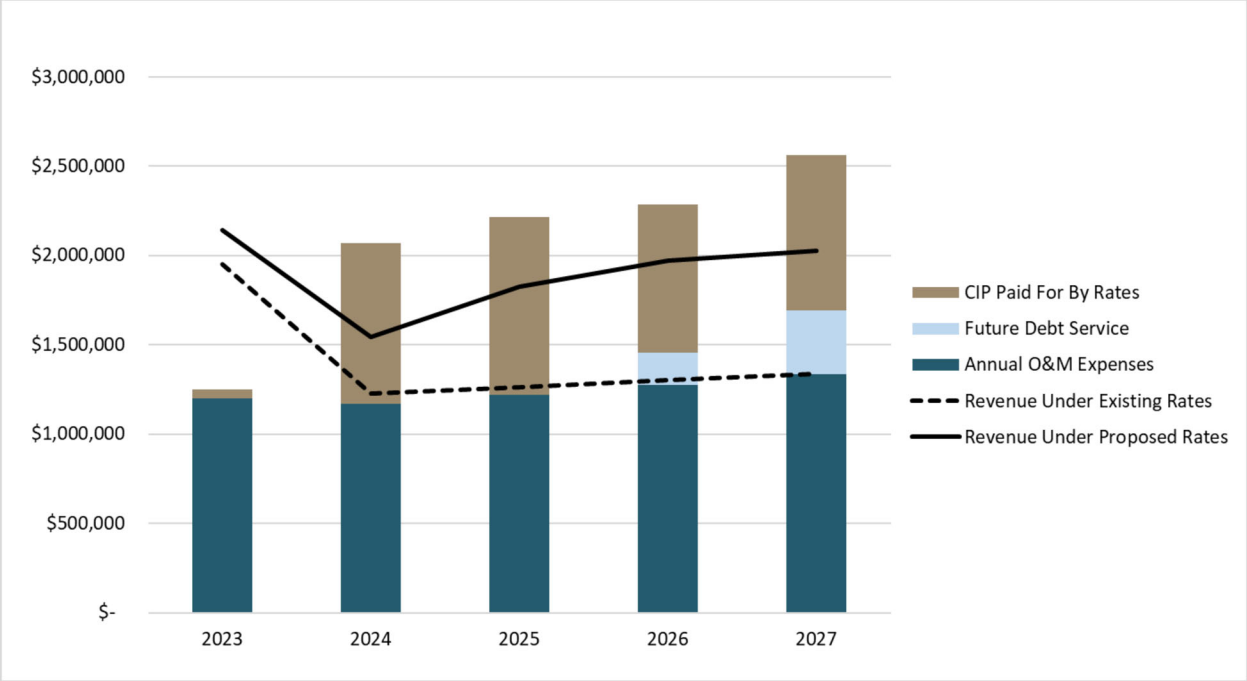


Figure 4: 5-Year Cash Flow Analysis

The proposed revenue adjustments, shown in Table 7, include both manual and automatic annual increases (i.e., CPI) to ensure that the utility remains solvent throughout the study period. The revenues that reflect these increases are depicted as the solid black line in Figure 4 and illustrate the necessary revenue amount required to cover annual expenses.

Table 7: Proposed Water Fund Revenue Adjustment 5-Year Schedule

2023	2024	2025	2026	2027
13.2%	18.3%	18.3%	8.0%	2.9%

3.1.5 Reserve Account Analysis

As seen in Figure 5 and Appendix B, under the proposed rate structure, the water fund's reserves are sufficient to fund any annual cash flow deficiencies throughout the study period while funding the required restricted cash reserve. Although annual cash flow deficiencies diminish the water fund's unrestricted cash reserve, the unrestricted cash amount is projected to be more than 2 times the required restricted cash amount in FY 27. The water fund is anticipated to end the study period with an ending cash balance of $1.3 million.

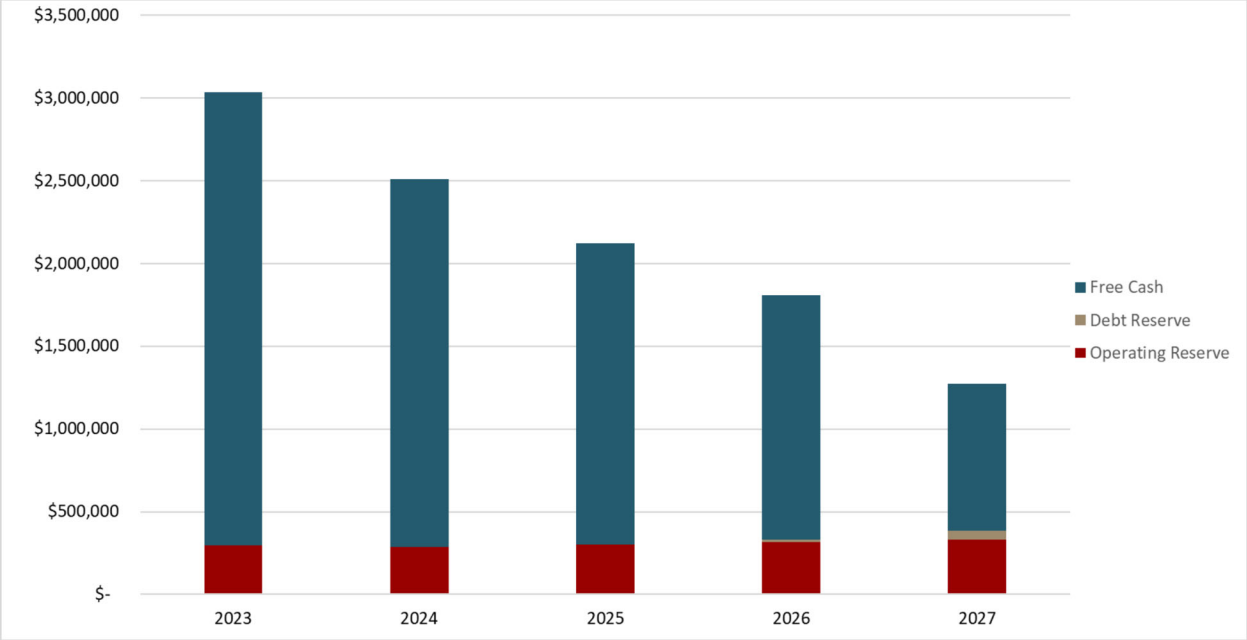


Figure 5: Water Operating Fund Cash Reserves Outlook

It should also be noted that the water fund is anticipated to have a positive net cash flow starting in FY 28.

3.2 WATER COST OF SERVICE ANALYSIS

After rate revenue adjustments have been identified, the next step in the rate-setting process is the Cost of Service (CoS) analysis, which recovers the cost of providing service to the various customer classes in an equitable manner. The CoS analysis begins with the allocation process which allocates the functional costs of the water utility to the appropriate cost component. The elements of service presented in Table 8 through Table 10, are cost categories used to determine how capital costs were allocated. The elements of service used in this analysis are as follows:

- Customer - Fixed costs that are directly proportional to the number of customers served by the utility. These costs are not impacted by water usage and apply to all permanent customers, equally.
- Meter – Fixed costs that are associated with the size or capacity of the water system. These costs are allocated based on the maximum potential water use each customer could demand from the system.
- Base - Variable costs that are associated with providing the volume of water and system capacity to meet base demands consistent with average annual water use. These costs are directly proportional to water use.
- Peak – Variable costs that are associated with providing the volume of water and system capacity to meet peak demands. These costs are directly proportional to water use.
- Fire Protection – Costs associated with providing fire flow in case of an emergency.

3.2.1 Water Plant-in-Service Allocation

The analysis of the GID's existing assets (using design data and engineering judgment) suggests that the majority of the costs required to construct the water utility were driven by meeting peak system demands and/or fire flow requirements. This analysis is referred to as the Plant-in-Service allocation and is used to distribute future depreciation, capital outlay, and debt service costs. The Plant-in-Service used in the study is identified in Table 8.

Table 8: Allocation of Water System Assets

Customer	Meters	Base	Peak	Fire Protection	Total
3%	0%	26%	36%	35%	**100%**

3.2.2 O&M Cost Allocation

Budgeted FY 24 O&M costs were allocated to the elements of service discussed previously to further allocate the cost to operate the water system. The results of this allocation are summarized in Table 9.

Table 9: O&M Allocation Breakdown

Customer	Meters	Base	Peak	Fire Protection	Total
7%	41%	21%	23%	8%	**100%**
$81,868	$478,803	$240,801	$268,253	$99,803	**1,169,528**

Fixed costs, which do not vary based on system capacity or how much water is consumed, were allocated to the customer element of service. The largest portion of annual costs is a function of system capacity and the level of service the utility provides on an annual basis and was allocated proportionally to the volume of water a customer can demand. This volume is based on meter size and accounted for on an equivalent meter ratio basis and is therefore distributed to the meter element of service. Services and supply expenses, such as chemicals and gasoline, were split between the base and peak elements of service since these costs directly correlate with water consumption. Professional services that include non-physical services to help manage and improve the water system were allocated according to the Plant-in-Service distribution shown in Table 8.

3.2.3 Revenue Requirement Allocation

The final step of the allocation process applies the Plant-in-Service and O&M allocations to the FY 24 revenue requirement. In addition to the fixed and variable system costs that set the revenue requirement, this portion of the analysis takes into account budgeted non-rate revenues and net cash flow projections (e.g.; annual shortfall) to offset total system expenses, bringing the revenue requirement to $1.5 million The results of this allocation is presented in Table 10.

Table 10: Revenue Requirement Allocation

Revenue Requirement	Customer	Meters	Base	Peak	Fire Protection	Total
Allocation	5%	23%	23%	29%	20%	**100%**
Distribution	$78,488	$347,357	$351,072	$435,024	$305,204	**$1,517,146**

3.2.4 Cost Distribution to Customer Classes

The next step in the CoS analysis is the customer distribution process. In this process, the revenue requirement allocation was distributed to each customer class based on the number of customers, the number of equivalent meters, and the water use profile for each customer class. This distribution was determined by the customer characteristics shown in Table 11.

Table 11 Water Customer Characteristics

Meter Size	Commercial	Industrial	Hydrant	Irrigation
Projected Number of Customers in FY 24	16	105	32	48
Equivalent Meters[i]	46	690	0	171
Total Base Flow (kgal)	732	59,268	9,346	4,623
Total Peak Flow (kgal)	1,465	118,537	18,691	9,247
Fire Protection Demand (gpm)	2,000	4,000	0	0

i – ¾-inch meter equivalents. See Appendix E for additional detail.

Based on the characteristics above, the revenue requirement allocation breakdown in Table 10 was distributed to each customer class as presented in Table 12.

Table 12: Distribution of Costs to Customer Classes

Customer Classes	Customer Costs:	Meter Costs:	Base Costs:	Peak Costs:	Fire Costs:	Total	% Share
Commercial	$7,431	$17,489	$3,476	$4,307	$21,607	$54,310	**4%**
Industrial	$48,765	$264,380	$281,298	$348,565	$283,596	$1,226,603	**81%**
Hydrant	$-	$-	$44,356	$54,963	$-	$99,318	**7%**
Irrigation	$22,292	$65,489	$21,943	$27,190	$-	$136,914	**9%**
Total	**$78,488**	**$347,357**	**$351,072**	**$435,024**	**$305,204**	**$1,517,146**	**100%**

General observations that facilitated the cost distribution process include the following:

- Commercial customers make up less than 10 percent of the total customer base and consume the least potable water.
- Industrial customers make up more than 60 percent of the total customer base and consume the most potable water. Industrial customers require more fire flow than the commercial customer class.
- Hydrant customers are temporary construction water connections that only pay for their water usage. This customer class does not pay for any fixed costs such as customer, meter, or fire protection charges.
- Irrigation customers are seasonal, but permanent potable water users during the summer months for outdoor use. This customer class also does not require fire protection.

3.3 RATE DESIGN AND PROPOSED WATER RATES

To develop a representative rate structure, this study assessed the financial impacts on the water fund when rates were set according to the CoS approach. Table 13 outlines the proposed user rates for FY 23.

The 5-year rate schedule can be found in Appendix A. Rates in FY 23 are actual, and all future years include an estimated annual CPI increase of 2.9 percent. Actual rate adjustments proposed in FY 24 through 27 may differ slightly should CPI values exceed or trail a 2.9 percent increase.

Table 13: Water Fund Cost of Service Rates in FY 23

		Commercial	Industrial	Hydrant	Irrigation
	Customer	$37.61	$37.61	$-	$37.61
	Fire	$109.37	$218.73	$-	$-
	Total Fixed	**$146.98**	**$256.34**	**$-**	**$37.61**
Meter Charge	3/4"	$31.02	$31.02	$-	$31.02
	1"	$51.69	$51.69	$-	$51.69
	1-1/2"	$103.38	$103.38	$-	$103.38
	2"	$165.41	$165.41	$-	$165.41
	3"	$330.83	$330.83	$-	$330.83
	4"	$516.92	$516.92	$-	$516.92
	6"	$1,033.84	$1,033.84	$-	$1,033.84
	8"	$1,654.14	$1,654.14	$-	$1,654.14
	10"	$4,342.11	$4,342.11	$-	$4,342.11
	Volume per kgal:	$3.44	$3.44	$3.44	$3.44

User rates for four customer classes (commercial, industrial, hydrant, and irrigation) were developed using the key factors as follows:

- **Customer Charge:** The proportional share of expenses that were driven solely by the number of customers in the utility. This charge amounts to $37.61 and is the same for all customer classes. Temporary hydrant customers do not pay for customer costs and are charged a volumetric rate per thousand gallons (kgal).
- **Fire Charge:** This is a fixed cost based on fire flow demand. As outlined in Table 11, commercial customers require less fire flow than industrial customers. As a result, commercial customers pay a lower fire charge than industrial customers. Hydrant and irrigation customers will not be charged for fire protection.
- **Meter Charge:** Larger meter sizes are associated with having a greater water demand potential and consequently, take a greater toll on the system. Therefore, commercial, industrial, and irrigation customers will be charged in proportion to their meter size in accordance with the equivalent meter ratio as defined by AWWA (Appendix E).
- **Volume:** The volume charge is contingent on the total amount of water consumed per kgal, per month.

4.0 DEVELOPMENT OF THE SEWER RATE STUDY

4.1 REVENUE REQUIREMENT

The revenue requirement evaluates the relationship between revenue collected from user fees and the costs incurred by serving those customers. This study performs an analysis over the 5-year study period and is used to determine the approximate rate adjustments needed to support budgeted expenses and capital improvement projects for the sewer system. In the course of developing the revenue requirement, it is assumed that the GID's sewer utility, as an enterprise fund, is self-sufficient and does not receive financial support from other GID funds.

4.1.1 Projected Revenues

The GID's historic actuals for FY 17 through FY 22 were reviewed for this study, however changes in system size, wastewater production, and data accuracy over the past decade make the historic data unreliable for future projections. The GID also provided the FY 23 budget[4] which was used as the basis for all calculations moving forward. Table 14 below shows the projected revenues from FY 23 through FY 27.

Table 14: Projected System Revenues

	FY 23	FY 24	FY 25	FY 26	FY 27
w/o Rate Adjustments	**$1,300,996**	**$810,120**	**$833,569**	**$857,698**	**$882,527**
w/ Rate Adjustments	**$1,690,609**	**$1,367,509**	**$1,898,800**	**$2,148,968**	**$2,211,243**

4.1.2 Projected Expenses

Expenses incurred by the sewer utility can be classified as O&M Capital Outlay (e.g., CIP projects), or debt service. Similar to the revenue forecast, FY 24 was selected to be the starting point for the projection of system costs. Table 15 shows the projected expenses from FY 23 through FY 27.

Table 15: Projected Sewer System Expenses

	FY 23	FY 24	FY 25	FY 26	FY 27
O&M	$1,321,354	$1,376,590	$1,434,808	$1,496,215	$1,561,039
CIP Funded by Rates	$320,200	$89,000	$291,000	$694,750	$298,688
Future Debt Service	$-	$-	$-	$-	$355,163
Total Expenses	**$1,641,554**	**$1,465,590**	**$1,725,808**	**$2,190,965**	**$2,214,889**

[4] The FY 23 budget accounts for an adjustment in water usage and system operating expenses as a result of the Process Water utility coming on-line in January 2023. For FY 24 projections these 6-month estimates were extrapolated to the full fiscal year.

4.1.2.1 Operating Expenses and Forecast

The GID's O&M expenses consist of ongoing annual costs which can generally be classified as collection, sewage treatment, and administrative. Over the 5-year study period, the total sewer O&M expenses are projected to increase from $1.3 million in FY 23 to approximately $1.6 million by FY 27.

4.1.2.2 Capital Projects and Funding

The 5-year sewer CIP includes approximately $12.4 million in repair and replacement projects through FY 27. External funding will be needed to fund the Wastewater Treatment Plant Improvements project. User rates in addition to sewer utility reserves will fund the repair and replacement projects shown in Table 16. Table 17 breaks down CIP costs by fiscal year.

Table 16: Sewer Repair and Replacement Capital Projects

Project	Cost
Waltham Lift Station Improvements	$50,000
Wild Horse Lift Station Improvements	$50,000
Sydney Lift Station Improvements	$50,000
WWTP Screw Press Relocation	$100,000
WWTP Grinders and Headworks Upgrades	$120,000
WWTP Improvements	$10,625,000
Lift Station Backup Generators	$236,438
Air Relief Valve - Effluent Force Main	$200,000
Structures, Equipment, and Automotive (40%)	$903,200

Table 17: 5- Year Outlook on Capital Project Costs

FY 22	FY 23	FY 24	FY 25	FY 26
$320,200	$214,000	$791,000	$10,694,750	$298,688

4.1.2.3 Future Debt Service

The sewer utility does not have any existing debt. This study proposes an external funding source for the Wastewater Treatment Plant Improvements. The specific sources of this funding is unknown at this time, but it is anticipated that it will be available at an interest rate of 3 percent for a period of 20 years. Cash reserves will fund the remaining project costs that rates are unable to cover. Figure 6 illustrates the timing and funding source for each CIP project.

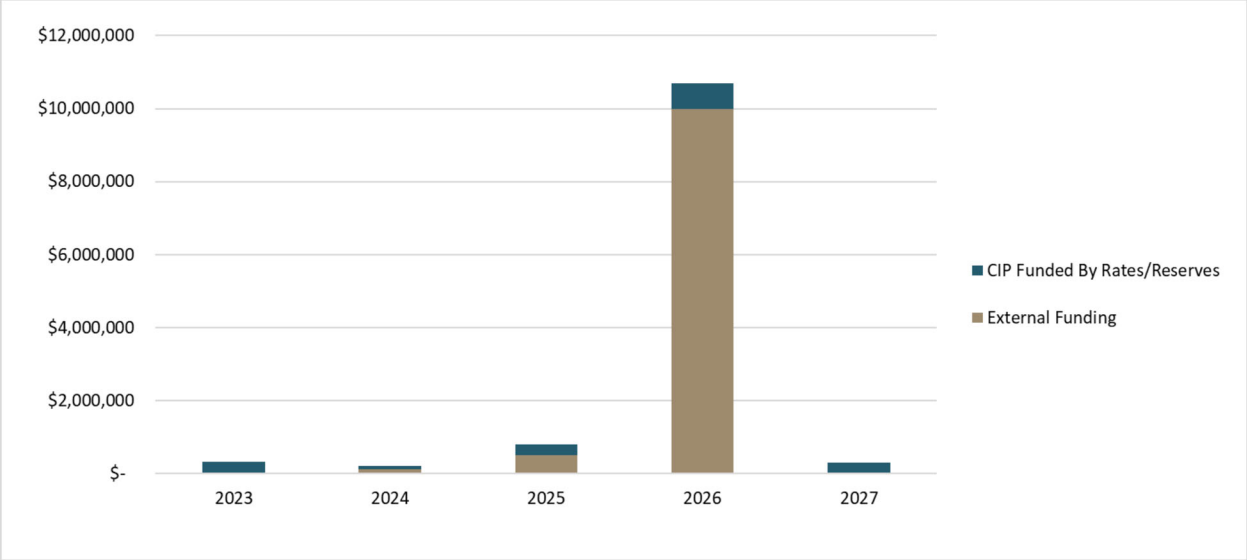


Figure 6: Funding Sources for Sewer CIP Projects

4.1.3 Revenue Requirement Analysis

The adequacy of rates was evaluated in each FY using the revenue and expense data that was summarized in the previous sections. The financial model compared rate revenues with annual expenses to identify any shortfalls that may occur during the study period. If shortfalls were identified, then unrestricted cash reserves would fund those shortfalls. If the unrestricted cash reserves were not able to fund the shortfalls, rates were adjusted to maintain the minimum reserve amount required by the GID's financial policies.

4.1.4 Revenue Requirement Results

Figure 7 compares existing and proposed annual revenues with budgeted annual expenses. The reduction in revenues seen in FY 23 and FY 24 is due to accounts transferring to the process water utility midway through FY 23 and for a full year in FY 24. Based on the analysis, revenues under existing rates are not sufficient to fund operating and CIP expenses. These annual deficiencies ultimately violate financial policies in FY 26 therefore, rate adjustments were proposed as a part of this study. Under the proposed adjustments, annual revenues are expected to fund all fixed expenses and cash reserves are projected to compensate for annual shortfalls to maintain a positive ending cash balance throughout the study period.

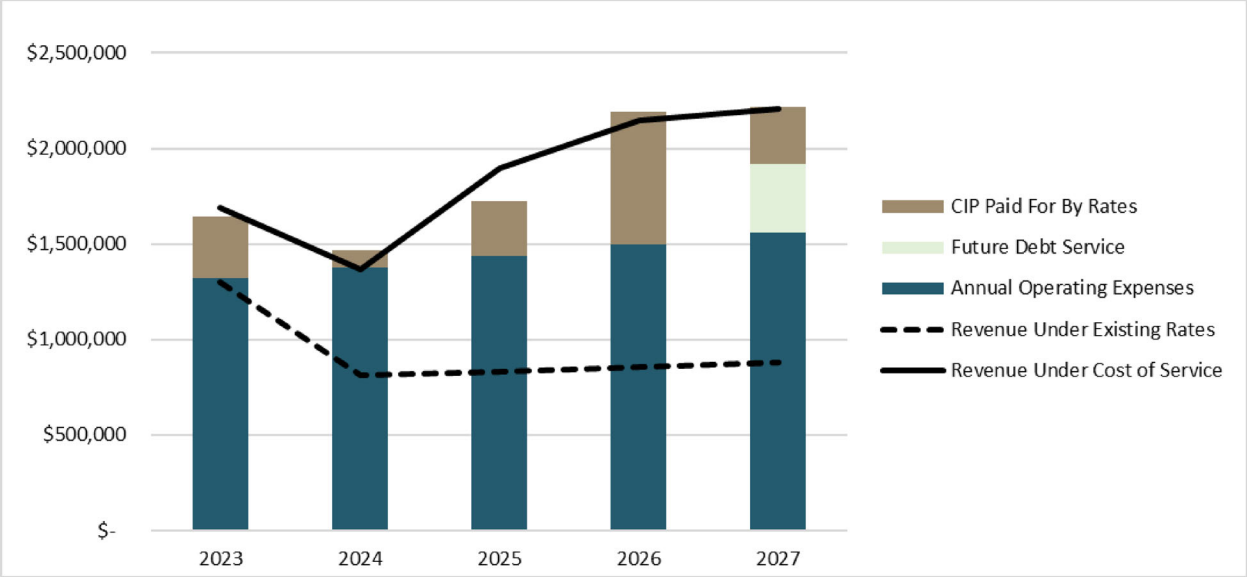


Figure 7: 5-Year Cash Flow Analysis

The proposed revenue adjustments, shown in Table 18, include both manual and automatic annual increases (i.e., CPI) to ensure that the utility remains solvent throughout the study period. The revenues that reflect these increases are depicted as the solid black line in Figure 7 and illustrate the necessary revenue amount required to cover annual expenses.

Table 18: Proposed Sewer Fund Revenue Adjustment 5-Year Schedule

2023	2024	2025	2026	2027
33.8%	33.8%	38.9%	13.2%	2.9%

4.1.5 Reserve Account Analysis

With the proposed rate adjustments, sewer fund revenues are expected to meet financial policies throughout the study period. These projections are based on budgeted operating costs and the GID's 5-year CIP. As outlined in and Appendix C, the sewer fund cash reserves remain stable with an ending cash balance of $3.2 million in FY 27.

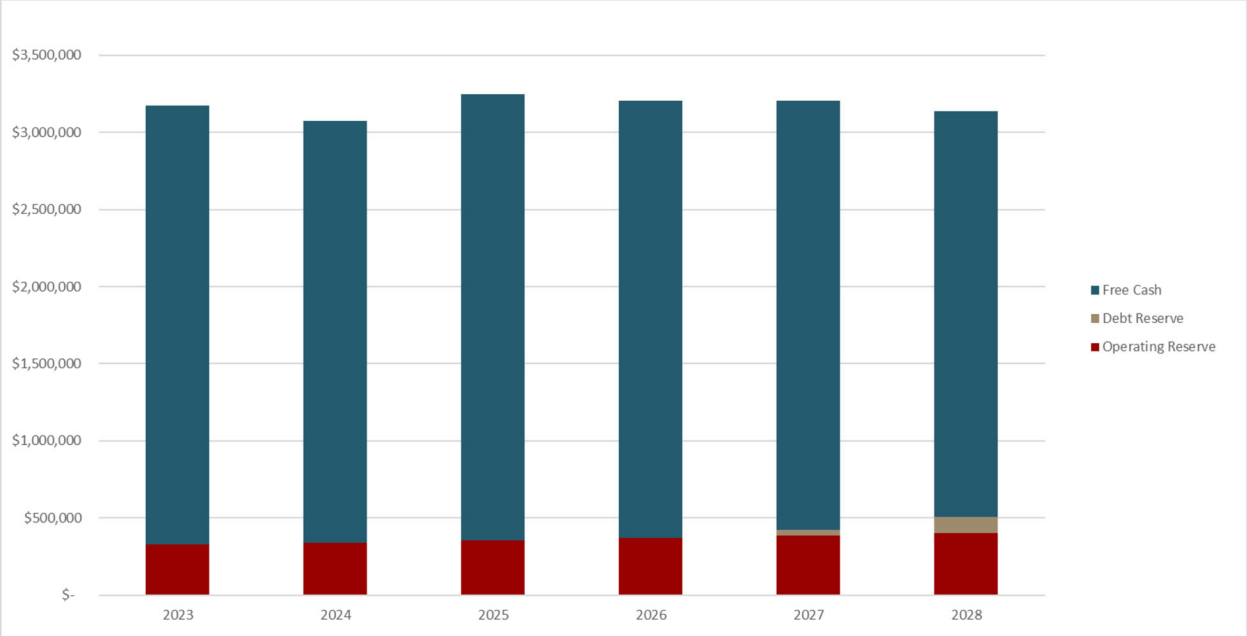


Figure 8: Sewer Operating Fund Reserves

4.2 SEWER COST OF SERVICE ANALYSIS

After rate revenue adjustments have been identified, the next step in the rate-setting process is the CoS analysis which assigns the costs of the sewer utility to the appropriate element of service. The elements of service presented in Table 19 through Table 21 are cost categories used to determine how capital costs were allocated. These elements of service used in this analysis are defined as follows

- Customer - Fixed costs that are directly proportional to the number of customers served by the utility. These costs are not impacted by sewer production and apply to all customers, equally.
- Strength – Variable costs that are proportional to the user's wastewater loading characteristics for treatment purposes. The characteristics evaluated in this study include the following:
    - Biological Chemical Demand (BOD)
    - Total Suspended Solids (TSS)
    - Total Kjeldahl Ntrogen (TKN)
- Flow – Variable costs that are associated with collecting wastewater. These costs are directly proportional to the amount of wastewater produced.

4.2.1 Sewer Plant-in-Service Allocation

An analysis of the GID's existing assets (using design data and engineering judgment) suggests that a majority of the cost to construct the sewer utility was driven by the collection system flow capacity. The Plant-in-Service allocation is used to distribute future depreciation, capital outlay, and debt service costs. The Plant-in-Service allocation is identified in Table 19.

Table 19: Allocation of the Existing Sewer System

Customer	BOD	TSS	TKN	Flow	Total
4%	6%	6%	6%	78%	**100%**

4.2.2 O&M Cost Allocation

Budgeted FY 24 O&M Costs were allocated to the elements of service discussed previously to further allocate the cost to operate the sewer system. The results of the percent breakdown are summarized in Table 20.

Table 20: O&M Allocation Breakdown

Customer	BOD	TSS	TKN	Flow	Total
44%	9%	9%	9%	29%	**100%**
$610,806	$121,352	$121,352	$121,352	$401,729	**$1,376,590**

Fixed costs, which do not vary based on how much wastewater is produced, were allocated to the customer element of service. O&M services and supplies expenses, such as chemicals and gasoline, were split between the BOD, TSS, TKN, and flow elements of service since these costs directly correlate with wastewater strength and flow. Professional services were allocated according to the Plant-in-Service distribution shown in Table 19.

4.2.3 Revenue Requirement Allocation

The final step of the allocation process applied the Plant-in-Service and O&M allocation to develop the FY 24 revenue requirement. In addition to the fixed and variable costs that make up the revenue requirement, this portion of the analysis took into account budgeted non-rate revenues and net cash flow projections to offset budgeted expenses, bringing the revenue requirement to $1.36 million. The result of the revenue requirement allocation is presented in Table 21.

Table 21: Revenue Requirement Allocation

Revenue Requirement	Customer	BOD	TSS	TKN	Flow	Total
Allocation	42%	9%	9%	9%	31%	**100%**
Distribution	$571,782	$118,146	$118,146	$118,146	$438,982	**$1,365,201**

4.2.4 Cost Distribution to Customer Classes

The next step in the CoS analysis is the customer distribution process. In this process, the revenue requirement allocation was further distributed to each customer class based on the number of customers and wastewater characteristics associated with each customer class. These demands were determined by customer characteristics shown in Table 22.

Table 22: Sewer Customer Characteristics

		Commercial	Industrial	High Strength Industrial
	Customer Numbers in FY 24	17	96	5
	Flow (kgal)	9,467	222,750	237,193
Strength	BOD (mg/l)	240	240	+240
	TSS (mg/l)	240	240	+240
	TKN (mg/l)	40	40	+40

Based on the characteristics above, the revenue requirement allocation breakdown in Table 21 was distributed to customer classes as presented in Table 23.

Table 23: Distribution of Costs to Customer Classes

Customer Classes	Customer	BOD	TSS	TKN	Flow	% Share
Commercial	$82,375	$1,583	$1,605	$1,794	$8,853	**7%**
Industrial	$465,178	$37,244	$37,773	$42,203	$208,311	**58%**
High Strength	$24,228	$79,319	$78,768	$74,149	$221,818	**35%**
Total	$571,782	$118,146	$118,146	$118,146	$438,982	**100%**

General observations that facilitated the cost distribution process include the following:

- **Commercial** customers include service-based industries, such as restaurants and gas stations. These customers make up 14 percent of the customer base and produce the least amount of wastewater flows.
- **Industrial** customers include any customer involved in manufacturing goods. The number of industrial customers makes up 82 percent of the customer base and produces less wastewater flows than the high strength customers.
- **High Strength** customers include any customer that exceeds the discharge limit for one or more of the following:
    - BOD: 240 mg/l
    - TSS: 240 mg/l
    - TKN: 40 mg/l

  High strength customers make up 4 percent of the customer base and produce the most wastewater.

4.3 RATE DESIGN AND PROPOSED SEWER RATES

To develop a representative rate structure, this study assessed the financial impacts on the sewer fund when rates were set according to a standard CoS approach. Table 24 outlines the proposed rates for FY 23. The 5-year rate schedule is available in Appendix A. Rates in FY 23 are actual, and all future years

include an estimated annual CPI increase of 2.9 percent. Actual rate adjustments in years FY 24 through 27 may differ slightly should CPI values exceed or trail a 2.9 percent increase.

Table 24: Sewer Fund Cost of Service Rates in FY 23

Customer Class	Commercial	Industrial	High Strength
Fixed Base	$392.42	$392.42	$392.42
Volume per kgal	$2.37	$2.37	$3.38
TDS Mitigation Charge*	$106,514		

*Applies to customers that discharge more than 500 mg/l of TDS.

User rates for three customer classes (commercial, industrial, and high strength industrial) were developed using the key factors as follows:

- **Fixed Base:** The proportional share of expenses that were driven by the number of customers in the utility. This charge amounts to $392.42 and is the same for all customer classes.
- **Volume:** The analysis determined that commercial and industrial customers remained below the maximum limit of BOD, TSS, and TKN, while the high strength customers exceeded one or more of those limits. As a result, this study proposes to charge high strength customers a higher volume charge per kgal than commercial or industrial customers.
- **TDS Mitigation Charge:** While the GID is equipped to treat concentrations of BOD, TSS, and TKN, there is currently no infrastructure in place to adequately treat levels of TDS that exceed the effluent limits of 500 mg/l. Consequently, high concentrations of TDS, that exceed the maximum limit, cause operational issues within the wastewater treatment facility. To address these issues, the proposed mitigation charge, which was calculated based on 1 percent of the estimated total cost to construct a reverse osmosis plant to treat TDS, shall be implemented to encourage customers to reduce levels of TDS before discharging into the GID's system. This charge will be applied at the end of each fiscal year.

5.0 DEVELOPMENT OF THE PROCESS WATER RATE STUDY

5.1 REVENUE REQUIREMENT

Since the process water system is a new utility, several assumptions were made in coordination with the GID regarding projected revenues and expenses. The process water admin and billing expenses were derived from the 40/40/20 percent split discussed in Section 2.4, while services and supplies expenses were estimated as a function of sewer expenses. Revenue and expense data will be closely monitored and finely tuned throughout the study period.

5.1.1 Projected Revenues

Table 25 summarizes the projected revenues from FY 23 through FY 27. FY 24, the process water utility's first full year of operations, was chosen to be the starting point for future revenue projections. Considering the inflationary factors (i.e., CPI) described in Section 2.1, total projected revenues will increase to approximately $1.5 million in FY 27.

Table 25: Projected Process Water System Revenues

FY 23	FY 24	FY 25	FY 26	FY 27
$673,057	$1,385,152	$1,425,322	$1,466,656	$1,509,189

5.1.2 Projected Expenses

Expenses incurred by the process water utility can be classified as O&M and capital outlay. Similar to the revenue forecast, FY 24 was selected to be the starting point or basis for the projection of system costs. Table 26 below shows the projected expenses from FY 23 through FY 27. The total projected costs for the utility will reach $1.4 million in FY 27.

Table 26: Projected Process Water System Costs

	FY 23	FY 24	FY 25	FY 26	FY 27
O&M	$746,906	$1,315,125	$1,355,178	$1,397,143	$1,441,143
CIP Funded by Rates	$37,600	$7,000	$108,000	$8,000	$8,000
Total Expenses	**$784,506**	**$1,322,125**	**$1,463,178**	**$1,405,143**	**$1,449,143**

5.1.2.1 Operating Expenses and Forecast

The GID's O&M expenses consist of ongoing annual costs which can generally be classified as treatment, distribution, and administrative. Over the 5-year study period, the total process water O&M expenses are projected to increase from $747 thousand in FY 23 to approximately $1.4 million by FY 27.

5.1.2.2 Capital Projects and Funding

The 5-year process water CIP shown in Table 27 includes $168 thousand in repair and replacement projects through FY 27. Table 17 breaks down the CPI costs by fiscal year. All projects will be funded through user rates and unrestricted cash reserves.

Table 27: Process Water Repair and Replacement Capital Projects

Project	Cost
Structure, Equipment, and Automotive	$168,000

Table 28: 5-year Outlook on Repair and Replacement Capital Project Costs

FY 23	FY 24	FY 25	FY 26	FY 27
$37,600	$7,000	$108,000	$8,000	$8,000

5.1.3 Revenue Requirement Analysis and Results

The adequacy of rates was evaluated in each FY using the estimated revenue and expense data that was summarized in the previous sections. The financial model compared rate revenues with expenses to identify any shortfalls that may occur during the study period. Since the process water system is a new utility, the required revenues from user rates were established at an amount sufficient to cover annual expenses throughout the study period. As seen in Figure 9, CPI adjustments are sufficient to keep the process water utility solvent throughout the study period.

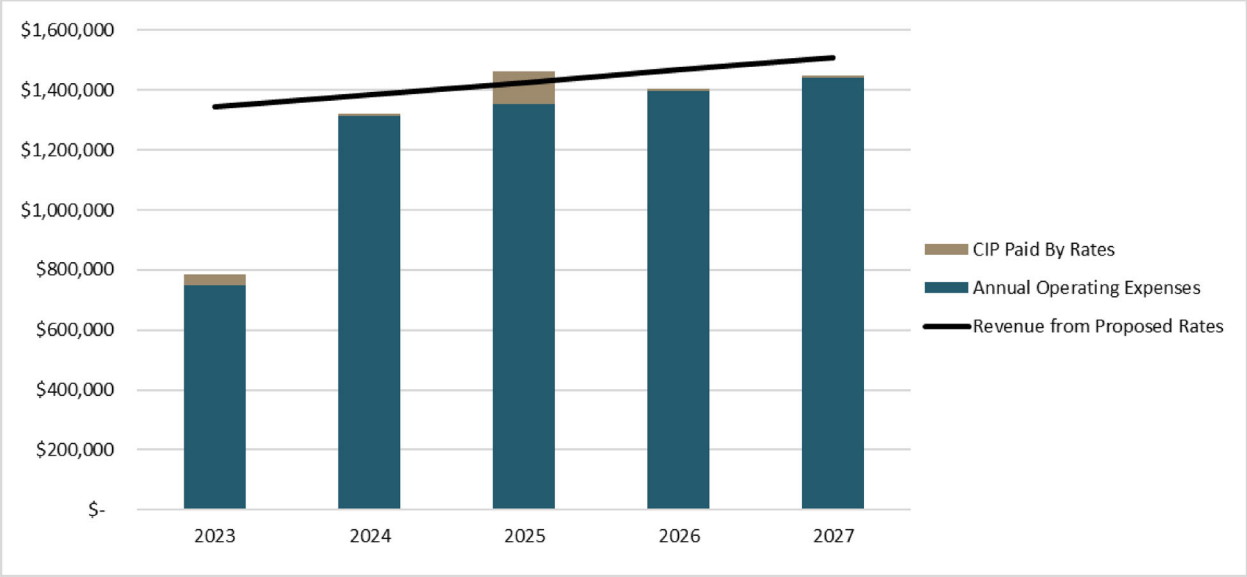


Figure 9: 5-Year Cash Flow Analysis

5.1.4 Reserve Account Analysis

This analysis assumes that the process water fund will receive $750k from the water and sewer utilities in FY 23. The inter-fund transfer, along with proposed user rates, will allow the process water fund to

maintain a positive ending cash balance throughout the study period. As outlined in Figure 10 and Appendix D, the GID is projected to end FY 26 with a cash ending balance of $466 thousand while meeting the restricted reserve requirement.

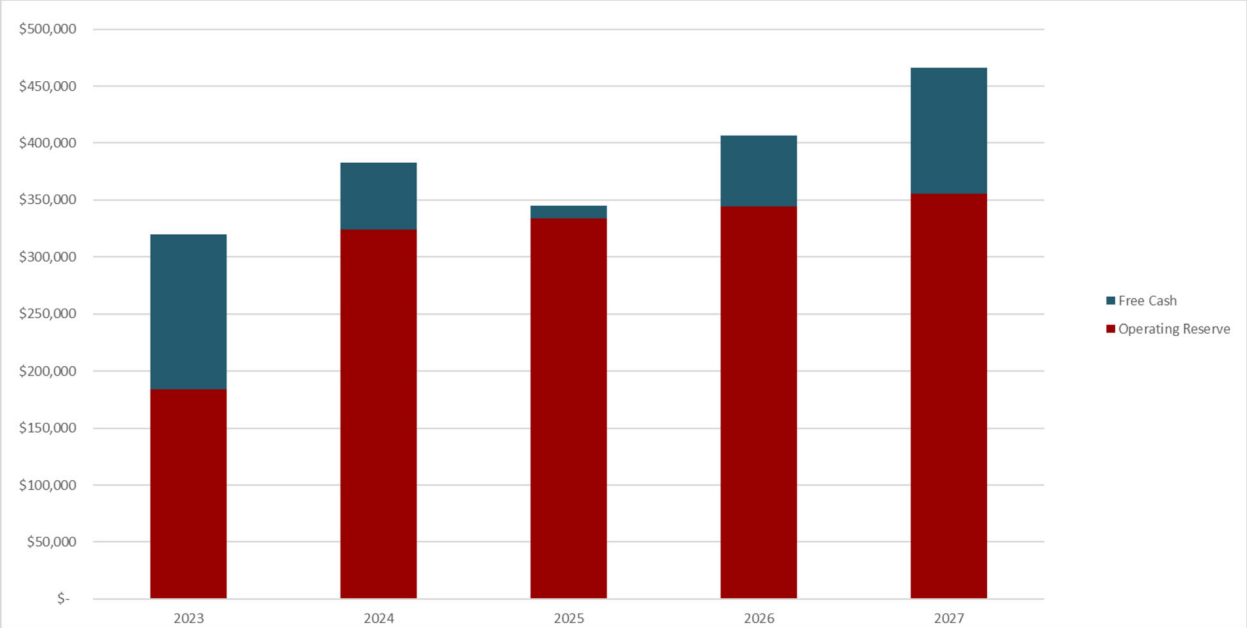


Figure 10: Process Water Operating Fund Cash Reserves Outlook

5.2 PROCESS WATER COST OF SERVICE ANALYSIS

After revenue adjustments have been identified, the CoS analysis proportionally allocated the GID's cost to serve existing customers to the corresponding customer classes. The elements of service presented in Table 29 through Table 31, are cost categories used to determine how capital costs were allocated. These elements are defined as the following:

- Customer - Fixed costs that are directly proportional to the number of customers served by the utility. These costs are not impacted by process water usage and apply to all customers, equally.
- Meter – Fixed costs that are associated with the size or capacity of the process water system. These costs are allocated based on the maximum potential process water use each customer could demand from the system.
- Base - Variable costs that are associated with providing the volume of process water and system capacity to meet base demands consistent with average annual process water use. These costs are directly proportional to process water use.
- Peak – Variable costs that are associated with providing the volume of process water and system capacity to meet peak demands. These costs are directly proportional to process water use.

5.2.1 Process Water Plant-in-Service Allocation

An analysis of the GID's existing assets suggests that the majority of the cost to construct the process water system was driven by peak system demands. The Plant-in-Service allocation is used to distribute

future deprecation, capital outlay, and debt service costs. The Plant-in-Service allocation breakdown is presented in Table 29.

Table 29: Allocation of the Existing Process Water System

Customer	Meters	Base	Peak	Total
0%	6%	46%	48%	**100%**

5.2.2 O&M Cost Allocation

O&M costs were allocated to the elements of service to identify costs incurred to operate the process water system. FY 24 expenses were used to develop an allocation breakdown. The results of the percent breakdown are summarized in Table 30.

Table 30: O&M Allocation Breakdown

Customer	Meters	Base	Peak	Total
13%	20%	33%	34%	**100%**
$170,689	$267,784	$435,242	$441,410	**$1,315,125**

Fixed costs, which do not vary based on system capacity or how much process water is consumed, were allocated to the customer element of service. The largest portion of annual costs is a function of system capacity and the level of service the utility provides on an annual basis and was allocated proportionally to the volume of process water a customer can demand. This volume is based on meter size and is therefore distributed to the meter element of service. Services and supply expenses, such as chemicals and gasoline, were split between base and peak elements of service since these costs directly correlate with process water consumption. Professional services that include non-physical services to help manage and improve the process water system were allocated according to the Plant-in-Service distribution shown in Table 29.

5.2.3 Revenue Requirement Allocation

The final step of the allocation process applied the Plant-in-Service and O&M allocation breakdowns to develop the FY 24 revenue requirement. In addition to the fixed and variable costs that make up the revenue requirement, the CoS analysis takes into account budgeted non-rate budgeted revenues and net cash flow projections to offset budgeted expenses, bringing the revenue requirement to $1.4million. The revenue requirement allocation breakdown is presented in Table 31.

Table 31: Revenue Requirement Allocation

Revenue Requirement	Customer	Meters	Base	Peak	Total
Allocation	13%	20%	33%	34%	**100%**
Distribution	$178,825	$280,970	$459,403	$465,954	**$1,385,152**

5.2.4 Cost Distribution to Customer Classes

At this stage of the process water utility, with only 4 customers, there is no clear distinction between customer classes. As a result, this study applied the revenue requirement allocation directly to the 4 customers anticipated to transfer to the process water utility in FY 23. The revenue requirement is shown in Table 31.

5.3 RATE DESIGN AND PROPOSED PROCESS WATER RATES

To develop a representative rate structure, this study assessed the financial impacts on the process water fund when rates were set according to the CoS approach The cost distribution to each customer class was further apportioned to unit cost per customer to calculate the proposed user rates. Table 32 outlines the proposed rates for FY 23. The 5-year rate schedule can be found in Appendix A. Rates in FY 23 are actual, and all future years include an estimated annual CPI increase of 2.9 percent. Actual rate adjustments in years FY 23 through 26 may differ slightly should CPI values exceed or trail a 2.9 percent increase.

Table 32: Process Water Fund Cost of Service Rates in FY 23

		User Rate
	Customer	$3,620.54
Meter Charge	3/4"	$199.60
	1"	$332.67
	1-1/2"	$665.33
	2"	$1,064.53
	3"	$2,129.06
	4"	$3,326.65
	6"	$6,653.31
	8"	$10,645.29
	10"	$27,943.89
	Volume per kgal:	$2.68

User rates for the process water customers were developed using the key factors as follows:

- **Customer Charge:** The proportional share of expenses that are driven solely by the number of customers in the utility. This cost was $3,620.50 and is the same for all customer classes.
- **Meter Charge**: Larger meter sizes are associated with having a greater process water demand and consequently, take a greater toll on the system. Therefore, customers will be charged in proportion to their meter size in accordance with the equivalent meter ratio as defined by AWWA (Appendix E).
- **Volume:** In addition to the fixed charges, the volume charge is proportional to the amount of process water consumed in a month, per kgal.

6.0 CONCLUSION

Based on the analysis of the GID's revenues and expenses, this study proposes annual rate increases plus a CPI adjustment for both the water and sewer utilities. The proposed process water rates were developed and only require adjustments equal to CPI during the study period. In addition to the rates recommended, Farr West highly advises the GID to revisit rates annually. Although a five-year rate plan might be in place, an annual review is critical to assess how the rate adjustments have impacted usage behaviors and what true revenues and expenditures are with the new process water utility in operation.

APPENDIX A – 5-YEAR RATE SCHEDULE AND SAMPLE BILLS

SUMMARY OF PROPOSED WATER RATES

Commercial Customers

		FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
	Customer	$37.61	$38.70	$45.80	$49.48	$50.92
	Fire	$109.37	$112.54	$133.17	$143.89	$148.06
	Total Fixed	**$146.98**	**$151.24**	**$178.97**	**$193.37**	**$198.98**
Meter Charge	3/4"	$31.02	$31.91	$37.77	$40.80	$41.99
	1"	$51.69	$53.19	$62.94	$68.01	$69.98
	1-1/2"	$103.38	$106.38	$125.89	$136.01	$139.96
	2"	$165.41	$170.21	$201.42	$217.62	$223.93
	3"	$330.83	$340.42	$402.84	$435.25	$447.87
	4"	$516.92	$531.91	$629.43	$680.07	$699.79
	6"	$1,033.84	$1,063.82	$1,258.87	$1,360.14	$1,399.59
	8"	$1,654.14	$1,702.11	$2,014.19	$2,176.23	$2,239.34
	10"	$4,342.11	$4,468.03	$5,287.24	$5,712.60	$5,878.27
	Volume per kgal:	$3.44	$3.54	$4.19	$4.53	$4.66

Industrial Customers

		FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
	Customer	$ 37.61	$38.70	$45.80	$ 49.48	$50.92
	Fire	$218.73	$225.08	$266.34	$287.77	$296.12
	Total Fixed	**$256.34**	**$263.78**	**$312.14**	**$337.25**	**$347.03**
Meter Charge	3/4"	$31.02	$31.91	$37.77	$40.80	$41.99
	1"	$51.69	$53.19	$62.94	$68.01	$69.98
	1-1/2"	$103.38	$106.38	$125.89	$136.01	$139.96
	2"	$165.41	$170.21	$201.42	$217.62	$223.93
	3"	$330.83	$340.42	$402.84	$435.25	$447.87
	4"	$516.92	$531.91	$629.43	$680.07	$699.79
	6"	$ 1,033.84	$ 1,063.82	$ 1,258.87	$1,360.14	$1,399.59
	8"	$ 1,654.14	$ 1,702.11	$ 2,014.19	$2,176.23	$2,239.34
	10"	$ 4,342.11	$ 4,468.03	$ 5,287.24	$5,712.60	$5,878.27
	Volume per kgal:	$3.44	$3.54	$4.19	$4.53	$4.66

Hydrant Customers

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Volume per kgal:	**$3.44**	**$ 3.54**	**$ 4.19**	**$4.53**	**$ 4.66**

Irrigation Customers

		FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
	Customer	$37.61	$38.70	$45.80	$49.48	$50.92
	Fire	$ -	$ -	$ -	$ -	$ -
	Total Fixed	**$37.61**	**$38.70**	**$45.80**	**$49.48**	**$50.92**
Meter Charge	3/4"	$31.02	$31.91	$37.77	$40.80	$41.99
	1"	$51.69	$53.19	$62.94	$68.01	$69.98
	1-1/2"	$103.38	$106.38	$125.89	$136.01	$139.96
	2"	$165.41	$170.21	$201.42	$217.62	$223.93
	3"	$330.83	$340.42	$402.84	$435.25	$447.87
	4"	$516.92	$531.91	$629.43	$680.07	$699.79
	6"	$1,033.84	$1,063.82	$1,258.87	$1,360.14	$1,399.59
	8"	$1,654.14	$1,702.11	$2,014.19	$2,176.23	$2,239.34
	10"	$4,342.11	$4,468.03	$5,287.24	$5,712.60	$5,878.27
	Volume per kgal:	$3.44	$3.54	$4.19	$4.53	$4.66

SUMMARY OF PROPOSEDSEWER RATES

Commercial and Industrial Customers

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Base	$ 392.42	$ 403.80	$ 560.94	$ 634.93	$ 653.34
Volume per kgal:	$ 2.37	$ 2.44	$ 3.38	$ 3.83	$ 3.94

High Strength Industrial Customers

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Base	$ 392.42	$ 403.80	$ 560.94	$ 634.93	$ 653.34
Volume per kgal:	$ 3.10	$ 3.19	$ 4.43	$ 5.02	$ 5.16

TDS Mitigation Charge:

Average Actual TDS mg/l	500		Cost per year
Cost of RO Plant[1]	$10,651,393	1% RO Plant Cost	$ 106,514

SUMMARY OF PROPOSED PROCESS WATER RATES

		FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
	Customer	$3,620.54	$3,725.53	$3,833.57	$3,944.75	$4,059.14
Meter Charge	3/4"	$199.60	$205.39	$211.34	$217.47	$223.78
	1"	$332.67	$342.31	$352.24	$362.45	$372.97
	1-1/2"	$665.33	$684.63	$704.48	$724.91	$745.93
	2"	$1,064.53	$1,095.40	$1,127.17	$1,159.86	$1,193.49
	3"	$2,129.06	$2,190.80	$2,254.33	$2,319.71	$2,386.98
	4"	$3,326.65	$3,423.13	$3,522.40	$3,624.55	$3,729.66
	6"	$6,653.31	$6,846.25	$7,044.80	$7,249.09	$7,459.32
	8"	$10,645.29	$10,954.01	$11,271.67	$11,598.55	$11,934.91
	10"	$27,943.89	$28,754.27	$29,588.14	$30,446.20	$31,329.14
	Volume per kgal:	$2.68	$2.76	$2.84	$2.92	$3.01

TRI GID
Water Sample Bill (2024)

Commercial: 3/4" 1000006																						
Existing											Proposed									Difference		
					Monthly		Annual								Monthly		Annual			*Monthly*		*Annual*
Customer:		x	1		$ -		$ -			Customer:	$ 38.70	x	1		$ 38.70		$ 464.43			*$ 39*		*$ 464*
Fire Protection:		x	1		$ -		$ -			Fire Protection:	$ 112.54	x	1		$ 112.54		$ 1,350.46			*$ 113*		*$ 1,350*
Meter Size 3/4":	$ 26.50	x	1		$ 26.50		$ 318.00			Meter Size 3/4":	$ 31.91	x	1		$ 31.91		$ 382.97			*$ 5*		*$ 65*
Volume:	$ 3.52	x	8	Kgal/Mo	$ 27.87		$ 334.40			Volume:	$ 3.54	x	8	Kgal/Mo	$ 28.04		$ 336.53			*$ 0*		*$ 2*
					$ 54.37		$ 652.40								$ 211.20		$ 2,534.39			*$ 157*		*$ 1,882*

Industrial: 3/4" 1002741																						
Existing											Proposed									Difference		
					Monthly		Annual								Monthly		Annual			*Monthly*		*Annual*
Customer:		x	1		$ -		$ -			Customer:	$ 38.70	x	1		$ 38.70		$ 464.43			*$ 39*		*$ 464*
Fire Protection:		x	1		$ -		$ -			Fire Protection:	$ 225.08	x	1		$ 225.08		$ 2,700.92			*$ 225*		*$ 2,701*
Meter Size 3/4":	$ 26.50	x	1		$ 26.50		$ 318.00			Meter Size 3/4":	$ 31.91	x	1		$ 31.91		$ 382.97			*$ 5*		*$ 65*
Volume:	$ 3.52	x	1.1	Kgal/Mo	$ 3.81		$ 45.76			Volume:	$ 3.54	x	1.1	Kgal/Mo	$ 3.84		$ 46.05			*$ 0*		*$ 0*
					$ 30.31		$ 363.76								$ 299.53		$ 3,594.37			*$ 269*		*$ 3,231*

Commercial: 2" 1000010																						
Existing											Proposed									Difference		
					Monthly		Annual								Monthly		Annual			*Monthly*		*Annual*
Customer:		x	1		$ -		$ -			Customer:	$ 38.70	x	1		$ 38.70		$ 464.43			*$ 39*		*$ 464*
Fire Protection:		x	1		$ -		$ -			Fire Protection:	$ 112.54	x	1		$ 112.54		$ 1,350.46			*$ 113*		*$ 1,350*
Meter Size 2":	$ 122.54	x	1		$ 122.54		$ 1,470.48			Meter Size 2":	$ 170.21	x	1		$ 170.21		$ 2,042.53			*$ 48*		*$ 572*
Volume:	$ 3.52	x	30	Kgal/Mo	$ 104.43		$ 1,253.12			Volume:	$ 3.54	x	30	Kgal/Mo	$ 105.09		$ 1,261.11			*$ 1*		*$ 8*
					$ 226.97		$ 2,723.60								$ 426.54		$ 5,118.52			*$ 200*		*$ 2,395*

Industrial: 2" 1000892																						
Existing											Proposed									Difference		
					Monthly		Annual								Monthly		Annual			*Monthly*		*Annual*
Customer:		x	1		$ -		$ -			Customer:	$ 38.70	x	1		$ 38.70		$ 464.43			*$ 39*		*$ 464*
Fire Protection:		x	1		$ -		$ -			Fire Protection:	$ 225.08	x	1		$ 225.08		$ 2,700.92			*$ 225*		*$ 2,701*
Meter Size 2":	$ 122.54	x	1		$ 122.54		$ 1,470.48			Meter Size 2":	$ 170.21	x	1		$ 170.21		$ 2,042.53			*$ 48*		*$ 572*
Volume:	$ 3.52	x	85	Kgal/Mo	$ 297.73		$ 3,572.80			Volume:	$ 3.54	x	85	Kgal/Mo	$ 299.63		$ 3,595.57			*$ 2*		*$ 23*
					$ 420.27		$ 5,043.28								$ 733.62		$ 8,803.44			*$ 313*		*$ 3,760*

Industrial: 2" 1001164																						
Existing											Proposed									Difference		
					Monthly		Annual								Monthly		Annual			*Monthly*		*Annual*
Customer:		x	1		$ -		$ -			Customer:	$ 38.70	x	1		$ 38.70		$ 464.43			*$ 39*		*$ 464*
Fire Protection:		x	1		$ -		$ -			Fire Protection:	$ 225.08	x	1		$ 225.08		$ 2,700.92			*$ 225*		*$ 2,701*
Meter Size 2":	$ 122.54	x	1		$ 122.54		$ 1,470.48			Meter Size 2":	$ 170.21	x	1		$ 170.21		$ 2,042.53			*$ 48*		*$ 572*
Volume:	$ 3.52	x	225	Kgal/Mo	$ 791.12		$ 9,493.44			Volume:	$ 3.54	x	225	Kgal/Mo	$ 796.16		$ 9,553.94			*$ 5*		*$ 60*
					$ 913.66		$ 10,963.92								$ 1,230.15		$ 14,761.81			*$ 316*		*$ 3,798*

Industrial: 6" 1000301																						
Existing										Proposed										Difference		
					Monthly		Annual								Monthly		Annual			*Monthly*		*Annual*
Customer:		x	1		$ -		$ -			Customer:	$ 38.70	x	1		$ 38.70		$ 464.43			*$ 39*		*$ 464*
Fire Protection:		x	1		$ -		$ -			Fire Protection:	$ 225.08	x	1		$ 225.08		$ 2,700.92			*$ 225*		*$ 2,701*
Meter Size 6":	$ 705.13	x	1		$ 705.13		$ 8,461.56			Meter Size 6":	$ 1,063.82	x	1		$ 1,063.82		$ 12,765.80			*$ 359*		*$ 4,304*
Volume:	$ 3.52	x	7379	Kgal/Mo	$ 25,972.32		$ 311,667.84			Volume:	$ 3.54	x	7379	Kgal/Mo	$ 26,137.83		$ 313,653.97			*$ 166*		*$ 1,986*
					$ 26,677.45		$ 320,129.40								$ 27,465.43		$ 329,585.11			*$ 788*		*$ 9,456*

Industrial: 1" 1001139																						
Existing										Proposed										Difference		
					Monthly		Annual								Monthly		Annual			*Monthly*		*Annual*
Customer:		x	1		$ -		$ -			Customer:	$ 38.70	x	1		$ 38.70		$ 464.43			*$ 39*		*$ 464*
Fire Protection:		x	1		$ -		$ -			Fire Protection:	$ 225.08	x	1		$ 225.08		$ 2,700.92			*$ 225*		*$ 2,701*
Meter Size 1" :	$ 47.08	x	1		$ 47.08		$ 564.96			Meter Size 1" :	$ 53.19	x	1		$ 53.19		$ 638.29			*$ 6*		*$ 73*
Volume:	$ 3.52	x	5	Kgal/Mo	$ 17.31		$ 207.68			Volume:	$ 3.54	x	5	Kgal/Mo	$ 17.42		$ 209.00			*$ 0*		*$ 1*
					$ 64.39		$ 772.64								$ 334.39		$ 4,012.64			*$ 270*		*$ 3,240*

Industrial: 4" 1001135																						
Existing										Proposed										Difference		
					Monthly		Annual								Monthly		Annual			*Monthly*		*Annual*
Customer:		x	1		$ -		$ -			Customer:	$ 38.70	x	1		$ 38.70		$ 464.43			*$ 39*		*$ 464*
Fire Protection:		x	1		$ -		$ -			Fire Protection:	$ 225.08	x	1		$ 225.08		$ 2,700.92			*$ 225*		*$ 2,701*
Meter Size 4":	$ 361.96	x	1		$ 361.96		$ 4,343.52			Meter Size 4":	$ 531.91	x	1		$ 531.91		$ 6,382.90			*$ 170*		*$ 2,039*
Volume:	$ 3.52	x	185	Kgal/Mo	$ 649.84		$ 7,798.14			Volume:	$ 3.54	x	185	Kgal/Mo	$ 653.99		$ 7,847.83			*$ 4*		*$ 50*
					$ 1,011.80		$ 12,141.66								$ 1,449.67		$ 17,396.07			*$ 438*		*$ 5,254*

Industrial: 4" 1001133																						
Existing										Proposed										Difference		
					Monthly		Annual								Monthly		Annual			*Monthly*		*Annual*
Customer:		x	1		$ -		$ -			Customer:	$ 38.70	x	1		$ 38.70		$ 464.43			*$ 39*		*$ 464*
Fire Protection:		x	1		$ -		$ -			Fire Protection:	$ 225.08	x	1		$ 225.08		$ 2,700.92			*$ 225*		*$ 2,701*
Meter Size 4":	$ 361.96	x	1		$ 361.96		$ 4,343.52			Meter Size 4":	$ 531.91	x	1		$ 531.91		$ 6,382.90			*$ 170*		*$ 2,039*
Volume:	$ 3.52	x	406	Kgal/Mo	$ 1,427.36		$ 17,128.32			Volume:	$ 3.54	x	406	Kgal/Mo	$ 1,436.46		$ 17,237.47			*$ 9*		*$ 109*
					$ 1,789.32		$ 21,471.84								$ 2,232.14		$ 26,785.71			*$ 443*		*$ 5,314*

Industrial: 6" 1001131																						
Existing										Proposed										Difference		
					Monthly		Annual								Monthly		Annual			*Monthly*		*Annual*
Customer:		x	1		$ -		$ -			Customer:	$ 38.70	x	1		$ 38.70		$ 464.43			*$ 39*		*$ 464*
Fire Protection:		x	1		$ -		$ -			Fire Protection:	$ 225.08	x	1		$ 225.08		$ 2,700.92			*$ 225*		*$ 2,701*
Meter Size 6":	$ 705.13	x	1		$ 705.13		$ 8,461.56			Meter Size 6":	$ 1,063.82	x	1		$ 1,063.82		$ 12,765.80			*$ 359*		*$ 4,304*
Volume:	$ 3.52	x	537	Kgal/Mo	$ 1,891.71		$ 22,700.48			Volume:	$ 3.54	x	537	Kgal/Mo	$ 1,903.76		$ 22,845.14			*$ 12*		*$ 145*
					$ 2,596.84		$ 31,162.04								$ 3,231.36		$ 38,776.28			*$ 635*		*$ 7,614*

Industrial: 8" 1000668																						
Existing										Proposed										Difference		
					Monthly		Annual							Monthly		Annual				*Monthly*		*Annual*
Customer:		x	1		$ -		$ -			Customer:	$ 38.70	x	1		$ 38.70		$ 464.43			*$ 39*		*$ 464*
Fire Protection:		x	1		$ -		$ -			Fire Protection:	$ 225.08	x	1		$ 225.08		$ 2,700.92			*$ 225*		*$ 2,701*
Meter Size 8":	$ 1,116.53	x	1		$ 1,116.53		$ 13,398.36			Meter Size 8":	$ 1,702.11	x	1		$ 1,702.11		$ 20,425.27			*$ 586*		*$ 7,027*
Volume:	$ 3.52	x	0.25	Kgal/Mo	$ 0.88		$ 10.56			Volume:	$ 3.54	x	0.25	Kgal/Mo	$ 0.89		$ 10.63			*$ 0*		*$ 0*
					$ 1,117.41		$ 13,408.92								$ 1,966.77		$ 23,601.24			*$ 849*		*$ 10,192*

Hydrant: 2001101																						
Existing										Proposed										Difference		
					Monthly		Annual							Monthly		Annual				*Monthly*		*Annual*
Customer:		x	1		$ -		$ -			Customer:	$ -	x	1		$ -		$ -			*$ -*		*$ -*
Fire Protection:		x	1		$ -		$ -			Fire Protection:	$ -	x	1		$ -		$ -			*$ -*		*$ -*
Meter Size:	$ 75.10	x	1		$ 75.10		$ 901.20			Meter Size:	$ -	x	1		$ -		$ -			*$ (75)*		*$ (901)*
Volume:	$ 3.52	x	60,986	Kgal/Mo	$ 214,670.72		$ 2,576,048.64			Volume:	$ 3.54	x	60,986	Kgal/Mo	$ 216,038.73		$ 2,592,464.73			*$ 1,368*		*$ 16,416*
					$214,745.82		$ 2,576,949.84								$ 216,038.73		$ 2,592,464.73			*$ 1,293*		*$ 15,515*

Irrigation: 1" 1000900																						
Existing										Proposed										Difference		
					Monthly		Annual							Monthly		Annual				*Monthly*		*Annual*
Customer:		x	1		$ -		$ -			Customer:	$ 38.70	x	1		$ 38.70		$ 464.43			*$ 39*		*$ 464*
Fire Protection:		x	1		$ -		$ -			Fire Protection:	$ -	x	1		$ -		$ -			*$ -*		*$ -*
Meter Size 1":	$ 47.08	x	1		$ 47.08		$ 564.96			Meter Size 1":	$ 53.19	x	1		$ 53.19		$ 638.29			*$ 6*		*$ 73*
Volume:	$ 3.52	x	459.42	Kgal/Mo	$ 1,617.15		$ 19,405.76			Volume:	$ 3.54	x	459.42	Kgal/Mo	$ 1,627.45		$ 19,529.42			*$ 10*		*$ 124*
					$ 1,664.23		$ 19,970.72								$ 1,719.35		$ 20,632.14			*$ 55*		*$ 661*

TRI GID
Sewer Sample Bill (2024)

Commercial: 3/4" 1000006																				
Existing										Proposed in 2024								*Difference*		
					Monthly		Annual						Monthly		Annual			*Monthly*		*Annual*
Base	$	27.44	x	1	$	27.44	$	329.28		$	403.80	x	1	$	403.80	$	4,845.61	*$ 376.36*	*$*	*4,516.33*
Volume	$	2.69	x	8 Kgal/Mo	$	21.52	$	258.24		$	2.44	x	8 Kgal/Mo	$	19.49	$	233.83	*$ (2.03)*	*$*	*(24.41)*
					$	48.96	$	587.52						$	423.29	$	5,079.44	*$ 374.33*	*$*	*4,491.92*

Industrial: 42 3/4" 1002741																				
Existing										Proposed in 2024								*Difference*		
					Monthly		Annual						Monthly		Annual			*Monthly*		*Annual*
Base	$	27.44	x	1	$	27.44	$	329.28		$	403.80	x	1	$	403.80	$	4,845.61	*$ 376.36*	*$*	*4,516.33*
Volume	$	2.69	x	1.1 Kgal/Mo	$	2.96	$	35.51		$	2.44	x	1.1 Kgal/Mo	$	2.68	$	32.15	*$ (0.28)*	*$*	*(3.36)*
					$	30.40	$	364.79						$	406.48	$	4,877.76	*$ 376.08*	*$*	*4,512.97*

Commercial: 2" 1000010																				
Existing										Proposed in 2024								*Difference*		
					Monthly		Annual						Monthly		Annual			*Monthly*		*Annual*
Base	$	101.43	x	1	$	101.43	$	1,217.16		$	403.80	x	1	$	403.80	$	4,845.61	*$ 302.37*	*$*	*3,628.45*
Volume	$	2.69	x	30 Kgal/Mo	$	79.80	$	957.64		$	2.44	x	30 Kgal/Mo	$	72.26	$	867.11	*$ (7.54)*	*$*	*(90.53)*
					$	181.23	$	2,174.80						$	476.06	$	5,712.72	*$ 294.83*	*$*	*3,537.92*

Industrial: 2" 1000892																				
Existing										Proposed in 2024								*Difference*		
					Monthly		Annual						Monthly		Annual			*Monthly*		*Annual*
Base	$	101.43	x	1	$	101.43	$	1,217.16		$	403.80	x	1	$	403.80	$	4,845.61	*$ 302.37*	*$*	*3,628.45*
Volume	$	2.69	x	85 Kgal/Mo	$	227.53	$	2,730.35		$	2.44	x	85 Kgal/Mo	$	206.02	$	2,472.23	*$ (21.51)*	*$*	*(258.12)*
					$	328.96	$	3,947.51						$	609.82	$	7,317.84	*$ 280.86*	*$*	*3,370.33*

Industrial: 6" 1000301																				
Existing										Proposed in 2024								*Difference*		
					Monthly		Annual						Monthly		Annual			*Monthly*		*Annual*
Base	$	473.57	x	1	$	473.57	$	5,682.84		$	403.80	x	1	$	403.80	$	4,845.61	*$ (69.77)*	*$*	*(837.23)*
Volume	$	2.69	x	7379 Kgal/Mo	$	19,849.51	$	238,194.12		$	2.44	x	7379 Kgal/Mo	$	17,973.00	$	215,676.01	*$ (1,876.51)*	*$*	*(22,518.11)*
					$	20,323.08	$	243,876.96						$	18,376.80	$	220,521.62	*$ (1,946.28)*	*$*	*(23,355.34)*

High Strength: 6" 1002201																				
Existing										Proposed in 2024								*Difference*		
					Monthly		Annual						Monthly		Annual			*Monthly*		*Annual*
Base	$	473.57	x	1	$	473.57	$	5,682.84		$	403.80	x	1	$	403.80	$	4,845.61	*$ (69.77)*	*$*	*(837.23)*
Volume	$	2.69	x	791 Kgal/Mo	$	2,128.46	$	25,541.55		$	3.19	x	791 Kgal/Mo	$	2,524.46	$	30,293.46	*$ 395.99*	*$*	*4,751.91*
Surcharge					$	-	$	-		1% RO Cost	$ 106,514	596	Limit 500 mg/l	$	-	$	106,514	*$ -*	*$*	*106,514*
Total					$	2,602.03	$	31,224.39		Total				$	2,928.26	$	141,653.00	*$ 326.22*	*$*	*110,428.61*

TRI GID
Sewer Sample Bill (2024)

Industrial: 1" 1001139																
Existing							Proposed in 2024						*Difference*			
					Monthly	Annual					Monthly	Annual	*Monthly*		*Annual*	
Base	$	33.81	x	1	$ 33.81	$ 405.72	$	403.80	x	1	$ 403.80	$ 4,845.61	*$*	*369.99*	*$*	*4,439.89*
Volume	$	2.69	x	5 Kgal/Mo	$ 13.45	$ 161.40	$	2.44	x	5 Kgal/Mo	$ 12.18	$ 146.14	*$*	*(1.27)*	*$*	*(15.26)*
					$ 47.26	$ 567.12					$ 415.98	$ 4,991.75	*$*	*368.72*	*$*	*4,424.63*

Industrial: 4" 1001133																
Existing							Proposed in 2024						*Difference*			
					Monthly	Annual					Monthly	Annual	*Monthly*		*Annual*	
Base	$	293.58	x	1	$ 293.58	$ 3,522.96	$	403.80	x	1	$ 403.80	$ 4,845.61	*$*	*110.22*	*$*	*1,322.65*
Volume	$	2.69	x	406 Kgal/Mo	$ 1,092.14	$ 13,105.68	$	2.44	x	406 Kgal/Mo	$ 988.89	$ 11,866.71	*$*	*(103.25)*	*$*	*(1,238.97)*
					$ 1,385.72	$ 16,628.64					$ 1,392.69	$ 16,712.32	*$*	*6.97*	*$*	*83.68*

Industrial: 4" 1001135																
Existing							Proposed in 2024						*Difference*			
					Monthly	Annual					Monthly	Annual	*Monthly*		*Annual*	
Base	$	293.58	x	1	$ 293.58	$ 3,522.96	$	403.80	x	1	$ 403.80	$ 4,845.61	*$*	*110.22*	*$*	*1,322.65*
Volume	$	2.69	x	185 Kgal/Mo	$ 496.61	$ 5,959.37	$	2.44	x	185 Kgal/Mo	$ 449.67	$ 5,395.99	*$*	*(46.95)*	*$*	*(563.38)*
					$ 790.19	$ 9,482.33					$ 853.47	$ 10,241.60	*$*	*63.27*	*$*	*759.27*

Industrial: 6" 1001131																
Existing							Proposed in 2024						*Difference*			
					Monthly	Annual					Monthly	Annual	*Monthly*		*Annual*	
Base	$	473.57	x	1	$ 473.57	$ 5,682.84	$	403.80	x	1	$ 403.80	$ 4,845.61	*$*	*(69.77)*	*$*	*(837.23)*
Volume	$	2.69	x	537 Kgal/Mo	$ 1,445.65	$ 17,347.81	$	2.44	x	537 Kgal/Mo	$ 1,308.98	$ 15,707.80	*$*	*(136.67)*	*$*	*(1,640.01)*
					$ 1,919.22	$ 23,030.65					$ 1,712.78	$ 20,553.41	*$*	*(206.44)*	*$*	*(2,477.24)*

Industrial: 8" 1000668																
Existing							Proposed in 2024						*Difference*			
					Monthly	Annual					Monthly	Annual	*Monthly*		*Annual*	
Base	$	757.23	x	1	$ 757.23	$ 9,086.76	$	403.80	x	1	$ 403.80	$ 4,845.61	*$*	*(353.43)*	*$*	*(4,241.15)*
Volume	$	2.69	x	60,986.00 Kgal/Mo	$164,052.34	$ 1,968,628.08	$	2.44	x	60,986.00 Kgal/Mo	$ 148,543.36	$ 1,782,520.30	*$*	*(15,508.98)*	*$*	*(186,107.78)*
					$164,809.57	$ 1,977,714.84					$ 148,947.16	$ 1,787,365.91	*$*	*(15,862.41)*	*$*	*(190,348.93)*

Process Water Sample Bill (2024)

Account Number	Meter Size	Annual Usage (1,000 gal)	Customer Cost	Meter Cost	Volume Rate (per 1000 gal)	Monthly Cost	Annual Cost
10006680	6	92,794	$ 3,725.53	$ 6,846.25	$ 2.76	$ 31,928.17	$ 383,138.03
10011300	4	6,239	$ 3,725.53	$ 3,423.13	$ 2.76	$ 8,584.55	$ 103,014.64
10011370	8	235,977	$ 3,725.53	$ 10,954.01	$ 2.76	$ 68,989.25	$ 827,871.00
10011380	3	48	$ 3,725.53	$ 2,190.80	$ 2.76	$ 5,927.38	$ 71,128.56

Potable Water Sample Bill (2024)

Account Number	Meter Size	Annual Usage (1,000 gal)	Base Cost (Customer + Fire)	Meter Cost	Volume Rate (per 1000 gal)	Monthly Cost	Annual Cost
10006680	6	92,794	$ 263.78	$ 1,063.82	$ 3.44	$ 27,928.55	$ 335,142.54
10011300	4	6,239	$ 263.78	$ 531.91	$ 3.54	$ 2,637.46	$ 31,649.49
10011370	8	235,977	$ 263.78	$ 1,702.11	$ 3.54	$ 71,626.92	$ 859,523.02
10011380	3	48	$ 263.78	$ 340.42	$ 3.54	$ 618.37	$ 7,420.42

Comparison

	Potable Water		Process Water		Difference	
Account Number	Monthly Cost	Annual Cost	Monthly Cost	Annual Cost	Monthly Cost	Annual Cost
10006680	$ 27,929	$ 335,143	$ 31,928	$ 383,138	$ 4,000	$ 47,995
10011300	$ 2,637	$ 31,649	$ 8,585	$ 103,015	$ 5,947	$ 71,365
10011370	$ 71,627	$ 859,523	$ 68,989	$ 827,871	$ (2,638)	$ (31,652)
10011380	$ 618	$ 7,420	$ 5,927	$ 71,129	$ 5,309	$ 63,708

APPENDIX B – WATER UTILITY RATE MODEL SHEETS

TRI GID
Water Rate Model
Assumptions
Alternative 1-1

FARR WEST ENGINEERING

General Assumptions

Study Details

Enter Current Fiscal Year	**2022**
Duration of Study Period (Years)	**5**

Financial Policies

Operating Reserve

			2022	2023	2024	2025	2026	2027
Minimum Operating Account Balance	90	days; 3 months	$ 300,377	$ 295,453	$ 288,377	$ 301,251	$ 314,869	$ 329,285

Debt Covenant/Bond Reserve

Select Debt Covenant Balance Goal	1

	2022	2023	2024	2025	2026	2027
1	$ -	$ -	$ -	$ -	$ 17,883	$ 53,650
2						

1 10% of Debt Service (Principal + Interest)
2 2 - Amount at Right
3 3 - No Debt or Reserve Not Funded

Economic Factors that Govern Cost Projections

	FYE:	2022	2023	2024	2025	2026	2027
1	General Cost Inflation	2.90%	2.90%	2.90%	2.90%	2.90%	2.90%
2	Construction Cost Inflation	3.20%	3.20%	3.20%	3.20%	3.20%	3.20%
3	Labor Cost Inflation	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
4	Benefits Cost Inflation	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
5	Customer Growth	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
6	Cumulative Growth	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
7	General Inflation Plus Growth	2.90%	2.90%	2.90%	2.90%	2.90%	2.90%
8	No Escalation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
9	Investment Rate of Return	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%

TRI GID
Water Rate Model
Operating Fund Revenue & Expenditure Projections
Alternative 1-1

FARR WEST ENGINEERING

Revenues	Projection Method	FYE	Budget 2022	Budget 2023	Select Projection Starting Value	User Override Input	Projection Value 2023	Projection 2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Service Charges																	
510-40-40000 WATER SALES	General Cost Inflation		$ 2,624,006	$ 1,902,404	Budget 2023 Value		$ 1,902,404	$ 1,180,803	$ 1,215,046	$ 1,250,282	$ 1,286,540	$ 1,323,850	$ 1,362,242	$ 1,401,747	$ 1,442,397	$ 1,484,227	$ 1,527,269
510-40-40100 PLAN REVIEW FEES	General Cost Inflation		$ 18,000	$ 18,000	Budget 2023 Value	-	$ 18,000	$ 18,522	$ 19,059	$ 19,612	$ 20,181	$ 20,766	$ 21,368	$ 21,988	$ 22,625	$ 23,281	$ 23,957
	General Cost Inflation				Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Service Charge			**$ 2,642,006**	**$ 1,920,404**			**$ 1,920,404**	**$ 1,199,325**	**$ 1,234,105**	**$ 1,269,894**	**$ 1,306,721**	**$ 1,344,616**	**$ 1,383,610**	**$ 1,423,734**	**$ 1,465,023**	**$ 1,507,508**	**$ 1,551,226**
Miscellaneous Revenue																	
510-41-41000 LAND LEASE	General Cost Inflation		$ 14,814	$ 14,800	Budget 2023 Value	-	$ 14,800	$ 15,229	$ 15,671	$ 16,125	$ 16,593	$ 17,074	$ 17,569	$ 18,079	$ 18,603	$ 19,143	$ 19,698
510-41-41100 LATE FEES	General Cost Inflation		$ 14,676	$ 10,000	Budget 2023 Value	-	$ 10,000	$ 10,290	$ 10,588	$ 10,895	$ 11,211	$ 11,537	$ 11,871	$ 12,215	$ 12,570	$ 12,934	$ 13,309
510-41-41200 INTEREST EARNINGS	Investment Rate of Return		$ 3,216	$ 3,216	Budget 2023 Value	-	$ 3,216	$ 3,248	$ 3,280	$ 3,313	$ 3,346	$ 3,380	$ 3,413	$ 3,448	$ 3,482	$ 3,517	$ 3,552
510-41-41300 CONNECTION FEES	General Cost Inflation		$ 104,148	$ 100,000	User Defined >>	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
510-41-41400 OTHER REVENUE	General Cost Inflation		$ 142,517		Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	General Cost Inflation				Budget 2023 Value		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Miscellaneous Revenues			**$ 279,370**	**$ 128,016**			**$ 28,016**	**$ 28,767**	**$ 29,540**	**$ 30,334**	**$ 31,151**	**$ 31,990**	**$ 32,854**	**$ 33,742**	**$ 34,655**	**$ 35,594**	**$ 36,559**
Total Revenues			**$ 2,921,376**	**$ 2,048,420**			**$ 1,948,420**	**$ 1,228,092**	**$ 1,263,644**	**$ 1,300,228**	**$ 1,337,872**	**$ 1,376,606**	**$ 1,416,464**	**$ 1,457,476**	**$ 1,499,677**	**$ 1,543,102**	**$ 1,587,785**

Expenditures	Projection Method	FYE	Budget 2022	Budget 2023	Select Projection Value	User Override	Projection Value	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
O&M Expenses									5%	5%	5%	5%	5%	5%	5%	5%	5%
510-50-50000 REGULAR PAY	Labor Cost Inflation		$ 217,144	$ 282,223	Budget 2023 Value	-	$ 282,223	$ 296,334	$ 311,151	$ 326,708	$ 343,043	$ 360,196	$ 378,205	$ 397,116	$ 416,971	$ 437,820	$ 459,711
510-50-50050 OVERTIME PAY	Labor Cost Inflation		$ 9,765	$ 6,881	Budget 2023 Value	-	$ 6,881	$ 7,225	$ 7,586	$ 7,966	$ 8,364	$ 8,782	$ 9,221	$ 9,682	$ 10,167	$ 10,675	$ 11,209
510-50-50100 STANDBY PAY	Labor Cost Inflation		$ 9,266	$ 8,518	Budget 2023 Value	-	$ 8,518	$ 8,943	$ 9,391	$ 9,860	$ 10,353	$ 10,871	$ 11,414	$ 11,985	$ 12,584	$ 13,214	$ 13,874
510-50-51000 VACATION PAY	Labor Cost Inflation		$ 5,216		Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
510-50-51050 SICK PAY	Labor Cost Inflation		$ 6,130		Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
510-50-51100 HOLIDAY PAY	Labor Cost Inflation		$ 8,059		Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
510-50-51200 FICA	Benefits Cost Inflation				Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
510-50-51250 MEDICARE	Benefits Cost Inflation		$ 3,454	$ 4,092	Budget 2023 Value	-	$ 4,092	$ 4,501	$ 4,952	$ 5,447	$ 5,991	$ 6,591	$ 7,250	$ 7,975	$ 8,772	$ 9,649	$ 10,614
510-50-51300 PERS	Benefits Cost Inflation		$ 57,017	$ 83,961	Budget 2023 Value	-	$ 83,961	$ 92,357	$ 101,593	$ 111,752	$ 122,928	$ 135,220	$ 148,742	$ 163,617	$ 179,978	$ 197,976	$ 217,774
510-50-51350 UNEMPLOYMENT	Benefits Cost Inflation		$ 573	$ 8,326	Budget 2023 Value	-	$ 8,326	$ 9,158	$ 10,074	$ 11,081	$ 12,189	$ 13,408	$ 14,749	$ 16,224	$ 17,847	$ 19,631	$ 21,594
510-50-51400 GROUP INSURANCE	Benefits Cost Inflation		$ 22,839	$ 34,377	Budget 2023 Value	-	$ 34,377	$ 37,815	$ 41,597	$ 45,756	$ 50,332	$ 55,365	$ 60,902	$ 66,992	$ 73,691	$ 81,060	$ 89,166
510-50-51450 WORKERS COMP INSURANCE	Benefits Cost Inflation		$ 9,321	$ 8,719	Budget 2023 Value	-	$ 8,719	$ 9,591	$ 10,550	$ 11,605	$ 12,766	$ 14,043	$ 15,447	$ 16,992	$ 18,691	$ 20,560	$ 22,616
510-50-51500 OTHER BENEFITS	Benefits Cost Inflation		$ 3,033	$ 10,766	Budget 2023 Value	-	$ 10,766	$ 11,843	$ 13,027	$ 14,330	$ 15,763	$ 17,339	$ 19,073	$ 20,981	$ 23,079	$ 25,387	$ 27,925
510-50-52000 PROFESSIONAL SERVICE - ENGINEERING	General Cost Inflation		$ 16,430	$ 120,000	Budget 2023 Value	-	$ 120,000	$ 123,480	$ 127,061	$ 130,746	$ 134,537	$ 138,439	$ 142,454	$ 146,585	$ 150,836	$ 155,210	$ 159,711
510-50-52050 PROFESSIONAL SERVICE - LEGAL	General Cost Inflation		$ 82,766	$ 48,000	Budget 2023 Value	-	$ 48,000	$ 49,392	$ 50,824	$ 52,298	$ 53,815	$ 55,376	$ 56,981	$ 58,634	$ 60,334	$ 62,084	$ 63,884
510-50-52100 PROFESSIONAL SERVICE - OPERATIONS	General Cost Inflation		$ 5,514	$ -	Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
510-50-52150 PROFESSIONAL SERVICE - FINANCIAL	General Cost Inflation		$ 5,490	$ 6,039	Budget 2023 Value	-	$ 6,039	$ 6,214	$ 6,394	$ 6,580	$ 6,771	$ 6,967	$ 7,169	$ 7,377	$ 7,591	$ 7,811	$ 8,037
510-50-52200 PROFESSIONAL SERVICE - SOFTWARE	General Cost Inflation		$ 13,227	$ 14,685	Budget 2023 Value	-	$ 14,685	$ 15,111	$ 15,549	$ 16,000	$ 16,464	$ 16,941	$ 17,433	$ 17,938	$ 18,459	$ 18,994	$ 19,545
510-50-52250 PROFESSIONAL SERVICE - ANALYTICAL	General Cost Inflation		$ 12,828	$ 27,500	Budget 2023 Value	-	$ 27,500	$ 28,298	$ 29,118	$ 29,963	$ 30,831	$ 31,726	$ 32,646	$ 33,592	$ 34,567	$ 35,569	$ 36,600
510-50-52300 PROFESSIONAL SERVICE - SCADA	General Cost Inflation		$ 22,953	$ 13,750	Budget 2023 Value	-	$ 13,750	$ 14,149	$ 14,559	$ 14,981	$ 15,416	$ 15,863	$ 16,323	$ 16,796	$ 17,283	$ 17,784	$ 18,300
510-50-52350 PROFESSIONAL SERVICE - MISCELLANEOUS	General Cost Inflation		$ 11,173	$ 12,290	Budget 2023 Value	-	$ 12,290	$ 12,647	$ 13,013	$ 13,391	$ 13,779	$ 14,179	$ 14,590	$ 15,013	$ 15,448	$ 15,896	$ 16,357
510-50-53000 CONTRACT SERVICES - MISCELLANEOUS	General Cost Inflation		$ 2,099	$ 11,000	Budget 2023 Value	-	$ 11,000	$ 11,319	$ 11,647	$ 11,985	$ 12,333	$ 12,690	$ 13,058	$ 13,437	$ 13,827	$ 14,228	$ 14,640
510-50-54000 REPAIRS AND MAINTENANCE - WATER	General Cost Inflation		$ 72,042	$ 79,246	Budget 2023 Value	-	$ 79,246	$ 81,544	$ 83,909	$ 86,342	$ 88,846	$ 91,423	$ 94,074	$ 96,802	$ 99,609	$ 102,498	$ 105,471
510-50-54050 REPAIRS AND MAINTENANCE - EQUIPMENT AND VEHICLES	General Cost Inflation		$ 506	$ 6,000	Budget 2023 Value	-	$ 6,000	$ 6,174	$ 6,353	$ 6,537	$ 6,727	$ 6,922	$ 7,123	$ 7,329	$ 7,542	$ 7,760	$ 7,986
510-50-55000 PARTS AND SUPPLIES - OFFICE	General Cost Inflation		$ 6,236	$ 6,859	Budget 2023 Value	-	$ 6,859	$ 7,058	$ 7,263	$ 7,473	$ 7,690	$ 7,913	$ 8,143	$ 8,379	$ 8,622	$ 8,872	$ 9,129
510-50-55050 PARTS AND SUPPLIES - WATER SYSTEM	General Cost Inflation		$ 12,235	$ 13,459	Budget 2023 Value	-	$ 13,459	$ 13,849	$ 14,251	$ 14,664	$ 15,089	$ 15,527	$ 15,977	$ 16,441	$ 16,917	$ 17,408	$ 17,913
510-50-55100 PARTS AND SUPPLIES - EQUIPMENT	General Cost Inflation		$ -	$ 13,388	Budget 2023 Value	-	$ 13,388	$ 13,776	$ 14,176	$ 14,587	$ 15,010	$ 15,445	$ 15,893	$ 16,354	$ 16,828	$ 17,316	$ 17,819
510-50-55150 PARTS AND SUPPLIES - SAFETY	General Cost Inflation		$ 693	$ 2,500	Budget 2023 Value	-	$ 2,500	$ 2,573	$ 2,647	$ 2,724	$ 2,803	$ 2,884	$ 2,968	$ 3,054	$ 3,142	$ 3,234	$ 3,327
510-50-56000 UTILITIES - WATER AND SEWER	General Cost Inflation		$ -	$ -	Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
510-50-56050 UTILITIES - REFUSE	General Cost Inflation		$ -	$ -	Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
510-50-56100 UTILITIES - ELECTRICITY	General Cost Inflation		$ 247,694	$ 272,463	Budget 2023 Value		$ 272,463	$ 200,000	$ 205,800	$ 211,768	$ 217,909	$ 224,229	$ 230,731	$ 237,423	$ 244,308	$ 251,393	$ 258,683
510-50-56150 UTILITIES - COMMUNICATIONS	General Cost Inflation		$ 2,183	$ 2,401	Budget 2023 Value	-	$ 2,401	$ 2,471	$ 2,542	$ 2,616	$ 2,692	$ 2,770	$ 2,850	$ 2,933	$ 3,018	$ 3,106	$ 3,196
510-50-57000 CHEMICALS	General Cost Inflation		$ 6,150	$ 12,300	Budget 2023 Value	-	$ 12,300	$ 12,657	$ 13,024	$ 13,402	$ 13,791	$ 14,190	$ 14,602	$ 15,025	$ 15,461	$ 15,910	$ 16,371
510-50-57050 GASOLINE	General Cost Inflation		$ 5,731	$ 15,000	Budget 2023 Value	-	$ 15,000	$ 15,435	$ 15,883	$ 16,343	$ 16,817	$ 17,305	$ 17,807	$ 18,323	$ 18,854	$ 19,401	$ 19,964
510-50-58000 INSURANCE	General Cost Inflation		$ 42,837	$ 47,121	Budget 2023 Value	-	$ 47,121	$ 48,487	$ 49,893	$ 51,340	$ 52,829	$ 54,361	$ 55,938	$ 57,560	$ 59,229	$ 60,947	$ 62,714
510-50-58050 ADVERTISING	General Cost Inflation		$ 510	$ 1,000	Budget 2023 Value	-	$ 1,000	$ 1,029	$ 1,059	$ 1,090	$ 1,121	$ 1,154	$ 1,187	$ 1,222	$ 1,257	$ 1,293	$ 1,331
510-50-58100 POSTAGE AND DELIVERY	General Cost Inflation		$ 481	$ 529	Budget 2023 Value	-	$ 529	$ 544	$ 560	$ 576	$ 593	$ 610	$ 628	$ 646	$ 665	$ 684	$ 704
510-50-58150 TRAINING AND TRAVEL	General Cost Inflation		$ 1,366	$ 5,000	Budget 2023 Value	-	$ 5,000	$ 5,145	$ 5,294	$ 5,448	$ 5,606	$ 5,768	$ 5,936	$ 6,108	$ 6,285	$ 6,467	$ 6,655
510-50-58200 PROFESSIONAL LICENSES, DUES, AND FEES	General Cost Inflation		$ 910	$ 2,500	Budget 2023 Value	-	$ 2,500	$ 2,573	$ 2,647	$ 2,724	$ 2,803	$ 2,884	$ 2,968	$ 3,054	$ 3,142	$ 3,234	$ 3,327
510-50-58250 STATE AND LOCAL PERMITS AND LICENSES	General Cost Inflation		$ 3,891	$ 7,500	Budget 2023 Value	-	$ 7,500	$ 7,718	$ 7,941	$ 8,172	$ 8,409	$ 8,652	$ 8,903	$ 9,162	$ 9,427	$ 9,701	$ 9,982
510-50-59000 RENT	General Cost Inflation		$ 6,300	$ 5,400	Budget 2023 Value	-	$ 5,400	$ 5,557	$ 5,718	$ 5,884	$ 6,054	$ 6,230	$ 6,410	$ 6,596	$ 6,788	$ 6,984	$ 7,187
510-50-59050 MINOR EQUIPMENT	General Cost Inflation		$ 660	$ 2,400	Budget 2023 Value	-	$ 2,400	$ 2,470	$ 2,541	$ 2,615	$ 2,691	$ 2,769	$ 2,849	$ 2,932	$ 3,017	$ 3,104	$ 3,194
510-50-59100 CAPITAL EXPENDITURE CLEARING	General Cost Inflation		$ 281,440	$ 150,200	User Defined >>	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
510-50-70000 OTHER EXPENSE	General Cost Inflation		$ 2,032	$ 2,032	Budget 2023 Value	-	$ 2,032	$ 2,091	$ 2,152	$ 2,214	$ 2,278	$ 2,344	$ 2,412	$ 2,482	$ 2,554	$ 2,628	$ 2,704
510-50-80000 TRANSFER OUT	General Cost Inflation		$ -		Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	General Cost Inflation				Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Expenditures			$ 1,218,194	$ 1,348,426			$ 1,198,226	$ 1,169,528	$ 1,221,740	$ 1,276,969	$ 1,335,434	$ 1,397,377	$ 1,463,057	$ 1,532,759	$ 1,606,791	$ 1,685,488	$ 1,769,216

Depreciation Expenses	Projection Method	FYE	Budget 2022	Budget 2023	Select Projection Value Methodology	User Override Input	Projection Value	Projection 2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
510-50-60000 DEPRECIATION	No Escalation		$ -	$ 707,995	Budget 2023 Value	-	$ 707,995	$ 707,995	$ 707,995	$ 707,995	$ 707,995	$ 707,995	$ 707,995	$ 707,995	$ 707,995	$ 707,995	$ 707,995

TRI GID
Water Rate Model
Operating Reserve Funds
Alternative 1-1

FARR WEST ENGINEERING

	FYE	2022	2023	2024	2025	2026	2027
			$ 375,000				
Beginning Cash Balance		$ 2,770,440	$ 2,226,122	$ 3,033,679	$ 2,508,564	$ 2,121,302	$ 1,806,486
Reserve Funded from Rates		$ -	$ 892,034	$ -	$ -	$ -	$ -
Reserve Used as Revenue Source		$ -	$ -	$ -	$ -	$ -	$ -
Reserve Used to Fund Shortfalls/Capital Projects		$ (169,319)	$ -	$ (525,115)	$ (387,262)	$ (314,816)	$ (535,702)
Revenue Adjustment for FY 23			$ (84,477)				
Operating Reserve		$ (300,377)	$ (295,453)	$ (288,377)	$ (301,251)	$ (314,869)	$ (329,285)
Debt Reserve		$ -	$ -	$ -	$ -	$ (17,883)	$ (53,650)
Free Cash		**$ 2,300,745**	**$ 2,738,226**	**$ 2,220,187**	**$ 1,820,051**	**$ 1,473,733**	**$ 887,848**
Ending Cash Balance		**$ 2,601,122**	**$ 3,033,679**	**$ 2,508,564**	**$ 2,121,302**	**$ 1,806,486**	**$ 1,270,783**

TRI GID
Water Rate Model
Capital Funding Plan
Alternative 1-1

FARR WEST ENGINEERING

CIP Expenditures	**FYE**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Project Costs Dedicated to Repair and Replacement		$ 1,872,500	$ 150,200	$ 1,151,500	$ 5,990,375	$ 829,094	$ 869,748
Project Costs Dedicated to Expansion		$ -	$ -	$ -	$ -	$ -	$ -
Total CIP Expenditures to be Funded		**$ 1,872,500**	**$ 150,200**	**$ 1,151,500**	**$ 5,990,375**	**$ 829,094**	**$ 869,748**

Capital Funding Plan	**FYE**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
FWE Proposed Loans		$ -	$ 100,000	$ 250,000	$ 5,000,000	$ -	$ -
Bond Sales		$ -	$ -	$ -	$ -	$ -	$ -
Total CIP Expansion Funding Resources		**$ -**	**$ 100,000**	**$ 250,000**	**$ 5,000,000**	**$ -**	**$ -**
Total CIP Funded through Rates		**$ 1,872,500**	**$ 50,200**	**$ 901,500**	**$ 990,375**	**$ 829,094**	**$ 869,748**

Debt Summary	**FYE**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Existing Debt Obligations							
Sewer Operating Total Payment:		$ -	$ -	$ -	$ -	$ -	$ -
Annual Total Payment		$ -	$ -	$ -	$ -	$ -	$ -
New Debt Obligations							
Annual Principal Payment		$ -	$ -	$ -	$ -	$ 98,585	$ 201,628
Annual Interest Payment		$ -	$ -	$ -	$ -	$ 80,250	$ 156,041
Annual Total Payment		$ -	$ -	$ -	$ -	$ 178,835	$ 357,670

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Water Rate Model
Revenue Requirement
Alternative 1-1

FARR WEST ENGINEERING

	FYE	2022	2023	2024	2025	2026	2027
Revenue Sources							
Rate Revenue		$ 2,642,006	$ 1,920,404	$ 1,199,325	$ 1,234,105	$ 1,269,894	$ 1,306,721
Additional Rate Revenue After Prior Year Adjustment		$ -	$ -	$ 119,932	$ 327,038	$ 577,484	$ 689,279
Miscellaneous Revenues		$ 279,370	$ 28,016	$ 28,767	$ 29,540	$ 30,334	$ 31,151
Reserves							
[Not Used]							
Total Revenue Sources		**$ 2,921,376**	**$ 1,948,420**	**$ 1,348,024**	**$ 1,590,682**	**$ 1,877,712**	**$ 2,027,150**
Expenses							
Operation & Maintanence		$ 1,218,194	$ 1,198,226	$ 1,169,528	$ 1,221,740	$ 1,276,969	$ 1,335,434
Depreciation		$ -	$ -	$ -	$ -	$ -	$ -
Capital Outlay Directly Funded by Rates		$ 1,872,500	$ 50,200	$ 901,500	$ 990,375	$ 829,094	$ 869,748
Existing Debt Service		$ -	$ -	$ -	$ -	$ -	$ -
Future Debt Service		$ -	$ -	$ -	$ -	$ 178,835	$ 357,670
Total Revenue Requirement		**$ 3,090,694**	**$ 1,248,426**	**$ 2,071,028**	**$ 2,212,115**	**$ 2,284,898**	**$ 2,562,853**
Net Cash Flow (Deficiency)		**$ (169,319)**	**$ 699,994**	**$ (723,004)**	**$ (621,433)**	**$ (407,185)**	**$ (535,702)**

Rate Adjustments

	FYE	2022	2023	2024	2025	2026	2027
Rate Revenues with Prior Year Adjustment		$ 2,642,006	$ 1,920,404	$ 1,319,257	$ 1,561,143	$ 1,847,378	$ 1,996,000
Annual Rate Adjustment Required		6.41%	-36.45%	54.80%	39.81%	22.04%	26.84%
Number of Months Rate Adjustment will be in Effect		0	12	12	12	12	12
Percentage Increase to Generate Required Revenue		*#DIV/0!*	*-36.45%*	*54.80%*	*39.81%*	*22.04%*	*26.84%*
Proposed Rate Adjustment		0	10.00%	15.00%	15.00%	5.00%	0.00%

Estimated Ending Cash Balance

	FYE	2022	2023	2024	2025	2026	2027
Projected Rate Revenue		**$ 2,642,006**	**$ 2,112,444**	**$ 1,517,146**	**$ 1,795,314**	**$ 1,939,747**	**$ 1,996,000**
Net Cash Flow		$ (169,319)	$ 892,034	$ (525,115)	$ (387,262)	$ (314,816)	$ (535,702)
Ending Cash Balance		**$ 2,601,122**	**$ 3,493,156**	**$ 2,968,041**	**$ 2,580,779**	**$ 2,265,963**	**$ 1,730,260**

APPENDIX C – SEWER UTILITY RATE MODEL SHEETS

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Sewer
Assumptions
Alternative 1-1

FARR WEST ENGINEERING

General Assumptions

Study Details

Enter Current Fiscal Year	**2022**
Duration of Study Period (Years)	**5**

Financial Policies

Operating Reserve

			2022	2023	2024	2025	2026	2027
Minimum Operating Account Balance	90	days; 3 months	$ 309,889	$ 325,813	$ 339,433	$ 353,788	$ 368,930	$ 384,914

Debt Covenant/Bond Reserve

Select Debt Covenant Balance Goal	1

	2022	2023	2024	2025	2026	2027
1	$ -	$ -	$ -	$ -	$ -	$ 35,516
2						

1 10% of Debt Service (Principal + Interest)
2 2 - Amount at Right
3 3 - No Debt or Reserve Not Funded

Economic Factors that Govern Cost Projections

	FYE:	2022	2023	2024	2025	2026	2027
1	General Cost Inflation	2.90%	2.90%	2.90%	2.90%	2.90%	2.90%
2	Construction Cost Inflation	3.20%	3.20%	3.20%	3.20%	3.20%	3.20%
3	Labor Cost Inflation	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
4	Benefits Cost Inflation	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
5	Customer Growth	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
6	Cumulative Growth	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
7	General Inflation Plus Growth	2.90%	2.90%	2.90%	2.90%	2.90%	2.90%
8	No Escalation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
9	Investment Rate of Return	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%

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Operating Fund Revenue & Expenditure Projections
Alternative 1-1

FARR WEST ENGINEERING

Revenues	Projection Method	FYE	Budget 2022	Budget 2023	Select Projection Starting Value	User Override Input	Projection Value	Projection 2024	Projection 2025	Projection 2026	Projection 2027
Service Charges											
520-40-40000 SEWER SALES	General Cost Inflation		$ 1,785,532	$ 1,294,511	Budget 2023 Value	-	$ 1,294,511	$ 803,489	$ 826,791	$ 850,767	$ 875,440
520-40-40100 PLAN REVIEW FEES	General Cost Inflation			$ 4,200	Budget 2023 Value	-	$ 4,200	$ 4,322	$ 4,447	$ 4,576	$ 4,709
	General Cost Inflation				Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -
Total Service Charge			**$ 1,785,532**	**$ 1,298,711**			**$ 1,298,711**	**$ 807,811**	**$ 831,238**	**$ 855,344**	**$ 880,149**
Miscellaneous Revenue											
520-41-41000 LAND LEASE	General Cost Inflation				Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -
520-41-41100 LATE FEES	General Cost Inflation				Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -
520-41-41200 INTEREST EARNINGS	Investment Rate of Return		$ 2,286	$ 2,286	Budget 2023 Value	-	$ 2,286	$ 2,308	$ 2,332	$ 2,355	$ 2,378
520-41-41300 CONNECTION FEES	General Inflation Plus Growth			$ 70,000	User Defined >>	$ -	$ -	$ -	$ -	$ -	$ -
520-41-41400 OTHER REVENUE	General Cost Inflation				Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -
	General Cost Inflation				Budget 2023 Value		$ -	$ -	$ -	$ -	$ -
Total Miscellaneous Revenues			$ 2,286	$ 72,286			$ 2,286	$ 2,308	$ 2,332	$ 2,355	$ 2,378
Total Revenues			**$ 1,787,818**	**$ 1,370,996**				**$ 810,120**	**$ 833,569**	**$ 857,698**	**$ 882,527**

Expenditures	Projection Method	FYE	Budget 2022	Budget 2023	Select Projection Value	User Override Input	Projection Value	Projection 2024	Projection 2025	Projection 2026	Projection 2027
O&M Expenses											
520-50-50000 REGULAR PAY	Labor Cost Inflation		$ 234,605	$ 282,223	Budget 2023 Value	-	$ 282,223	$ 296,334	$ 311,151	$ 326,708	$ 343,043
520-50-50050 OVERTIME PAY	Labor Cost Inflation		$ 9,765	$ 6,881	Budget 2023 Value	-	$ 6,881	$ 7,225	$ 7,586	$ 7,966	$ 8,364
520-50-50100 STANDBY PAY	Labor Cost Inflation		$ 9,264	$ 8,518	Budget 2023 Value	-	$ 8,518	$ 8,943	$ 9,391	$ 9,860	$ 10,353
520-50-51000 VACATION PAY	Labor Cost Inflation		$ 5,216		Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -
520-50-51050 SICK PAY	Labor Cost Inflation		$ 2,295		Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -
520-50-51100 HOLIDAY PAY	Labor Cost Inflation		$ 2,958		Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -
520-50-51200 FICA	Benefits Cost Inflation		$ -		User Defined >>	$ -	$ -	$ -	$ -	$ -	$ -
520-50-51250 MEDICARE	Benefits Cost Inflation		$ 3,454	$ 4,092	Budget 2023 Value	-	$ 4,092	$ 4,501	$ 4,952	$ 5,447	$ 5,991
520-50-51300 PERS	Benefits Cost Inflation		$ 57,017	$ 83,961	Budget 2023 Value	-	$ 83,961	$ 92,357	$ 101,593	$ 111,752	$ 122,928
520-50-51350 UNEMPLOYMENT	Benefits Cost Inflation		$ 573	$ 8,326	Budget 2023 Value	-	$ 8,326	$ 9,158	$ 10,074	$ 11,081	$ 12,189
520-50-51400 GROUP INSURANCE	Benefits Cost Inflation		$ 22,839	$ 34,377	Budget 2023 Value	-	$ 34,377	$ 37,815	$ 41,597	$ 45,756	$ 50,332
520-50-51450 WORKERS COMP INSURANCE	Benefits Cost Inflation		$ 9,321	$ 8,719	Budget 2023 Value	-	$ 8,719	$ 9,591	$ 10,550	$ 11,605	$ 12,766
520-50-51500 OTHER BENEFITS	Benefits Cost Inflation		$ 3,933	$ 10,766	Budget 2023 Value	-	$ 10,766	$ 11,843	$ 13,027	$ 14,330	$ 15,763
520-50-52000 PROFESSIONAL SERVICE - ENGINEERING	General Cost Inflation		$ 42,515	$ 70,000	Budget 2023 Value	-	$ 70,000	$ 72,030	$ 74,119	$ 76,268	$ 78,480
520-50-52050 PROFESSIONAL SERVICE - LEGAL	General Cost Inflation		$ 37,651	$ 24,000	Budget 2023 Value	-	$ 24,000	$ 24,696	$ 25,412	$ 26,149	$ 26,907
520-50-52100 PROFESSIONAL SERVICE - OPERATIONS	General Cost Inflation		$ 22,590	$ 44,160	Budget 2023 Value	-	$ 44,160	$ 45,441	$ 46,758	$ 48,114	$ 49,510
520-50-52150 PROFESSIONAL SERVICE - FINANCIAL	General Cost Inflation		$ 990	$ 4,500	Budget 2023 Value	-	$ 4,500	$ 4,631	$ 4,765	$ 4,903	$ 5,045
520-50-52200 PROFESSIONAL SERVICE - SOFTWARE	General Cost Inflation		$ 11,311	$ 12,442	Budget 2023 Value	-	$ 12,442	$ 12,803	$ 13,174	$ 13,556	$ 13,949
520-50-52250 PROFEESIONAL SERVICE - ANALYTICAL	General Cost Inflation		$ 3,058	$ 3,364	Budget 2023 Value	-	$ 3,364	$ 3,461	$ 3,562	$ 3,665	$ 3,771
520-50-52300 PROFESSIONAL SERVICE - SCADA	General Cost Inflation		$ 2,808	$ 3,089	Budget 2023 Value	-	$ 3,089	$ 3,179	$ 3,271	$ 3,366	$ 3,463
520-50-52350 PROFESSIONAL SERVICE - MISCELLANEOUS	General Cost Inflation		$ 10,227	$ 11,250	Budget 2023 Value	-	$ 11,250	$ 11,576	$ 11,912	$ 12,257	$ 12,613
520-50-53000 CONTRACT SERVICES - MISCELLANEOUS	General Cost Inflation		$ 46,765	$ 51,441	Budget 2023 Value	-	$ 51,441	$ 52,933	$ 54,468	$ 56,048	$ 57,673
520-50-54000 REPAIRS AND MAINTENANCE - SEWER	General Cost Inflation		$ 180,139	$ 198,153	Budget 2023 Value	-	$ 198,153	$ 203,899	$ 209,812	$ 215,897	$ 222,158
520-50-54050 REPAIRS AND MAINTENANCE - EQUIPMENT AND VEHICLES	General Cost Inflation		$ 2,851	$ 3,137	Budget 2023 Value	-	$ 3,137	$ 3,228	$ 3,321	$ 3,417	$ 3,517
520-50-55000 PARTS AND SUPPLIES - OFFICE	General Cost Inflation		$ 1,922	$ 2,114	Budget 2023 Value	-	$ 2,114	$ 2,176	$ 2,239	$ 2,304	$ 2,371
520-50-55050 PARTS AND SUPPLIES - SEWER SYSTEM	General Cost Inflation		$ 20,090	$ 22,100	Budget 2023 Value	-	$ 22,100	$ 22,740	$ 23,400	$ 24,078	$ 24,777
520-50-55100 PARTS AND SUPPLIES - EQUIPMENT	General Cost Inflation		$ -	$ 6,000	Budget 2023 Value	-	$ 6,000	$ 6,174	$ 6,353	$ 6,537	$ 6,727
520-50-55150 PARTS AND SUPPLIES - SAFETY	General Cost Inflation		$ 693	$ 2,500	Budget 2023 Value	-	$ 2,500	$ 2,573	$ 2,647	$ 2,724	$ 2,803
520-50-56000 UTILITIES - WATER AND SEWER	General Cost Inflation		$ 8,969	$ 9,866	Budget 2023 Value	-	$ 9,866	$ 10,152	$ 10,447	$ 10,750	$ 11,062
520-50-56050 UTILITIES - REFUSE	General Cost Inflation		$ 34,589	$ 51,884	Budget 2023 Value	-	$ 51,884	$ 53,388	$ 54,937	$ 56,530	$ 58,169
520-50-56100 UTILITIES - ELECTRICITY	General Cost Inflation		$ 86,062	$ 94,668	Budget 2023 Value	-	$ 94,668	$ 97,413	$ 100,238	$ 103,145	$ 106,136
520-50-56150 UTILITIES - COMMUNICATIONS	General Cost Inflation		$ 2,183	$ 2,401	Budget 2023 Value	-	$ 2,401	$ 2,471	$ 2,542	$ 2,616	$ 2,692
520-50-57000 CHEMICALS	General Cost Inflation		$ 62,961	$ 125,922	Budget 2023 Value		$ 125,922	$ 129,574	$ 133,331	$ 137,198	$ 141,177
520-50-57050 GASOLINE	General Cost Inflation		$ 5,731	$ 11,461	Budget 2023 Value	-	$ 11,461	$ 11,793	$ 12,135	$ 12,487	$ 12,849
520-50-58000 INSURANCE	General Cost Inflation		$ 77,382	$ 85,120	Budget 2023 Value	-	$ 85,120	$ 87,589	$ 90,129	$ 92,743	$ 95,432
520-50-58050 ADVERTISING	General Cost Inflation		$ 510	$ 1,000	Budget 2023 Value	-	$ 1,000	$ 1,029	$ 1,059	$ 1,090	$ 1,121
520-50-58100 POSTAGE AND DELIVERY	General Cost Inflation		$ 446	$ 500	Budget 2023 Value	-	$ 500	$ 515	$ 529	$ 545	$ 561
520-50-58150 TRAINING AND TRAVEL	General Cost Inflation		$ 19,560	$ 5,000	Budget 2023 Value	-	$ 5,000	$ 5,145	$ 5,294	$ 5,448	$ 5,606
520-50-58200 PROFESSIONAL LICENSES, DUES, AND FEES	General Cost Inflation		$ 377	$ 2,500	Budget 2023 Value	-	$ 2,500	$ 2,573	$ 2,647	$ 2,724	$ 2,803
520-50-58250 STATE AND LOCAL PERMITS AND LICENSES	General Cost Inflation		$ 15,562	$ 17,118	Budget 2023 Value	-	$ 17,118	$ 17,615	$ 18,125	$ 18,651	$ 19,192
520-50-59000 RENT	General Cost Inflation		$ 6,300	$ 5,400	Budget 2023 Value	-	$ 5,400	$ 5,557	$ 5,718	$ 5,884	$ 6,054
520-50-59050 MINOR EQUIPMENT	General Cost Inflation		$ -	$ 2,400	Budget 2023 Value	-	$ 2,400	$ 2,470	$ 2,541	$ 2,615	$ 2,691
520-50-59100 CAPITAL EXPENDITURE CLEARING	General Cost Inflation		$ 191,258	$ 445,200	User Defined >>	$ -	$ -	$ -	$ -	$ -	$ -
520-50-70000 OTHER EXPENSE	General Cost Inflation		$ 32		Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -
520-50-80000 TRANSFER OUT	General Cost Inflation				Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -
	General Cost Inflation				Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -
	General Cost Inflation				Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -
	General Cost Inflation				Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -
						-	$ -	$ -	$ -	$ -	$ -
Total Expenditures			$ 1,256,774	$ 1,766,554			$ 1,321,354	$ 1,376,590	$ 1,434,808	$ 1,496,215	$ 1,561,039

TRI GID
Sewer
Operating Reserve Funds
Alternative 1-1

FARR WEST ENGINEERING

	FYE	2022	2023	2024	2025	2026	2027
Transfer to Processs Water			*$ 375,000*				
Beginning Cash Balance		$ 2,877,180	$ 2,983,224	$ 3,173,950	$ 3,075,869	$ 3,248,862	$ 3,206,864
Reserve Funded from Rates		$ 481,044	$ 49,056	$ -	$ 172,993	$ -	$ -
Reserve Used as Revenue Source		$ -	$ -	$ -	$ -	$ -	$ -
Reserve Used to Fund Shortfalls/Capital Projects		$ -	$ -	$ (98,081)	$ -	$ (41,997)	$ (3,646)
Revenue Adjustment for FY 23			$ 141,670				
Operating Reserve		$ (309,889)	$ (325,813)	$ (339,433)	$ (353,788)	$ (368,930)	$ (384,914)
Debt Reserve		$ -	$ -	$ -	$ -	$ -	$ (35,516)
Free Cash		**$ 3,048,334**	**$ 2,848,136**	**$ 2,736,436**	**$ 2,895,073**	**$ 2,837,935**	**$ 2,782,789**
Ending Cash Balance		**$ 3,358,224**	**$ 3,173,950**	**$ 3,075,869**	**$ 3,248,862**	**$ 3,206,864**	**$ 3,203,219**

TRI GID
Sewer
Capital Funding Plan
Alternative 1-1

FARR WEST ENGINEERING

CIP Expenditures	FYE	2022	2023	2024	2025	2026	2027	2028
Project Costs Dedicated to Repair and Replacement		$ 50,000	$ 320,200	$ 214,000	$ 791,000	$ 10,694,750	$ 298,688	$ -
Project Costs Dedicated to Expansion		$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total CIP Expenditures to be Funded		**$ 50,000**	**$ 320,200**	**$ 214,000**	**$ 791,000**	**$ 10,694,750**	**$ 298,688**	**$ -**

Capital Funding Plan	FYE	2022	2023	2024	2025	2026	2027	2028
Alternative Loans		$ -	$ -	$ 125,000	$ 500,000	$ 10,000,000	$ -	$ -
Bond Sales		$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total CIP Expansion Funding Resources		**$ -**	**$ -**	**$ 125,000**	**$ 500,000**	**$ 10,000,000**	**$ -**	**$ -**
Total CIP Funded through Rates		**$ 50,000**	**$ 320,200**	**$ 89,000**	**$ 291,000**	**$ 694,750**	**$ 298,688**	**$ -**

Debt Summary	FYE	2022	2023	2024	2025	2026	2027	2028
Existing Debt Obligations								
Sewer Operating Total Payment:		$ -	$ -	$ -	$ -	$ -	$ -	$ -
Annual Total Payment		$ -	$ -	$ -	$ -	$ -	$ -	$ -
New Debt Obligations								
Annual Principal Payment		$ -	$ -	$ -	$ -	$ -	$ 195,788	$ 400,430
Annual Interest Payment		$ -	$ -	$ -	$ -	$ -	$ 159,375	$ 309,895
Annual Total Payment		$ -	$ -	$ -	$ -	$ -	$ 355,163	$ 710,326
Total Debt Obligations								
Annual Total Payment (Includes Issuance)		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 355,163**	**$ 710,326**

TRI GID
Sewer
Revenue Requirement
Alternative 1-1

FARR WEST ENGINEERING

	FYE	2022	2023	2024	2025	2026	2027
Revenue Sources							
Rate Revenue		$ 1,785,532	$ 1,298,711	$ 807,811	$ 831,238	$ 855,344	$ 880,149
Additional Rate Revenue After Prior Year Adjustment		$ -	$ -	$ 242,343	$ 573,554	$ 1,096,123	$ 1,328,716
Miscellaneous Revenues		$ 2,286	$ 2,286	$ 2,308	$ 2,332	$ 2,355	$ 2,378
Reserves							
[Not Used]							
Total Revenue Sources		**$ 1,787,818**	**$ 1,300,996**	**$ 1,052,463**	**$ 1,407,123**	**$ 1,953,821**	**$ 2,211,243**
			$ 1,300,996	$ 810,120	$ 833,569	$ 857,698	$ 882,527
Expenses							
Operation & Maintanence		$ 1,256,774	$ 1,321,354	$ 1,376,590	$ 1,434,808	$ 1,496,215	$ 1,561,039
Depreciation		$ -	$ -	$ -	$ -	$ -	$ -
Capital Outlay Directly Funded by Rates		$ 50,000	$ 320,200	$ 89,000	$ 291,000	$ 694,750	$ 298,688
Existing Debt Service		$ -	$ -	$ -	$ -	$ -	$ -
Future Debt Service		$ -	$ -	$ -	$ -	$ -	$ 355,163
Total Revenue Requirement		**$ 1,306,774**	**$ 1,641,554**	**$ 1,465,590**	**$ 1,725,808**	**$ 2,190,965**	**$ 2,214,889**
Net Cash Flow (Deficiency)		**$ 481,044**	**$ (340,557)**	**$ (413,127)**	**$ (318,684)**	**$ (237,144)**	**$ (3,646)**

Rate Adjustments

	FYE	2022	2023	2024	2025	2026	2027
Rate Revenues with Prior Year Adjustment		$ 1,785,532	$ 1,298,711	$ 1,050,154	$ 1,404,792	$ 1,951,466	$ 2,208,865
Annual Rate Adjustment Required		-26.94%	26.22%	39.34%	22.69%	12.15%	0.17%
Number of Months Rate Adjustment will be in Effect		0	12	12	12	12	12
Percentage Increase to Generate Required Revenue		*#DIV/0!*	*26.22%*	*39.34%*	*22.69%*	*12.15%*	*0.17%*
Proposed Rate Adjustment		0	30.00%	30.00%	35.00%	10.00%	0.00%

Estimated Ending Cash Balance

	FYE	2022	2023	2024	2025	2026	2027
Projected Rate Revenue		**$ 1,785,532**	**$ 1,688,324**	**$ 1,365,201**	**$ 1,896,469**	**$ 2,146,613**	**$ 2,208,865**
Net Cash Flow		$ 481,044	$ 49,056	$ (98,081)	$ 172,993	$ (41,997)	$ (3,646)
Ending Cash Balance		**$ 3,358,224**	**$ 3,407,280**	**$ 3,309,199**	**$ 3,482,192**	**$ 3,440,194**	**$ 3,436,549**

APPENDIX D – PROCESS WATER UTILITY RATE MODEL SHEETS

TRI GID
Process Water Rate Model
Assumptions
Alternative 1-1

FARR WEST ENGINEERING

General Assumptions

Study Details

Enter Current Fiscal Year	**2022**	
Duration of Study Period (Years)	**5**	

Financial Policies

Operating Reserve

			2022	2023	2024	2025	2026	2027
Minimum Operating Account Balance	90	days; 3 months	$ -	$ 184,169	$ 324,277	$ 334,153	$ 344,501	$ 355,350

Debt Covenant/Bond Reserve

		2022	2023	2024	2025	2026	2027
1	$ -	$ -	$ -	$ -	$ -	$ -	
2							

Select Debt Covenant Balance Goal: 1

1 10% of Debt Service (Principal + Interest)
2 2 - Amount at Right
3 3 - No Debt or Reserve Not Funded

Economic Factors that Govern Cost Projections

	FYE:	2022	2023	2024	2025	2026	2027
1	General Cost Inflation	2.90%	2.90%	2.90%	2.90%	2.90%	2.90%
2	Construction Cost Inflation	3.20%	3.20%	3.20%	3.20%	3.20%	3.20%
3	Labor Cost Inflation	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
4	Benefits Cost Inflation	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
5	Customer Growth	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
6	Cumulative Growth	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
7	General Inflation Plus Growth	2.90%	2.90%	2.90%	2.90%	2.90%	2.90%
8	No Escalation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
9	Investment Rate of Return	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%

TRI GID
Process Water Rate Model
Operating Fund Revenue & Expenditure Projections
Alternative 1-1

FARR WEST ENGINEERING

Revenues	Projection Method	FYE	Budget 2022	Budget 2023	Select Projection Starting Value	User Override Input	Projection Value 2023	Projection 2024	2025	2026	2027	2028
Service Charges												
530-40-40000 REUSE SALES	General Cost Inflation			$ 354,241	Budget 2023 Value	-	$ 354,241	$ 729,027	$ 750,169	$ 771,924	$ 794,310	$ 817,345
530-40-40100 PLAN REVIEW FEES	General Cost Inflation				Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -	$ -
	No Escalation				Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -	$ -
Total Revenues			*$ -*	*$ 354,241*				*$ 729,027*	*$ 750,169*	*$ 771,924*	*$ 794,310*	*$ 817,345*

Expenditures	Projection Method	FYE	Budget 2022	Budget 2023	Select Projection	User Override	Projection Value 2023	2024	2025	2026	2027	2028
O&M Expenses												
530-50-50000 REGULAR PAY	Labor Cost Inflation			$ 141,111	User Defined >>	$ 70,556	$ 70,556	$ 148,167	$ 155,575	$ 163,354	$ 171,522	$ 180,098
530-50-50050 OVERTIME PAY	Labor Cost Inflation			$ 3,441	User Defined >>	$ 1,720	$ 1,720	$ 3,613	$ 3,793	$ 3,983	$ 4,182	$ 4,391
530-50-50100 STANDBY PAY	Labor Cost Inflation			$ 4,259	User Defined >>	$ 2,129	$ 2,129	$ 4,472	$ 4,695	$ 4,930	$ 5,177	$ 5,435
530-50-51000 VACATION PAY	Labor Cost Inflation			$ -	User Defined >>	$ -	$ -	$ -	$ -	$ -	$ -	$ -
530-50-51050 SICK PAY	Labor Cost Inflation			$ -	User Defined >>	$ -	$ -	$ -	$ -	$ -	$ -	$ -
530-50-51100 HOLIDAY PAY	Labor Cost Inflation			$ -	User Defined >>	$ -	$ -	$ -	$ -	$ -	$ -	$ -
530-50-51200 FICA	Labor Cost Inflation			$ -	User Defined >>	$ -	$ -	$ -	$ -	$ -	$ -	$ -
530-50-51250 MEDICARE	Benefits Cost Inflation			$ 2,046	User Defined >>	$ 1,023	$ 1,023	$ 2,251	$ 2,476	$ 2,723	$ 2,996	$ 3,295
530-50-51300 PERS	Benefits Cost Inflation			$ 41,981	User Defined >>	$ 20,990	$ 20,990	$ 46,179	$ 50,797	$ 55,876	$ 61,464	$ 67,610
530-50-51350 UNEMPLOYMENT	Benefits Cost Inflation			$ 4,163	User Defined >>	$ 2,081	$ 2,081	$ 4,579	$ 5,037	$ 5,541	$ 6,095	$ 6,704
530-50-51400 GROUP INSURANCE	Benefits Cost Inflation			$ 17,189	User Defined >>	$ 8,594	$ 8,594	$ 18,908	$ 20,798	$ 22,878	$ 25,166	$ 27,683
530-50-51450 WORKERS COMP INSURANCE	Benefits Cost Inflation			$ 4,360	User Defined >>	$ 2,180	$ 2,180	$ 4,796	$ 5,275	$ 5,803	$ 6,383	$ 7,021
530-50-51500 OTHER BENEFITS	Benefits Cost Inflation			$ 5,383	User Defined >>	$ 2,692	$ 2,692	$ 5,922	$ 6,514	$ 7,165	$ 7,882	$ 8,670
530-50-52000 PROFESSIONAL SERVICE - ENGINEERING	General Cost Inflation			$ 35,000	Budget 2023 Value		$ 35,000	$ 72,030	$ 74,119	$ 76,268	$ 78,480	$ 80,756
530-50-52050 PROFESSIONAL SERVICE - LEGAL	General Cost Inflation			$ 48,000	Budget 2023 Value		$ 48,000	$ 98,784	$ 101,649	$ 104,597	$ 107,630	$ 110,751
530-50-52100 PROFESSIONAL SERVICE - OPERATIONS	Customer Growth			$ 123,500	User Defined >>	$ 249,442	$ 249,442	$ 249,442	$ 249,442	$ 249,442	$ 249,442	$ 249,442
530-50-52150 PROFESSIONAL SERVICE - FINANCIAL	General Cost Inflation			$ 2,250	Budget 2023 Value		$ 2,250	$ 4,631	$ 4,765	$ 4,903	$ 5,045	$ 5,191
530-50-52200 PROFESSIONAL SERVICE - SOFTWARE	General Cost Inflation			$ 5,655	Budget 2023 Value		$ 5,655	$ 11,639	$ 11,976	$ 12,324	$ 12,681	$ 13,049
530-50-52250 PROFEESIONAL SERVICE - ANALYTICAL	General Cost Inflation			$ 1,529	Budget 2023 Value	-	$ 1,529	$ 3,147	$ 3,238	$ 3,332	$ 3,428	$ 3,528
530-50-52300 PROFESSIONAL SERVICE - SCADA	General Cost Inflation			$ 1,404	Budget 2023 Value	-	$ 1,404	$ 2,890	$ 2,974	$ 3,060	$ 3,149	$ 3,240
530-50-52350 PROFESSIONAL SERVICE - MISCELLANEOUS	General Cost Inflation			$ 5,114	Budget 2023 Value		$ 5,114	$ 10,524	$ 10,829	$ 11,143	$ 11,466	$ 11,799
530-50-53000 CONTRACT SERVICES - MISCELLANEOUS	General Cost Inflation			$ 23,382	Budget 2023 Value		$ 23,382	$ 48,121	$ 49,516	$ 50,952	$ 52,430	$ 53,951
530-50-54000 REPAIRS AND MAINTENANCE - REUSE	General Cost Inflation			$ 90,069	Budget 2023 Value		$ 90,069	$ 185,363	$ 190,738	$ 196,270	$ 201,962	$ 207,819
530-50-54050 REPAIRS AND MAINTENANCE - EQUIPMENT AND VEHICLES	General Cost Inflation			$ 1,426	Budget 2023 Value		$ 1,426	$ 2,934	$ 3,019	$ 3,107	$ 3,197	$ 3,290
530-50-55000 PARTS AND SUPPLIES - OFFICE	General Cost Inflation			$ 961	Budget 2023 Value		$ 961	$ 1,978	$ 2,035	$ 2,094	$ 2,155	$ 2,218
530-50-55050 PARTS AND SUPPLIES - REUSE SYSTEM	General Cost Inflation			$ 10,045	Budget 2023 Value		$ 10,045	$ 20,673	$ 21,273	$ 21,890	$ 22,524	$ 23,178
530-50-55100 PARTS AND SUPPLIES - EQUIPMENT	General Cost Inflation			$ -	Budget 2023 Value		$ -	$ -	$ -	$ -	$ -	$ -
530-50-55150 PARTS AND SUPPLIES - SAFETY	General Cost Inflation			$ 347	Budget 2023 Value	-	$ 347	$ 713	$ 734	$ 755	$ 777	$ 800
530-50-56000 UTILITIES - WATER AND SEWER	General Cost Inflation			$ 4,485	Budget 2023 Value		$ 4,485	$ 9,230	$ 9,497	$ 9,773	$ 10,056	$ 10,348
530-50-56050 UTILITIES - REFUSE	General Cost Inflation			$ 17,295	Budget 2023 Value		$ 17,295	$ 35,592	$ 36,624	$ 37,686	$ 38,779	$ 39,904
530-50-56100 UTILITIES - ELECTRICITY	General Cost Inflation			$ 43,031	User Defined >>		$ 43,031	$ 122,000	$ 125,538	$ 129,179	$ 132,925	$ 136,780
530-50-56150 UTILITIES - COMMUNICATIONS	General Cost Inflation			$ 1,091	Budget 2023 Value		$ 1,091	$ 2,246	$ 2,311	$ 2,378	$ 2,447	$ 2,518
530-50-57000 CHEMICALS	General Cost Inflation			$ 31,481	Budget 2023 Value		$ 31,481	$ 64,787	$ 66,666	$ 68,599	$ 70,588	$ 72,635
530-50-57050 GASOLINE	General Cost Inflation			$ 2,865	Budget 2023 Value		$ 2,865	$ 5,897	$ 6,068	$ 6,244	$ 6,425	$ 6,611
530-50-58000 INSURANCE	General Cost Inflation			$ 38,691	Budget 2023 Value	-	$ 38,691	$ 79,626	$ 81,935	$ 84,312	$ 86,757	$ 89,273
530-50-58050 ADVERTISING	General Cost Inflation			$ 255	Budget 2023 Value	-	$ 255	$ 525	$ 540	$ 556	$ 572	$ 589
530-50-58100 POSTAGE AND DELIVERY	General Cost Inflation			$ 223	Budget 2023 Value	-	$ 223	$ 459	$ 472	$ 486	$ 500	$ 514
530-50-58150 TRAINING AND TRAVEL	General Cost Inflation			$ 9,780	Budget 2023 Value	-	$ 9,780	$ 20,127	$ 20,711	$ 21,312	$ 21,930	$ 22,566
530-50-58200 PROFESSIONAL LICENSES, DUES, AND FEES	General Cost Inflation			$ 188	Budget 2023 Value	-	$ 188	$ 387	$ 399	$ 410	$ 422	$ 434
530-50-58250 STATE AND LOCAL PERMITS AND LICENSES	General Cost Inflation			$ 7,781	Budget 2023 Value	-	$ 7,781	$ 16,013	$ 16,478	$ 16,956	$ 17,447	$ 17,953
530-50-59000 RENT	General Cost Inflation			$ 3,150	Budget 2023 Value	-	$ 3,150	$ 6,483	$ 6,671	$ 6,864	$ 7,063	$ 7,268
530-50-59050 MINOR EQUIPMENT	General Cost Inflation			$ -	Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -	$ -
530-50-59100 CAPITAL EXPENDITURE CLEARING	General Cost Inflation			$ 37,600	User Defined >>	$ -	$ -	$ -	$ -	$ -	$ -	$ -
530-50-70000 OTHER EXPENSE	General Cost Inflation				Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -	$ -
530-50-80000 TRANSFER OUT	General Cost Inflation				Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -	$ -
	General Cost Inflation				Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -	$ -
	General Cost Inflation				Budget 2023 Value	-	$ -	$ -	$ -	$ -	$ -	$ -
Total Expenditures			**$ -**	**$ 770,530**			**$ 746,906**	**$ 1,315,125**	**$ 1,355,178**	**$ 1,397,143**	**$ 1,441,143**	**$ 1,487,310**

TRI GID
Process Water Rate Model
Capital Funding Plan
Alternative 1-1

FARR WEST ENGINEERING

CIP Expenditures	FYE	2022	2023	2024	2025	2026	2027
Project Costs Dedicated to Repair and Replacement		$ -	$ 37,600	$ 7,000	$ 108,000	$ 8,000	$ 8,000
Project Costs Dedicated to Expansion		$ -	$ -	$ -	$ -	$ -	$ -
Total CIP Expenditures to be Funded		**$ -**	**$ 37,600**	**$ 7,000**	**$ 108,000**	**$ 8,000**	**$ 8,000**

TRI GID
Process Water Rate Model
Operating Reserve Funds
Alternative 1-1

FARR WEST ENGINEERING

	FYE	2022	2023	2024	2025	2026	2027
Beginning Cash Balance		$ -	**$ 750,000**	$ 319,735	$ 382,762	$ 344,906	$ 406,419
Reserve Funded from Rates		$ -	$ -	$ 63,028	$ -	$ 61,513	$ 60,046
Reserve Used as Revenue Source		$ -	$ -	$ -	$ -	$ -	$ -
Reserve Used to Fund Shortfalls/Capital Projects		$ -	$ (430,265)	$ -	$ (37,856)	$ -	$ -
Revenue Adjustment for FY 23							
Operating Reserve		$ -	$ (184,169)	$ (324,277)	$ (334,153)	$ (344,501)	$ (355,350)
Debt Reserve		$ -	$ -	$ -	$ -	$ -	$ -
Free Cash		**$ -**	**$ 135,566**	**$ 58,485**	**$ 10,753**	**$ 61,918**	**$ 111,115**
Ending Cash Balance		**$ -**	**$ 319,735**	**$ 382,762**	**$ 344,906**	**$ 406,419**	**$ 466,465**

TRI GID
Process Water Rate Model
Revenue Requirement
Alternative 1-1

FARR WEST ENGINEERING

	FYE	2022	2023	2024	2025	2026	2027
Revenue Sources							
Rate Revenue		$ -	$ 354,241	$ 729,027	$ 750,169	$ 771,924	$ 794,310
Additional Rate Revenue After Prior Year Adjustment		$ -	$ -	$ -	$ 675,152	$ 694,732	$ 714,879
Miscellaneous Revenues		$ -	$ -	$ -	$ -	$ -	$ -
Reserves							
[Not Used]							
Total Revenue Sources		**$ -**	**$ 354,241**	**$ 729,027**	**$ 1,425,322**	**$ 1,466,656**	**$ 1,509,189**
Expenses				$ 1.76			
Process Water Operation & Maintenance		$ -	$ 746,906	$ 1,315,125	$ 1,355,178	$ 1,397,143	$ 1,441,143
Depreciation		$ -	$ -	$ -	$ -	$ -	$ -
Capital Outlay Directly Funded by Rates		$ -	$ 37,600	$ 7,000	$ 108,000	$ 8,000	$ 8,000
Short Lived Assets							
Future Debt Service		$ -	$ -	$ -	$ -	$ -	$ -
Total Revenue Requirement		**$ -**	**$ 784,506**	**$ 1,322,125**	**$ 1,463,178**	**$ 1,405,143**	**$ 1,449,143**
Net Cash Flow (Deficiency)		**$ -**	**$ (430,265)**	**$ (593,097)**	**$ (37,856)**	**$ 61,513**	**$ 60,046**

Rate Adjustments	FYE	2022	2023	2024	2025	2026	2027
Rate Revenues with Prior Year Adjustment		$ -	$ 354,241	$ 729,027	$ 1,425,322	$ 1,466,656	$ 1,509,189
Annual Rate Adjustment Required		#DIV/0!	121.46%	81.35%	2.66%	-4.19%	-3.98%
Number of Months Rate Adjustment will be in Effect		0	6	12	12	12	12

Estimated Ending Cash Balance	FYE	2022	2023	2024	2025	2026	2027
Projected Rate Revenue		$ -	$ 354,241	$ 1,385,152	$ 1,425,322	$ 1,466,656	$ 1,509,189
Net Cash Flow		$ -	$ (430,265)	$ 63,028	$ (37,856)	$ 61,513	$ 60,046
Ending Cash Balance		**$ -**	**$ 319,735**	**$ 382,762**	**$ 344,906**	**$ 406,419**	**$ 466,465**

APPENDIX E – AWWA WATER METER EQUIVALENT RATIO

AWWA Meter Equivalent

Meter Size	Max Rated Safe Operating Flow gpm	Flow Factor
3/4"	30	1.0
1"	50	1.7
1-1/2"	100	3.3
2"	160	5.3
3"	320	10.7
4"	500	16.7
6"	1000	33.3
8"	1600	53.3
10"	4200	140.0

APPENDIX F – TMWRF EFFLUENT AGREEMENT BASE RATE

FARR WEST
ENGINEERING

TECHNICAL MEMORANDUM

TRI GID

PROCESS WATER RATE STUDY

Prepared For:	Shari Whalen, P.E.
Prepared By:	Lucas Tipton, P.E.
Reviewed By:	Brent Farr, P.E.
Date:	April 22, 2022
Subject:	Proposed TMWRF Commodity Rate

1.0 BACKGROUND

The TRI GID contracted with Farr West Engineering in January 2022 to conduct a utility rate study for the water, sewer, and process utilities through fiscal year ending in 2027 (FY 27). As part of the analysis for the proposed process utility, it is understood that the GID will need to purchase effluent from TMWRF on a volumetric basis (i.e., per kgal).

The intent of this memorandum is to document the assumptions and methodology used to determine a representative and appropriate unit rate to recover the costs incurred by the City of Sparks and the City of Reno related to pumping effluent into the TRI GID process system.

1.1 ASSUMPTIONS AND METHODOLOGY

Key assumptions used to calculate unit cost of service for pumping effluent include:

Item	Value
Estimated Volume of Water Pumped	500 acre-feet
Power per Pump	400 hp
Number of Pumps	4
Flow Rate per Pump	2,027 – 2,250[1]
Unit Cost of Electricity	$0.14 per kWh
Operator Labor Required	6.5 hours per week
Annual Cost of Full Time Employee (FTE)	$100,000 (salary + benefits)
Installation Cost of TMWRF Specific Facilities	$4,600,000
Service Life of Pumping Facility	40 years

1 – With a single pump on the facility operates at flow rate of 2,250 gpm. When all four pumps are pumping in parallel the flow rate per pump is reduced to 2,027 gpm for a total flow of 8,108 gpm.

This analysis uses three specific sources of cost recovery for the TMWRF facility. These sources are:

- Electricity
- Labor
- Depreciation

Electricity

TMWRF will incur electrical costs to pump effluent into the TRI GID system which are directly correlated to the total power consumption of the facility. The total power consumption of the facility is a function of the size of motors on each pump, the number of pumps in operation, and the total time each pump is in operation.

$$Cost_{electricity} = 0.7457 \times n_{pumps} \times P_{per\ pump} \times t_{operation} \times \$_{kWh}$$

n_{pumps} = 4

$P_{per\ pump}$ = 400 hp

$t_{operation}$ = 335 hours (for 500 acre-feet)

$\$_{kWh}$ = \$0.14 per kWh

The total cost of electricity to pump 500 acre-feet of effluent was found to be \$55,942. This cost is directly proportional to the total volume pumped so it can simply be scaled up or down by dividing the total volume pumped by 500 acre-feet if actual volumes differ from the projected volume.

Labor

The cost of labor associated with the operation of the facility is slightly more difficult to estimate than electrical costs because the facility was designed to operate with minimal operational oversight and there is no history of operations to base values on. The operation & maintenance activities considered in estimating the labor total were as follows:

- Daily inspection (0.5 hr per day)
- Operational log review (1 hr per week)
- Routine maintenance (1 day per month)

The time allotted to these routine activities equate to 6.5 hours per week or 16.3 percent of a FTE. Using the estimated cost of an FTE stated previously, the total labor cost becomes:

$$0.16 \times \$100{,}000 = \$16{,}250$$

Depreciation

It is common for utility rates to include a charge to replace equipment after it has reached the end of its useful life. The calculation for this charge uses straight-line depreciation to estimate the annual recovery cost for the utility to use to replace the facility and/or equipment. The annual depreciation cost component was calculated as follows:

Installation cost of facility = \$4,600,000

Service Life of Facility = 40 years

$$Annual\ Depreciation = \frac{\$4{,}600{,}000}{40} = \$115{,}000$$

2.0 ANNUAL CHARGE AND UNIT COST

Combining the electricity, labor, and depreciation costs the estimated annual fee of $187,192 is required for 500 acre-feet of effluent. Farr West recommends two options for how this fee can be assessed to the TRI GID on an annual basis.

Option 1 - This fee could be reduced to a single volumetric charge of $1.15 per kgal of water pumped, or

Option 2 - The fee could be split into a base fee of $131,250 (depreciation + labor fixed costs) plus a volumetric charge of $0.34 per kgal for the electricity charges.

The benefit of Option 1 is that it is the most simplistic by charging a single fee based on gallons of water pumped. However, this unit rate could result in insufficient cost recovery if less than 500 acre-feet are provided in any one year, and/or excessive cost recovery if more than 500 acre-feet are delivered to the TRI GID. Option 2 ensures that TMWRF's fixed costs are recovered annually and collects the correct total for electricity costs no matter the volume of effluent provided.

Ultimately, the City of Reno, City of Sparks, and the TRI GID should commit to revisiting this unit rate within 3 years of operations (e.g., by 2025) in order to update any estimated costs with actual expense records. The fees detailed in this memorandum also do not constitute the full expense of operating the process water utility or include all fees which the GID needs to pay other entities on an annual basis. For example, TMWA assesses the GID an Operations & Resource Fee of $47 per acre-foot of effluent and is entitled to collecting legal fees associated with providing up to 4,000 acre-feet of effluent to the TRI GID.

TMWRF Unit Rate Calc

Total Water Delivered	500	ac-ft
Flow Rate Total	8108	gpm
Number of Pumps	4	
HP per Pump	400	
Hours of Pump Operation	335	hours
Unit Cost of Electricity	$0.14	$/kWh
Cost of Electricity	$55,941.77	
Number of hours per week	6.5	
FTE Ratio	0.1625	
FTE Salary + Benefits	$ 100,000	
Operator Cost	$ 16,250	
Installation Cost of TMWRF Equipment	$ 4,600,000	
Service Life of Facility	40	
Annual Depreciation	$ 115,000	
Annual Charge	**$187,191.77**	
Commodity Charge	**$1.15**	per kgal
Base Charge	**$131,250.00**	
Commodity Charge	**$0.34**	per kgal

Option 1

Option 2

Exhibit B
Notice of Public Hearing

TRI General Improvement District

Notice of Public Hearing

Pursuant to NRS 318.199, the general public and all users of water and sewer service within the TRI General Improvement District ("TRIGID") are hereby given notice that the TRIGID Board of Trustees will hold a public hearing to modify the water and sewer rates, tolls and charges schedule and create a process water rate, toll, and charge schedule for TRIGID.

The hearing will be held at 1705 Peru Drive, McCarran, Nevada and via Zoom:

Join Zoom Meeting:

https://zoom.us/j/7097790662

Dial by your location:

+1 669 900 6833 US

Meeting ID: 709 779 0662

The hearing will be held at 2:00 p.m. on July 7, 2022.

The general public and all potential users of water and sewer services of TRIGID are invited to attend and shall be afforded a reasonable opportunity to submit data, views and arguments orally or in writing.

Copies of the proposed rates can be requested by contacting:

TRI General Improvement District
c/o Courtney Dunn
1705 Peru Drive Suite 104
McCarran, Nevada 89347
(775)636-6126