

RESOLUTION NO. 2021-22

**RESOLUTION OF THE BOARD OF DIRECTORS OF THE
WESTERN HILLS WATER DISTRICT**

WHEREAS, the Board of Directors authorized a comprehensive review of the District’s water rates, which review was performed by HF&H Consultants and a final Water and Wastewater Rate Study dated November 10, 2021 (“Final Rate Study”), and submitted to the Board of Directors for their review; and

WHEREAS, the Final Rate Study was discussed and presented to the Board of Directors and it is recommended that the Board of Directors approve and accept the Final Rate Study as being complete; and

WHEREAS, based upon the Final Rate Study the Board of Directors proposes that the rate increases set forth below be considered for adoption subject to compliance with the requirements of Proposition 218 and Health & Safety Code Section 5471;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors as follows:

1. The Board hereby approves and accepts the Final Rate Study as complete.
2. The Board proposes to consider adoption of the following rates:

Table 1. Three-Year Water Rate Schedule –Service Charge

Customer Class	Current Monthly Charge	Proposed		
		FY 2021-22	FY 2022-23	FY 2023-24
	<i>effective date</i>	<i>1/26/2022</i>	<i>1/26/2023</i>	<i>1/26/2024</i>
Residential	\$100.69	\$134.99	\$144.99	\$154.99

Table 2. Three-Year Water Rate Schedule –Usage Charge

Customer Class	Current Usage Charge	Customer Class	Proposed Tier Size	Proposed		
				FY 2021-22	FY 2022-23	FY 2023-24
			<i>effective date</i>	<i>1/26/2022</i>	<i>1/26/2023</i>	<i>1/26/2024</i>
Residential		Residential				
All Usage	\$1.49	Tier 1	0-6	\$1.88	\$1.88	\$1.88
		Tier 2	>6-13	\$2.57	\$2.57	\$2.57
		Tier 3	>13-20	\$3.21	\$3.21	\$3.21
		Tier 4	20+	\$5.42	\$5.42	\$5.42
Non-Residential	\$5.87	Non-Residential		\$4.25	\$4.25	\$4.25
Raw Water	\$4.01	Raw Water		\$4.25	\$4.25	\$4.25

Note: Monthly water rates are based on a unit of 750 gallons of water used.

If adopted, the new rates would go into effect on January 26, 2022. For each subsequent fiscal year, the new rates would go into effect on January 26 of each year.

3. A public hearing shall be held on Wednesday, January 12, 2022, at 6:30 PM via Zoom and at the Diablo Grande Fire Station, 20899 Grapevine Dr., Patterson, CA, Patterson, California.

4. The Proposition 218 notices of the proposed rate increase, in substantially the forms presented to the Board of Directors at this Board meeting, are approved. The Secretary of the Board of Directors after consultation with the District's General Counsel may make changes, insertions and deletions as appropriate or necessary.

5. The District staff is authorized and directed to mail the final forms of the Proposition 218 notices to parcel owners whose parcels are connected to the District's water system.

6. Any member of the Board of Directors, General Manager, and the District Engineer and any other officers, employees and agents of the District shall be, and each of them hereby is, authorized to give or take all actions permitted or required by this Resolution or by applicable law, with the advice of District's General Counsel, as each may deem necessary or desirable to further the purposes of this Resolution.

Moved by Director _____, second by Director _____, that the foregoing resolution be adopted.

Upon roll call the following vote was had:

- Ayes:
- Noes:
- Abstain:
- Absent:

I, Christa Manning, Secretary of the Board of Directors of the Western Hills Water District, do hereby certify that the foregoing is a full, true and correct copy of a resolution duly adopted at a duly noticed regular meeting of the said Board of Directors held the 10th day of November, 2021.

Christa Manning, District Secretary

WESTERN HILLS WATER DISTRICT

NOTICE OF PUBLIC HEARING TO CONSIDER AN INCREASE IN WATER RATES AND TO CONSIDER ANY PROTESTS

The Western Hills Water District (District) Board of Directors hereby gives notice of a Public Hearing to be held at its meeting on **Wednesday, January 12, 2022 at 6:30 p.m.** The Public Hearing will have a physical location at the **Diablo Grande Fire Station (20899 Grapevine Dr., Patterson, CA)** and via Zoom to consider proposed increases in water rates. The following link can be used to attend the Public Hearing: <https://us06web.zoom.us/j/83729812033?pwd=VUoyK21mSWITY3UwdTd3QmRIK3NOQT09>. To join via telephone, call: 253-215-8782 and enter Meeting ID: 837 2981 2033 and Passcode: 367641

REASON FOR NOTICE

This notice is being furnished to you by the (District) pursuant to the California Constitution Article XIID (also known as Proposition 218). Under terms of Proposition 218, the District is required to notify property owners of proposed changes to property-related fees, such as water services. This letter provides notice that the District will hold a Public Hearing on January 12, 2022, to consider changes to its current water rates which would become effective over the next three years on January 26, 2022, January 26, 2023, and January 26, 2024, respectively. It is the responsibility of the parcel owner to provide this notice to any of their affected tenants.

At this Public Hearing, the Board of Directors will consider public comments as well as written protests by ratepayers against the proposed increases in water rates. If a majority (50% plus 1) of the affected parcels submit a valid, written protest prior to the close of the Public Hearing, the Board of Directors will not increase the rates as a matter of state law.

REASONS FOR WATER RATE INCREASES

Current rate revenues do not cover the District's costs of providing water service, resulting in a shortfall of over \$2.6 million per year. The District's water system was designed to support 800 residential accounts, but less than 600 residential accounts are currently receiving service. In addition, revenues from the Diablo Grande Golf Course and vineyard have disappeared, as no water is being used by either entity. Decreasing revenues combined with high purchased water costs make it necessary for the District to raise existing water rates to reduce the annual shortfall. The proposed increases reduce, but do not eliminate, the annual revenue shortfall.

PROPOSED WATER RATES

Your water bill is the sum of two charges: (1) a fixed service charge corresponding to the size of your meter and (2) a usage charge that is the product of your monthly water use times the water rate per 750 gallons. Effective for all residential meter readings and billings on or after January 26, 2022, the service charge will increase from \$100.69 to \$134.99 per month. Additionally, the fixed service charge will increase \$10.00 per month on January 26, 2023, and January 26, 2024. In addition, the water rate per 750 gallons of water used will increase for single-family residential customers, as customers will be billed using a four-tiered system of usage rates in place of the current uniform rate of \$1.49 per 750 gallons of water used. The water rate for non-residential and raw water customers will adjust to \$4.25 per 750 gallons used. Non-residential water includes the District office, fire station, commercial businesses, multi-family dwellings, Homeowner's Association (HOA) connections, and Commercial Owner's Association (COA) connections. The proposed service charge and usage charge rates are shown below in Table 1 and Table 2, respectively.

The District is proposing to implement water service charges at the rates shown on the following page. The proposed rates are designed to fairly and equitably recover the costs of providing service from all customer classes. **The District will only implement future rate increases as financially necessary to recover the costs of providing water services.**

Table 1. Three-Year Water Rate Schedule –Service Charge

Customer Class	Current Monthly Charge	Proposed		
		FY 2021-22	FY 2022-23	FY 2023-24
	<i>effective date</i>	<i>1/26/2022</i>	<i>1/26/2023</i>	<i>1/26/2024</i>
Residential	\$100.69	\$134.99	\$144.99	\$154.99

Table 2. Three-Year Water Rate Schedule –Usage Charge

Customer Class	Current Usage Charge	Customer Class	Proposed Tier Size	Proposed		
				FY 2021-22	FY 2022-23	FY 2023-24
			<i>effective date</i>	<i>1/26/2022</i>	<i>1/26/2023</i>	<i>1/26/2024</i>
Residential		Residential				
All Usage	\$1.49	Tier 1	0-6	\$1.88	\$1.88	\$1.88
		Tier 2	>6-13	\$2.57	\$2.57	\$2.57
		Tier 3	>13-20	\$3.21	\$3.21	\$3.21
		Tier 4	20+	\$5.42	\$5.42	\$5.42
Non-Residential	\$5.87	Non-Residential		\$4.25	\$4.25	\$4.25
Raw Water	\$4.01	Raw Water		\$4.25	\$4.25	\$4.25

Note: Monthly water rates are based on a unit of 750 gallons of water used.

The proposed increases were calculated by taking the total cost of water purchased from Kern County Water Authority, operation and maintenance expenditures, debt service, and cost of capital improvements to be constructed over the next three years and dividing that amount by the total annual projections of water consumption. Details of the basis of the calculation are documented in a rate study report, which is available for review during normal business hours in the office of the District: 9501 Morton Davis Drive, Patterson, CA 95363.

FILING A PROTEST

At the Public Hearing on January 12, 2022, the Board of Directors will consider adoption of the proposed water rates and will receive public comments, as well as written protests by ratepayers/parcel owners opposing the proposed rate increases. If a majority of valid protests (50% plus 1) from all affected parcels is received prior to the close of the Public Hearing, the Board of Directors will not increase the rates as a matter of law.

If you wish to file a written protest, please send a protest in a sealed envelope addressed to “Water Rates, Western Hills Water District, 9501 Morton Davis Drive, Patterson, CA 95363”. Any record owner of a parcel upon which the water charges are proposed to be imposed and any tenant directly liable for the payment of water charges (i.e., a customer of record who is not a property owner) may submit a written protest; however, only one protest will be counted per identified parcel. Any written protest must: (1) state that the identified property owner or tenant is opposed to the proposed water rate adjustments and increases; (2) provide the location of the identified parcel (by Assessor’s Parcel Number); and (3) include the name and original signature of the property owner or tenant submitting the protest. Western Hills Water District must receive your protest at or before the time set for the Public Hearing. If the party signing the protest is not shown on the last equalized assessment roll of Stanislaus County as the owner of the parcel(s), then the protest must include written evidence that such party is the record owner of the parcel.

ADDITIONAL INFORMATION

If you would like additional information on the proposed water rates, please contact the Western Hills Water District Office at (209) 895-9493 or visit our website at <https://www.whwdist.org>.



Western Hills Water District Water Rate Study



November 10, 2021
Draft Report



HF&H Consultants, LLC

DRAFT

WESTERN HILLS WATER DISTRICT

9501 Morton Davis Drive
Patterson, CA 95363

WATER RATE STUDY

November 10, 2021

HF&H CONSULTANTS, LLC

201 North Civic Drive, Suite 230
Walnut Creek, CA 94596



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Robert C. Hilton, CMC

November 10, 2021

Mr. Matthew Manning
Board President
Western Hills Water District
9501 Morton Davis Drive
Patterson, CA 95363

Subject: Water Rate Study

Dear Mr. Manning:

HF&H Consultants, LLC (HF&H), is pleased to submit this Water Rate Study report to the Western Hills Water District (District). The report summarizes the projected revenue requirements over a five-year financial planning period from FY 2021-22 to FY 2025-26, updates the cost-of-service allocation among the customer classes (residential, non-residential, and raw water customers), and provides a detailed schedule of updates in the District's fixed meter charge and usage charges, through FY 2023-24.

This report is organized into five main sections:

- **Executive Summary** - A summary of the Findings and Recommendations of the proposed water rates and modifications based on the cost-of-service analysis.
- **Introduction** - An overview of the purpose, methodology and objectives of the study.
- **Revenue Requirement Projections** - The estimated costs that must be covered by rates.
- **Cost of Service Analysis** - The allocation of the revenue requirement to the residential, non-residential customers, and raw water customers.
- **Rate Design** - A description of the application of the cost-of-service adjustments and the required rate changes to the District's current service charges and usage charges.

Sincerely,
HF&H CONSULTANTS, LLC

Rick Simonson, Senior Vice President
Gabe Sasser, Senior Associate

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ACKNOWLEDGEMENTS

Western Hills Water District

- Matthew Manning, President
- Linda Kuipers, Director of Operations
- Zechariah Manning, Director of Web Technology & Digital Platforms
- Chris Blessing, Director of Marketing & Communications
- Mark Kovich, Officer/Treasurer/Controller and Tax Assessor
- Ashley Wilkins, Office Manager
- Roger Masuda, General Counsel
- David Hobbs, Assistant General Counsel

HF&H Consultants, LLC

- John Farnkopf, Sr. Vice President
- Rick Simonson, Sr. Vice President
- Gabe Sasser, Senior Associate

LIMITATIONS

This document was prepared solely for the District in accordance with the contract between the District and HF&H and is not intended for use by any other party for any other purpose.

In preparing this analysis, we relied on information and instructions from the District, which we consider to be accurate and reliable and did not independently verify.

Rounding differences caused by stored values in electronic format may exist.

This document addresses relevant laws, regulations, and court decisions but should not be relied upon as legal advice. Questions concerning the interpretation of legal authorities referenced in this document should be referred to a qualified attorney.

SECTION 1. EXECUTIVE SUMMARY

The Western Hills Water District (District) provides water, wastewater, and storm drain services to residents and businesses located within the Diablo Grande community. The purpose of this report is to document the water rate study HF&H Consultants (HF&H) conducted in 2020 and 2021.

The process of updating the District's water rates began in March 2020 with a meeting with Staff to discuss rate-making objectives, recent developments that should be reflected in the analysis, data collection, and model development. Preliminary results were presented to the Community Advisory Committee for review and revision in August 2020 and March 2021. A presentation was made to the District's customers and the District's Board on March 10, 2021. Final revisions were made and presented to the District's Board on September 29, 2021.

1.1 Current Rates

The District provides treated water service to more than 580 residential and non-residential (e.g., District office, developer office, fire station, etc.) customers and non-treated (raw) water service to the Diablo Grande Golf Course (Golf Course), through a system of booster pumps and distribution pipelines; all of the customers are metered. The Golf Course has closed and has not received water in over a year. As a result, the analysis assumes the Golf Course will not open and purchase water within the next three years.

The District currently charges residential households monthly bills that are the sum of a base service charge plus a usage charge based on metered water use during the month. The current residential service charge is \$100.69 per month and the usage charge is \$1.49 per 750 gallons. The District currently charges other treated water customers (e.g., Homeowners' Association irrigation meters, District office, etc.) and raw water customers monthly bills based solely on metered usage during the month, no service charge, which results in usage charges greater than the residential household usage charge of \$1.49 per 750 gallons. The current rates are summarized in **Figure 1-1**.

Figure 1-1. Current Rates

Customer Class	Service Charge Per Month	Usage Charge Per Unit/mo. ¹
Treated Water		
Residential	\$100.69	\$1.49
Residential - HOA	\$0.00	\$5.87
Non-Residential ²	\$0.00	\$5.87
<i>Combined %</i>		
Raw Water		
	\$0.00	\$4.01
		= \$1,747,63/AF

¹ Unit = 750 gallons

² Non-residential includes COAs, District office, clubhouse, fire station

We observed the following upon review of the District's current rates, rate structure, and annual operating expenses:

1. **Revenue Shortfall.** Projected revenue at current rates is not sufficient to cover the District's FY2021-22 projected operating expenses. Our five-year revenue requirement projections and the associated change in revenue needed to cover the projected costs are shown in **Figure 1-2**.

Figure 1-2. Projected Revenue Increases

	Revenue Requirement	% Increases
FY 2021-22	\$3,552,132	281.3%
FY 2022-23	\$3,160,149	-11.0%
FY 2023-24	\$3,228,768	2.2%
FY 2024-25	\$3,304,205	2.3%
FY 2025-26	\$3,381,728	2.3%

Revenue at Current Rates = \$931,680

The revenue requirement decreases between FY 2022-23 as a result of the existing generators and vehicle loans being paid off. Regardless, substantial revenue increases are required to align revenue with the District's annual expenses to provide service.

1.2 Cost of Service Analysis

Based on our Cost of Service (COS) analysis, the need to increase water revenues by 281% shown in **Figure 1-2**, applies differently to the District's customer classes, as shown in **Figure 1-3**. Details of the calculation of each customer classes' cost of service is in **Section 4** of this report. Note: raw water costs and revenues are included in the Non-Residential line item.

Figure 1-3. FY 2021-22 Revenue Shortfall by Customer Class

Customer Class	FY 2021-22 Cost of Service	Estimated Revenue at Current Rates	Revenue Surplus/(Shortfall)	
			\$	%
Treated Water				
Residential	\$3,422,470	\$860,515	(\$2,561,954)	298%
Non-Residential	\$129,662	\$71,165	(\$58,497)	82%
	\$3,552,132	\$931,680	(\$2,620,451)	281%

Historically, the revenue shortfalls have been covered by contributions from the Developer.

Of the \$2,620,451 shortfall projected for FY 2021-22, \$2,561,954 is attributable to residential rates. The current residential rates do not cover the projected costs of providing services, which is a 298% variance between the \$3,422,470 cost of providing services to residents and the \$860,515 in revenue at the current rates paid by residents. The residential shortfall is primarily the result of a water system that was built to support 800 residential accounts and there were only 588 residential accounts at the time of our study. In the past 2014 study, current residents did not carry the full magnitude of the shortfall, as it was believed growth through future development

would help increase future revenues. Thus, a portion of the shortfall was borne by the developer. However, the District does not anticipate growth in the near future. The previous developer subsidy will now be an annual deficit incurred by the District. Our recommended rate changes discussed in Section 1.3 of this Executive Summary will reduce, but not eliminate, the annual revenue shortfall. How the District covers the remaining shortfall is beyond the scope of this study.

1.3 Recommendation

The magnitude of the difference between the residential rate revenue and their proportionate cost of service is significant. As shown in **Figure 1-3**, residential revenues need to increase by 298% to fully cover projected costs. This shortfall will not be made up easily, even if phased in. The District is exploring multiple options to reduce its annual expenses in the absence of future growth generating additional revenues. In the interim, the District requested incremental rate increases to reduce the annual shortfall between rate revenues and expenses. We worked with the District to identify a three-year schedule of rates to be adopted that will generate additional revenues.

The proposed rates include increasing the current monthly service charge and adjusting the usage charges per customer class to reflect the cost-of-service. In addition, usage charges for residential customers will shift from a uniform rate to a four-tiered structure with increasing block rates. This structure places a larger burden on the residential customers who use more water on a monthly basis and place a greater demand on the system, as a result.

Figure 1-4. Proposed Service Charges

Customer Class	Current Monthly Charge	Proposed		
		FY 2021-22	FY 2022-23	FY 2023-24
	<i>effective date</i>	1/26/2022	1/26/2023	1/26/2024
Residential	\$100.69	\$134.99	\$144.99	\$154.99

Figure 1-5. Proposed Usage Charges

Customer Class	Current Usage Charge	Customer Class	Proposed Tier Size	Proposed		
				FY 2021-22	FY 2022-23	FY 2023-24
			<i>effective date</i>	1/26/2022	1/26/2023	1/26/2024
Residential		Residential				
All Usage	\$1.49	Tier 1	0-6	\$1.88	\$1.88	\$1.88
		Tier 2	>6-13	\$2.57	\$2.57	\$2.57
		Tier 3	>13-20	\$3.21	\$3.21	\$3.21
		Tier 4	20+	\$5.42	\$5.42	\$5.42
Non-Residential	\$5.87	Non-Residential		\$4.25	\$4.25	\$4.25
Raw Water	\$4.01	Raw Water		\$4.25	\$4.25	\$4.25

Note: Monthly water rates are based on a unit of 750 gallons of water used.

With the recommended adjustments to the service charges and usage charges, rate revenues are projected to increase as shown in **Figure 1-6**. Despite increases to rates and rate revenues, the District's ratepayers will not fully cover the costs of service they receive through FY 2023-24.

Figure 1-6. Revenue Projections with Proposed Rate Adjustments

	Revenue at	Revenue at Proposed Rates		
	Current Rates	FY 2021-22	FY 2022-23	FY 2023-24
Residential				
Service Charge Revenue	\$710,469	\$952,479	\$1,023,039	\$1,093,599
Usage Charge Revenue	\$150,047	\$409,092	\$409,092	\$409,092
Non-Residential	\$71,165	\$51,584	\$51,584	\$51,584
Total Revenue	\$931,680	\$1,413,155	\$1,483,715	\$1,554,275
Rev Requirement	(\$3,552,132)	(\$3,552,132)	(\$3,160,149)	(\$3,228,768)
Shortfall	(\$2,620,451)	(\$2,138,977)	(\$1,676,435)	(\$1,674,493)
<i>Reduction of Shortfall</i>		18.4%	21.6%	0.1%

How the District covers the remaining shortfall is beyond the scope of this study.

SECTION 2. INTRODUCTION

The report is organized to explain the three analytical steps of the analysis. First, revenue requirements are determined for FY 2021-22. Rates need to be designed to generate the required revenue to cover the District's operating and capital needs. Second, the cost-of-service analysis determines how much of the revenue requirement should be paid by each customer class. Finally, the rates need to be designed for each customer class.

2.1 Study Purpose and Objectives

The purpose of this study is to conduct a comprehensive analysis of the District's water rates, including documentation of the analysis, underlying assumptions, and the rationale for the recommended rates. This study has several key objectives:

- Determine how much revenue is required to meet the District's requirements, including operating and maintenance, capital improvement, and reserve funds.
- Determine the cost of service for each customer class (i.e., treated water customers and non-treated (raw) water customers).
- Evaluate alternative rate structures that will ensure that customers within each class are paying their proportionate shares of the revenue requirements.

These objectives should be met by applying industry standards so that all applicable laws are complied with.

2.2 Methodology

This rate study included three analytic stages for each utility:

- **Revenue Requirement Projections.** The District's expenses and revenues are projected based on expected cost escalation factors and growth rates. The difference between expenses and revenues must be offset by annual revenue increases.
- **Cost of Service Analysis.** The revenue requirement for the coming rate year is allocated to each customer class based on the cost of service attributable to each class.
- **Rate Design.** Rates are designed for each customer class to recover its share of the cost of service. The reasonableness of the rate design is evaluated by comparing bills between customer classes to ensure that proportionality is maintained.

2.3 Rate-Making Objectives

The District has several rate-making objectives that the recommended rates are designed to achieve:

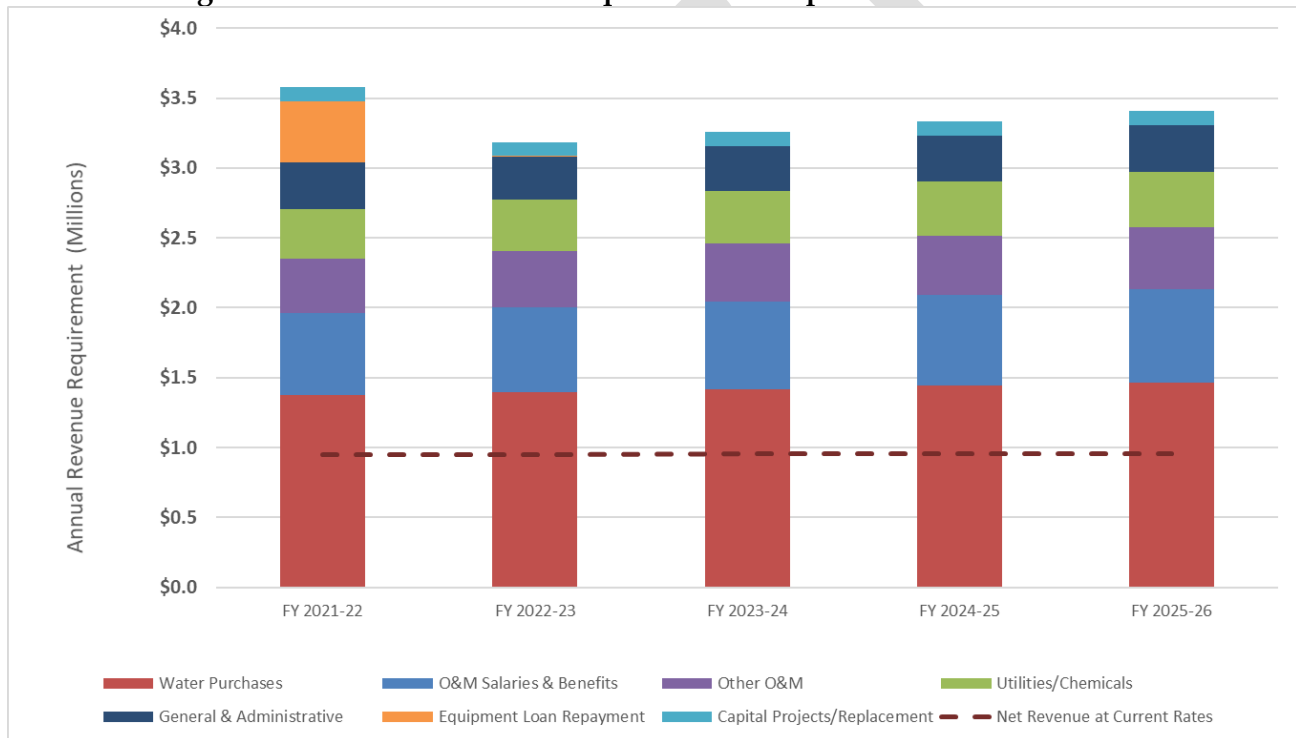
- **Revenue Sufficiency.** Rates need to generate sufficient revenue to fund operating and capital costs and maintain adequate reserves.
- **Revenue Stability.** Rates are designed to balance revenue from fixed and variable charges to stabilize revenue.
- **Affordability.** Rates need to be as affordable as possible while maintaining the District's sound financial position and credit rating.
- **Customer Acceptance.** Rates are designed to be as simple as possible to facilitate customer understanding and acceptance.
- **Fairness.** Rates are designed so that each customer class pays its proportionate share of the required revenue in compliance with legal rate-making requirements.

SECTION 3. REVENUE REQUIREMENT PROJECTION

3.1 General

Rate analysis begins by determining the revenue requirement that must be met by rates. For purposes of this study, a five-year rate projection period was developed using a spreadsheet model. With this model, revenue requirements were projected for FY 2021-22 through FY 2025-26 by using the District’s FY 2019-20 budgeted expenses as a starting point. The escalations from FY 2019-20 to FY 2021-22 were reviewed with the Board prior to making future projections. **Figure 3-1** summarizes the major categories comprising the revenue requirements, indicating the annual change. **Figure 3-1** indicates a significant gap between expenses and revenues at current rates.

Figure 3-1. Annual Revenue Requirement Components - Water Services



Annual Revenue Requirement	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Water Purchases	\$1,373,930	\$1,396,547	\$1,419,544	\$1,442,926	\$1,466,702
O&M Salaries & Benefits	\$587,262	\$606,547	\$626,544	\$647,285	\$668,803
Utilities/Chemicals	\$354,341	\$364,971	\$375,920	\$387,198	\$398,813
Other O&M	\$391,938	\$402,951	\$414,272	\$425,913	\$437,880
Equipment Loan Repayment	\$437,676	\$4,798	\$0	\$0	\$0
General & Administrative	\$330,784	\$308,848	\$317,733	\$326,881	\$336,301
Capital Projects/Replacement	\$101,660	\$101,660	\$101,660	\$101,660	\$101,660
	\$3,577,590	\$3,186,321	\$3,255,673	\$3,331,862	\$3,410,160
<i>Annual increase</i>	<i>0.6%</i>	<i>-10.9%</i>	<i>2.2%</i>	<i>2.3%</i>	<i>2.3%</i>

3.2 Key Assumptions

Purchased Water Expense

The largest operating expense is the cost to purchase water. The District's budgeted FY 2019-20 expenses served as the starting point for projecting purchased water expenses. Purchased water costs for treated use and raw water use were assumed to increase by 1.6% per year over the five-year planning period, based on the previous 2014 study assumption. The District pays an administrative charge to the County associated with water purchases. This expense was assumed to increase by 2.8% per year to approximate assumed inflationary increases.

Operations & Maintenance (O&M) Salaries and Benefits Expense

O&M salaries and benefit expenses are the labor costs incurred to operate and maintain the District's pump stations and water treatment/delivery system. The District's budgeted FY 2019-20 expenses served as the starting point for projecting O&M wage and benefit expenses. No additional personnel are proposed during the five-year planning period. Salaries and wages were assumed to increase 3.0% annually and benefits were assumed to increase 8.0% annually.

Utilities and Chemicals Expense

Utilities and chemicals expenses are the chemical and power costs incurred to treat and transmit the purchased water to the District's customers for consumption and irrigation. The District's budgeted FY 2019-20 expenses served as the starting point for projecting the utility and chemical expenses. Annual increases of 3.0% were assumed over the five-year planning period.

Other O&M Expenses

The District's budgeted operations and maintenance (O&M) expenses (excluding salaries, benefits, and purchased water costs, discussed above) for FY 2019-20 served as the starting point for projecting other operations and maintenance expenses. Generally, these expenses were increased by 2.8% per year to approximate assumed inflationary increases.

Equipment Loan Repayment

Equipment loan repayments for the five-year planning period were based on the actual annual loan payments due for the lease purchase of five Caterpillar generator sets packages in 2007 and an operations truck in 2016. Both loans are on schedule to be paid off by the end of FY 2022-23.

General & Administrative Expense

General and Administrative (G&A) expenses are labor and other overhead costs incurred to support the O&M personnel (e.g., District controller, office staff, legal/accounting assistance). The District's actual FY 2019-20 G&A expenses served as the starting point for projecting G&A expenses. No additional G&A personnel are proposed during the five-year planning period. Salaries and wages were assumed to increase 3.0% annually; benefit costs were assumed to increase 8.0% annually; and, other G&A expenses were increased 2.8% per year to approximate assumed inflationary increases.

SECTION 4. COST OF SERVICE ANALYSIS

4.1 General

Figure 3-1 summarized the total revenue requirement for providing water services during the five-year planning period. As part of developing rates that do not exceed the cost of providing service to any one particular customer class, a cost-of-service analysis was performed to allocate the District's total revenue requirement to each customer class (Residential and Non-Residential) in proportion to each class' burden on the system.

A Cost of service analysis is a rate-making technique that is used to derive reasonable rates. Reasonable rates are defined by the courts as not being capricious, arbitrary, or discriminatory. Rates are not capricious if there is a clear rationale supporting the analysis. Rates are not arbitrary if there is a sound basis for choosing among alternatives. Finally, rates are not discriminatory if they allocate costs proportionately.

4.2 Allocation of Costs to Customer Classes

Figure 4-1 presents the proportional allocation of the District's projected FY 2021-22 expenses to each customer class, based on the allocation factors in **Figure 4-2**. As shown in **Figure 4-1**, the District's FY 2021-22 projected expenses to provide water services to its customers is \$3,552,132, the remainder is associated with providing sewer and storm drain services.

As illustrated in **Figure 4-1**, the District's cost to provide water services to the residential class is \$3,422,470. Typically, residential rates would be set in order to generate revenues equal to the \$3,422,470 cost of providing service; however, the District built the water system to support 800 residential accounts, of which there are 588 residential accounts using the system at the time of our study. It would be unreasonable to burden the current residents with the full cost of service.

With input from the District, we have modeled the cost of service assuming the District would absorb a shortfall of \$2,138,977 in FY 2021-22, as shown in **Figure 4-3**. The shortfall would be applied among both residential and non-residential customer classes. For purposes of analysis, non-residential customers include raw water customers. Currently only one meter uses raw water, a COA meter which irrigates the median on Diablo Grande Parkway within the District. This shortfall reduces the cost of service to be borne by the residential customer class from \$3,422,470 to \$1,361,571 and reduces the cost of service to be borne by the non-residential class from \$129,662 to \$51,584.

Figure 4-1. FY 2021-22 Allocation of Costs to Customer Classes

	Projected FY 2021-22	Allocation Factor	Water Services			Water Services Subtotal	Sewer	Storm Drain	Grand Total
			Treated - Res (Current)	Treated - Non-Res	Raw				
Operating Costs - Water Purchases									
Purchased Water for Treated Use	\$465,455	Treated Usage	\$449,177	\$16,277	\$0	\$465,455	\$0	\$0	\$465,455
Purchased Water for Raw Use	\$855,636	Total Usage	\$825,166	\$29,903	\$567	\$855,636	\$0	\$0	\$855,636
Total Water Purchases	\$1,321,091		\$1,274,344	\$46,180	\$567	\$1,321,091	\$0	\$0	\$1,321,091
Operating Costs - Pump Stations									
60301 Salaries/Wages	\$62,660	Total Usage	\$60,429	\$2,190	\$42	\$62,660	\$0	\$0	\$62,660
60391 Benefits	\$6,364	Total Usage	\$6,137	\$222	\$4	\$6,364	\$0	\$0	\$6,364
60300 Other Payroll-related	\$22,879	Total Usage	\$22,064	\$800	\$15	\$22,879	\$0	\$0	\$22,879
62002 Repairs & Maint.	\$31,704	Total Usage	\$30,575	\$1,108	\$21	\$31,704	\$0	\$0	\$31,704
62003 Generator Maint.	\$0	Total Usage	\$0	\$0	\$0	\$0	\$0	\$0	\$0
62049 Permits & Fees	\$867	Total Usage	\$836	\$30	\$1	\$867	\$0	\$0	\$867
62102 Electricity - Pump Stations	\$214,302	Total Usage	\$206,670	\$7,489	\$142	\$214,302	\$0	\$0	\$214,302
Total Pump Station Op Costs	\$338,775		\$326,711	\$11,839	\$225	\$338,775	\$0	\$0	\$338,775
Operating Costs - Water Treatment									
60351 Salaries/Wages	\$371,393	Treated Usage	\$358,405	\$12,988	\$0	\$371,393	\$0	\$0	\$371,393
60391 Benefits	\$26,978	Treated Usage	\$26,034	\$943	\$0	\$26,978	\$0	\$0	\$26,978
60300 Other Payroll-related	\$96,989	Treated Usage	\$93,597	\$3,392	\$0	\$96,989	\$0	\$0	\$96,989
63002 Repairs & Maintenance	\$54,424	Treated Usage	\$52,521	\$1,903	\$0	\$54,424	\$0	\$0	\$54,424
63003 Small Equipment	\$1,585	Treated Usage	\$1,530	\$55	\$0	\$1,585	\$0	\$0	\$1,585
63004 Generator Maint.	\$19,096	Treated Usage	\$18,428	\$668	\$0	\$19,096	\$0	\$0	\$19,096
63006 Pump Repair	\$3,170	Treated Usage	\$3,059	\$111	\$0	\$3,170	\$0	\$0	\$3,170
63010 WTP Supplies	\$44,385	Treated Usage	\$42,833	\$1,552	\$0	\$44,385	\$0	\$0	\$44,385
63011 Chemicals	\$70,019	Treated Usage	\$67,571	\$2,449	\$0	\$70,019	\$0	\$0	\$70,019
63012 Water Filtration Media	\$2,114	Treated Usage	\$2,040	\$74	\$0	\$2,114	\$0	\$0	\$2,114
63013 Tank Cleaning	\$21,136	Treated Usage	\$20,397	\$739	\$0	\$21,136	\$0	\$0	\$21,136
63048 H2O Sampling/Testing	\$152,177	Treated Usage	\$146,855	\$5,322	\$0	\$152,177	\$0	\$0	\$152,177
63049 Permits & Fees	\$15,416	Treated Usage	\$14,877	\$539	\$0	\$15,416	\$0	\$0	\$15,416
61053 Pioneer/Cross Valley Admin Costs	\$52,839	Treated Usage	\$50,991	\$1,848	\$0	\$52,839	\$0	\$0	\$52,839
63061 Lab Trailer Rent	\$8,877	Treated Usage	\$8,567	\$310	\$0	\$8,877	\$0	\$0	\$8,877
63062 Water Truck Lease	\$0	Treated Usage	\$0	\$0	\$0	\$0	\$0	\$0	\$0
63063 Water Truck Repair	\$0	Treated Usage	\$0	\$0	\$0	\$0	\$0	\$0	\$0
63064 Water Truck Rental	\$10,568	Treated Usage	\$10,198	\$370	\$0	\$10,568	\$0	\$0	\$10,568
63102 Electricity - Water Treatment	\$70,019	Treated Usage	\$67,571	\$2,449	\$0	\$70,019	\$0	\$0	\$70,019
63201 Computer/SCADA Support	\$0	Treated Usage	\$0	\$0	\$0	\$0	\$0	\$0	\$0
64002 Repairs & Maintenance	\$1,057	Treated Usage	\$1,020	\$37	\$0	\$1,057	\$0	\$0	\$1,057
64003 Distribution Inspection	\$0	Treated Usage	\$0	\$0	\$0	\$0	\$0	\$0	\$0
64005 New Flow Meter	\$14,795	Treated Usage	\$14,278	\$517	\$0	\$14,795	\$0	\$0	\$14,795
64004 Pumps	\$10,568	Treated Usage	\$10,198	\$370	\$0	\$10,568	\$0	\$0	\$10,568
Total Water Treatment Costs	\$1,047,605	Treated Usage	\$1,010,969	\$36,636	\$0	\$1,047,605	\$0	\$0	\$1,047,605
Operating Costs - Marshal Davis Well									
	\$0	Total Usage	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Operating Costs - Waste Water									
	\$585,458	Direct	\$0	\$0	\$0	\$0	\$585,458	\$0	\$585,458
Operating Costs - Storm Drain									
	\$4,960	Direct	\$0	\$0	\$0	\$0	\$0	\$4,960	\$4,960
Operating Costs - Equip. Loans									
	\$437,676	Total Usage	\$422,090	\$15,296	\$290	\$437,676	\$0	\$0	\$437,676
Subtotal Operating Costs	\$2,075,699		\$1,433,059	\$51,931	\$290	\$1,485,281	\$585,458	\$4,960	\$2,075,699
		% of Grand Total	69.0%	2.5%	0.0%	71.6%	28.2%	0.2%	100.0%
		% of Water Service Subtotal	96.5%	3.5%	0.0%	100.0%			
Capital Costs									
Motors for Lift Stations 2, 3 & 4	\$0	Total Usage	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Chemical Pumps	\$0	Total Usage	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Chlorine & Turbidity Meters & controllers	\$0	Total Usage	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Purchase of WTP Lab Trailer	\$0	Total Usage	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Water Truck	\$0	Total Usage	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Future CIP Projects	\$101,660	Total Usage	\$98,040	\$3,553	\$67	\$101,660	\$0	\$0	\$101,660
Vehicle Replacements	\$0	Total Usage	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Capital Costs	\$101,660		\$98,040	\$3,553	\$67	\$101,660	\$0	\$0	\$101,660
General & Administrative									
60381 Salaries/Wages	\$51,679	G&A is allocated	\$35,855	\$1,623	\$188	\$37,666	\$13,896	\$118	\$51,679
60391 Benefits	\$3,970	to each service	\$2,754	\$125	\$14	\$2,893	\$1,067	\$9	\$3,970
60335 Contract Labor	\$0	by % share of	\$0	\$0	\$0	\$0	\$0	\$0	\$0
60300 Other Payroll-related	\$14,272	total rev req.	\$9,902	\$448	\$52	\$10,402	\$3,837	\$33	\$14,272
68701 Attorney	\$76,088	Water services	\$52,790	\$2,389	\$277	\$55,456	\$20,459	\$173	\$76,088
68702 Engineering	\$42,271	share further alloc	\$29,328	\$1,327	\$154	\$30,809	\$11,366	\$96	\$42,271
68703 Accounting	\$19,551	to customer classes	\$13,564	\$614	\$71	\$14,249	\$5,257	\$45	\$19,551
Other G&A	\$246,020	by EMU	\$170,688	\$7,725	\$896	\$179,309	\$66,151	\$590	\$246,020
Total G&A	\$453,851		\$314,880	\$14,252	\$1,652	\$330,784	\$122,034	\$1,034	\$453,851
Total Expenses	\$4,291,076		\$3,447,033	\$127,755	\$2,802	\$3,577,590	\$707,492	\$5,994	\$4,291,076
Non-Operating Revenue									
Water Banking Revenue	(\$500,000)		(\$482,420)	(\$17,482)	(\$98)	(\$500,000)	\$0	\$0	(\$500,000)
Portion of Water Banking Revenue given as rebat	\$500,000		\$482,420	\$17,482	\$98	\$500,000	\$0	\$0	\$500,000
Late Fees	(\$13,200)	Op Cost Composite	(\$12,736)	(\$462)	(\$3)	(\$13,200)	\$0	\$0	(\$13,200)
Mitigation Area Maintenance	(\$10,145)	(Water Services	(\$9,788)	(\$355)	(\$2)	(\$10,145)	\$0	\$0	(\$10,145)
Backflow Testing	(\$2,114)	Subtotal)	(\$2,039)	(\$74)	(\$0)	(\$2,114)	\$0	\$0	(\$2,114)
Total Non-Operating Revenue	(\$25,459)		(\$24,564)	(\$890)	(\$5)	(\$25,459)	\$0	\$0	(\$25,459)
Contributions to Reserves									
Operating Reserves	\$0	Op Cost Composite	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net Expenses	\$4,265,617		\$3,422,470	\$126,865	\$2,797	\$3,552,132	\$707,492	\$5,994	\$4,265,617

Figure 4-2. Allocation Factors

	Residential	Non-Residential	Raw Water	Total
1 Total Water Use (gallons)	100,153	3,629	69	103,851
<i>% of Total</i>	96.4%	3.5%	0.1%	100.0%
2 Treated Water Use	100,153	3,629	0	103,782
<i>% of Total</i>	96.5%	3.5%	0.0%	100.0%
3 Equivalent Meter Units	610	28	3	641
<i>% of Total</i>	95.2%	4.3%	0.5%	100.0%
4 Op. Cost Composite Costs	\$1,433,059	\$51,931	\$290	1,485,281
<i>% of Total</i>	96.5%	3.5%	0.0%	100.0%

All Raw Water allocations of the cost of service have been combined with Non-Residential allocations from Figure 4-1 and the resulting sum is shown in the Non-Residential line item shown in Figure 4-3. Currently, there is only one meter receiving water for irrigation of median and right-of-way landscaping.

Figure 4-3. Residential Cost of Service Adjustment

Customer Class	FY 2021-22 Cost of Service	% of Rev. Req.	FY 2021-22 Shortfall	Revised Cost of Service
Residential	\$3,422,470	96.3%	(\$2,060,899)	\$1,361,571
Non-Residential	\$129,662	3.7%	(\$78,078)	\$51,584
Total	\$3,552,132	100.0%	(\$2,138,977)	\$1,413,155

4.3 Allocation Factors

The District requested HF&H to analyze the existing service charges and usage charges. Specifically, the District was interested in implementing a tiered-rate structure for future residential rates.

Our methodology for analyzing residential charges follows the base/extra capacity method promulgated by the American Water Works Association¹.

The analytical procedure contains the following steps:

1. **Cost classification** - Costs in the FY 2021-22 revenue requirement are classified into the service categories related to providing for customer demands and for customer service. FY 2021-22 costs are used for the cost-of-service analysis because they are the most recent budget year.
2. **Cost allocation** - The classified costs are allocated to the functions associated with each service. For demand services, the functions are levels of service that comprise average day, maximum day, and maximum hour demands. For customer services, the functions are customer accounts and customer capacity.

¹ *Principles of Water Rates, Fees, and Charges*. Manual M1. American Water Works Association. 2017.

The classifications of major costs are summarized as follows:

Demand services

- Base day – non-seasonal daily demand based on winter water use.
- Average day – average daily demand utilizing base supply plus a small portion for peaking beyond winter water use levels.
- Maximum day – peaking on the maximum day: peak supply, transmission mains to distribution storage, booster pumps.
- Maximum hour – peak hour on the maximum day: a portion of distribution storage, distribution mains to customers, hydrants, conservation programs.

Customer services

- Accounts: meter reading, billing, accounting, debt service, customer service, fire services, hydrants.

Composite services

- Indirect allocations for costs that are not directly related to either the demand or customer service functions: non-operating revenues.

The revenue requirement was apportioned among the residential and non-residential customer classes. Next, the residential portion of the revenue requirement was allocated according to functionalized costs. Expenses attributable to the residential customer class were classified into demand or service categories. Certain costs, however, are not directly related to either demand or customer services. Such costs are considered to be composite in function and were allocated based on a composite of the direct allocations to the demand and customer service categories.

Within the demand service function, allocations were made to varying levels of service ranging from base day demand to the highest level of peak demand for outdoor water use and irrigation during the peak hour of the peak day. With these allocations, rates can be designed to proportionately charge customers based on their demands.

Figure 4-4 summarizes the residential flows by customer class for each of the service levels and the corresponding load factors. The service levels are defined as follows:

1. **Base Day (Non-Seasonal)** – The average winter demand per day (96 units²) when seasonal peaking is minimal based on customer billing data for calendar year 2019. The base day demand was derived from the District’s residential customer billing data using the lowest two-month period of metered consumption, February 2019 through March 2019.
2. **Average Day** – The flow on the average day for residential customers (212 units) is 2.2 times the base day system-wide flow (96 units).
3. **Maximum Day** – The flow on the maximum day of the year is estimated to be 1.5 times the average day demand flow based on engineering design criteria used for sizing

² The District bills usage charges in units of 750 gallons.

infrastructure. The value was estimated due to a lack of data. For design purposes, facilities such as transmission pipelines, pump stations, and treatment plants are designed to meet maximum day flows; a flow of two times average day flow is used to design these facilities.

4. **Maximum Hour** - The maximum hourly flow is estimated to be 1.5 times the maximum day flow based on engineering design criteria used for sizing infrastructure. The value was estimated due to a lack of data. The maximum hour is therefore 4.9 times the base winter demand. For design purposes, facilities such as distribution pipelines and storage reservoirs are designed to meet maximum hour flows.

Figure 4-4. Residential Tier Breakpoint Calculations

Residential Customers	Base Non-	Average	Maximum	Maximum
	Seasonal Day	Day	Day	Hour
	<i>Tier 1</i>	<i>Tier 2</i>	<i>Tier 3</i>	<i>Tier 4</i>
Flow (Units/Day)	96	212	318	477
Flow (Units/Month)	2,933	6,448	9,673	14,509
Accounts	480	480	480	480
Flow (Monthly Units/Account)	6	13	20	30

Service levels need to increase to accommodate increasing levels of peak demands, which include irrigation and other seasonal water uses. Providing for higher service levels requires larger infrastructure. In a cost-of-service analysis, the cost of the infrastructure is allocated to the corresponding level of service. **Figure 4-4** demonstrates how the service levels were used to calculate the monthly residential tiers. From these tiers, the 2019 residential water consumption was analyzed to determine the proportion of consumption allocable to the four demand service levels. **Figure 4-5** summarizes the consumption totals at each level of demand by residential customers.

Figure 4-5. 2019 Residential Consumption

Levels of Demand	Future Use (per 750 gal)
Tier 1	6,988
Tier 2	17,119
Tier 3	14,343
Tier 4	39,180
	<u>77,631</u>

Our analysis of current consumption assumed the same proportionate levels of demand as 2019. In other words, the same percentage of water consumed at the Tier 1 level relative to the total residential consumption in 2019 would be consumed at the Tier 1 level relative to the total residential consumption in 2021. District estimates projected 2021 residential consumption of 100,702 units. The residential consumption values in **Figure 4-5** totaling 77,631 units were extrapolated as shown in **Figure 4-6**.

Figure 4-6. 2021 Residential Consumption

Levels of Demand	Future Use (per 750 gal)
Tier 1	9,065
Tier 2	22,207
Tier 3	18,606
Tier 4	50,824
	<u>100,702</u>

To allocate residential costs by demand service level, percentages of consumption based on the four tiers were calculated. For example, all costs to provide a Base Day level of demand would be captured entirely by the Base Day consumption. Thus, all proportions of consumption would be allocated to Base Day Demand. In contrast, the District's expenses to provide for the Maximum Day level of demand would provide for a system that could support the demands of Maximum Day, Average Day, and Base Day demands. A system that could support this level of peaking could supply customers placing lesser demands on the system. As a result, expenses to support Maximum Day demands are proportioned among Maximum Day, Average Day, and Base Day levels of consumption. **Figure 4-7** summarizes how demand service costs are apportioned among the four levels of demand.

Figure 4-7. Allocations by Demand Service Level

		Base Day	Average Day	Max Day	Max Hour	Total
Demand Services						
Base Day	Consumption	9,065	0	0	0	9,065
	%	100.0%	0.0%	0.0%	0.0%	100.00%
Average Day	Consumption	9,065	22,207	0	0	31,272
	%	29.0%	71.0%	0.0%	0.0%	100.00%
Max Day	Consumption	9,065	22,207	18,606	0	49,878
	%	18.2%	44.5%	37.3%	0.0%	100.00%
Max Hour	Consumption	9,065	22,207	18,606	50,824	100,702
	%	9.0%	22.1%	18.5%	50.5%	100.00%

The allocation factors in **Figure 4-7**, along with some additional allocation factors shown in **Figure 4-8** were used to apportion the revenue requirement shown in **Figure 4-9**. In **Figure 4-9**, the revenue requirement for residential customers is allocated to the four demand related service categories and customer accounts to calculate the new service charges and usage charges.

Unlike the residential cost of service, non-residential expenses are not allocated between service and usage charge categories. Instead, all commercial costs comprise the numerator used to calculate the non-residential usage charge. These calculations will be discussed further in the next section.

Figure 4-8. Cost-of-Service Allocation Factors

Cost Allocation Factors	Base Day	Average Day	Max Day	Max Hour	Accounts	Total
<u>Demand Services</u>						
Base Day	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Average Day	29.0%	71.0%	0.0%	0.0%	0.0%	100.0%
Max Day	18.2%	44.5%	37.3%	0.0%	0.0%	100.0%
Max Hour	9.0%	22.1%	18.5%	50.5%	0.0%	100.0%
Purchased Water	88.0%	0.0%	0.0%	0.0%	12.0%	100.0%
<u>Customer Services</u>						
Accounts	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
<u>Composite Allocations</u>						
O&M Composite	78.1%	2.8%	2.3%	6.3%	10.5%	100.0%
O&M & Cap. Composite	59.7%	3.4%	2.8%	4.8%	29.3%	100.0%
Other	90.0%	2.5%	2.5%	2.5%	2.5%	100.0%

In addition to the allocation factors based on the four demand service levels and customer services, other allocation factors were used. Purchased water allocates costs specific to water treatment and water purchases to Base Day demand and accounts. Since the District's volume of water purchased annually is fixed, a portion of the expenses are allocated to each customer account to be paid equally. However, the remaining allocation to Base Day demand reflects the fact that water consumption relies on demand of customers and customers who place any form of demand on the system should contribute to paying for this expense.

The figure also shows multiple composite allocations. The O&M and Capital composite allocations are based on the subtotals of the O&M or O&M and Capital costs that were directly allocated to other demand or customer accounts categories. Miscellaneous revenues include fees collected for late payments, backflow testing, and mitigation area maintenance.

Finally, the other allocation is reserved for the District subsidy. The District has discretion with how to apply this subsidy toward the costs that make up the usage and service charges. To reduce usage charges, most of the subsidy was applied to the demand service categories and only a small portion was allocated to reducing customer accounts.

In summary, the cost-of-service analysis required several steps. The District's total revenue requirement was allocated among customer classes. The portion of the revenue requirement to be covered via residential rates was allotted between functionalized cost categories based on water demand service levels and customer accounts. Apportionment of water demand service levels costs required an additional step. Past water use was analyzed to determine how costs should be distributed according to the four demand service levels. With all known cost allocation factors, the revenue requirement to be covered via residential rates was distributed. From this exercise the portions of the cost of service apportioned to usage charge rate revenues and service charge revenues was calculated, as shown in **Figure 4-9**.

Figure 4-9. Cost-of-Service Allocations

Allocation Factor	Revenue Requirement Total	Water Services							Non-Residential (incl. Raw)
		Residential Total	Base Day	Average Day	Max Day	Max Hour	Accounts		
Operating									
Water Purchases	Purchased Water \$1,321,091	\$1,274,344	\$1,121,422	\$0	\$0	\$0	\$152,921	\$46,747	96.3% 1.3%
Pump Stations	Max Hour \$338,775	\$326,711	\$29,410	\$72,047	\$60,364	\$164,890	\$0	\$12,064	9.1% 0.3%
Water Treatment	Purchased Water \$1,047,605	\$1,010,969	\$889,653	\$0	\$0	\$0	\$121,316	\$36,636	28.3% 1.0%
Subtotal		\$2,612,024	\$2,040,485	\$72,047	\$60,364	\$164,890	\$274,238	\$95,447	
<i>O&M Composite</i>		100%	78%	3%	2%	6%	10%		
Equipment Loans	Accounts \$1,047,605	\$422,090	\$0	\$0	\$0	\$0	\$422,090	\$15,586	11.8% 0.4%
Subtotal Operating Costs		\$3,034,114	\$2,040,485	\$72,047	\$60,364	\$164,890	\$696,328	\$206,480	
Capital Costs	Max Day \$101,660	\$98,040	\$17,818	\$43,650	\$36,572	\$0	\$0	\$3,620	2.7% 0.1%
General & Administrativ	Accounts \$3,577,590	\$314,880	\$0	\$0	\$0	\$0	\$314,880	\$15,904	8.8% 0.4%
Total Expenses	100.0%	\$3,447,033	\$2,058,303	\$115,696	\$96,936	\$164,890	\$1,011,207	\$130,557	96.3% 3.7%
<i>O&M and Capital Composite</i>		100%	60%	3%	3%	5%	29%		
Non-Operating Revenue									
Misc. Revenues	O&M & Cap. Composite (\$25,459)	(\$24,564)	(\$14,667)	(\$824)	(\$691)	(\$1,175)	(\$7,206)	(\$895)	96.5% 3.5%
District Shortfall	Other (\$2,138,977)	(\$2,060,899)	(\$1,854,809)	(\$51,522)	(\$51,522)	(\$51,522)	(\$51,522)	(\$78,078)	96.3% 3.7%
Net Expenses	\$1,413,155	\$1,361,571	\$188,827	\$63,349	\$44,723	\$112,193	\$952,479	\$51,584	96.3% 3.7%
							Residential Revenue Requirement	\$409,092	\$952,479
								Usage	Service

The cost-of-service analysis resulted in the apportionment of the residential revenue requirement between the fixed and volumetric components. The fixed share of the revenue requirement to be paid for with service charge revenues was \$952,479. The volumetric share of the revenue requirement to be paid for with usage charge revenues was \$409,092.

SECTION 5. RATE DESIGN AND BILL IMPACTS

5.1 Proposed Rates

As discussed above, residential customers pay two components in their monthly bills, a fixed service charge and a consumption-based usage charge. Non-residential customers pay only a consumption-based usage charge. With these rate structures in mind, we calculated future charges as follows.

Service Charges

Service charges produces revenue stability and ensures that all customers pay at least a minimum amount absent any consumption of water. Service charges were calculated based on the number of residential accounts. Since all residential accounts are serviced by a 1" meter, no meter ratio was factored into the calculation of the proposed service charge. Given the initial increase to the existing service charge, the District wanted to implement only small increases to raise service charge rates beyond FY 2021-22. **Figure 5-1** provides the proposed three-year schedule of recommended service charges calculated to meet the adjusted cost-of-service revenue requirement component of \$952,479.

Figure 5-1. Proposed Service Charges

Customer Class	Current Monthly Charge	Proposed		
		FY 2021-22	FY 2022-23	FY 2023-24
	<i>effective date</i>	<i>1/26/2022</i>	<i>1/26/2023</i>	<i>1/26/2024</i>
Residential	\$100.69	\$134.99	\$144.99	\$154.99

Usage Charges

Usage charges reimburse the District for the expenses incurred to service the demands customers place on the system. To migrate from the existing uniform block rate structure to a four-tiered increasing block rate structure, the rate for each level of demand needed to be calculated. **Figure 4-9** calculated the cost-of-service attributable to each level of demand. **Figure 5-2** shows how these cost-of-service rate per unit of consumption at each of the four levels of demand are calculated using the projected consumption totals from **Figure 4-7**. **Figure 5-3** demonstrates how the cost-of-service rates were calculated to generate the rate revenues equal to the adjusted cost-of-service revenue requirement component of \$409,092.

Figure 5-2. Residential Cost-of-Service per Unit of Demand

Residential Volumetric Rates	Tier 1	Tier 2	Tier 3	Tier 4	Total
Demand Condition	Base Day	Average Day	Max Day	Max Hour	
Units per Tier (1 unit = 750 gal.)	0-6	>6-13	>13-20	>20	
	9,065	22,207	18,606	50,824	100,702
Residential Cost of Service					
Water Purchases	\$1,121,422	\$0	\$0	\$0	
Pump Stations	\$29,410	\$72,047	\$60,364	\$164,890	
Water Treatment	\$889,653	\$0	\$0	\$0	
Capital Costs	\$17,818	\$43,650	\$36,572	\$0	
Non-Operating Revenue	(\$14,667)	(\$824)	(\$691)	(\$1,175)	
District Subsidy	(\$1,854,809)	(\$51,522)	(\$51,522)	(\$51,522)	
Total Residential COS	A	\$188,827	\$63,349	\$44,723	\$112,193
Demand per Tier					
0-6 units	9,065				
>6-13 units	22,207	22,207			
>13-20 units	18,606	18,606	18,606		
>20 units	50,824	50,824	50,824	50,824	
Total Units Consumed	B	100,702	91,637	69,430	50,824
Cost-of-Service per Unit	C = A/B	\$1.88	\$0.69	\$0.64	\$2.21

Figure 5-3. Calculation of Tiered Residential Rates

Unit Cost Calculation	Base Day	Average Day	Max Day	Max Hour
Max Hour Component				\$2.21
Max Day Component			\$0.64	\$0.64
Average Day Component		\$0.69	\$0.69	\$0.69
Base Day Component	\$1.88	\$1.88	\$1.88	\$1.88
Proposed Residential Rates	\$1.88	\$2.57	\$3.21	\$5.42

Given the change to the rate structure from the existing uniform usage charge, the District did not want to raise usage charge rates beyond FY 2021-22. Figure 5-4 provides the proposed three-year schedule of recommended usage charges. Commercial and raw water rates were derived from dividing the projected consumption of non-residential water estimated by the District (12,123 units) into the cost-of-service attributable to non-residential customers (\$51,584).

Figure 5-4. Proposed Usage Charges

Customer Class	Current Usage Charge	Customer Class	Proposed Tier Size	Proposed		
				FY 2021-22 effective date 1/26/2022	FY 2022-23 1/26/2023	FY 2023-24 1/26/2024
Residential		Residential				
All Usage	\$1.49	Tier 1	0-6	\$1.88	\$1.88	\$1.88
		Tier 2	>6-13	\$2.57	\$2.57	\$2.57
		Tier 3	>13-20	\$3.21	\$3.21	\$3.21
		Tier 4	20+	\$5.42	\$5.42	\$5.42
Non-Residential	\$5.87	Non-Residential		\$4.25	\$4.25	\$4.25
Raw Water	\$4.01	Raw Water		\$4.25	\$4.25	\$4.25

Note: Monthly water rates are based on a unit of 750 gallons of water used.

Although increases to existing service and usage charges will generate additional rate revenues, the District would still experience a shortfall through FY 2023-24. **Figure 5-5** summarizes the change in rate revenue and reduction of the shortfall over the next three fiscal years.

Figure 5-5. Revenue Projections with Proposed Rate Adjustments

	Revenue at	Revenue at Proposed Rates		
	Current Rates	FY 2021-22	FY 2022-23	FY 2023-24
Residential				
Service Charge Revenue	\$710,469	\$952,479	\$1,023,039	\$1,093,599
Usage Charge Revenue	\$150,047	\$409,092	\$409,092	\$409,092
Non-Residential	\$71,165	\$51,584	\$51,584	\$51,584
Total Revenue	\$931,680	\$1,413,155	\$1,483,715	\$1,554,275
Rev Requirement	(\$3,552,132)	(\$3,552,132)	(\$3,160,149)	(\$3,228,768)
Shortfall	(\$2,620,451)	(\$2,138,977)	(\$1,676,435)	(\$1,674,493)
<i>Reduction of Shortfall</i>		18.4%	21.6%	0.1%

5.2 Bill Impacts

The combination of increasing the monthly service charge and creating the four tiers of usage charges will impact each residential customer differently, depending on their average water use. **Figure 5-6** provides sample monthly bill impacts for FY 2021-22 at various levels of water use.

Figure 5-6. Sample Residential Bill Impacts

Bill Impacts	Monthly Service Charge	Monthly Usage (750 gal)	Charge per 750 gal	Monthly Usage Charge	Total Bill (Service + Usage)
Low Water Use Month (50% of average)					
@ Current Rates	\$100.69	6.5	\$1.49	\$9.69	\$110.38
@ Proposed Rates Tier 1	\$134.99	6.0	\$1.88	\$11.25	\$146.24
@ Proposed Rates Tier 2		0.5	\$2.57	\$1.28	\$1.28
@ Proposed Rates					\$147.52
				Monthly \$ Impact	\$37.15
Average Water Use Month					
@ Current Rates	\$100.69	13.0	\$1.49	\$19.37	\$120.06
@ Proposed Rates Tier 1	\$134.99	6.0	\$1.88	\$11.25	\$146.24
@ Proposed Rates Tier 2		7.0	\$2.57	\$17.96	\$17.96
@ Proposed Rates					\$164.20
				Monthly \$ Impact	\$44.14
High Water Use Month (2x average)					
@ Current Rates	\$100.69	26.0	\$1.49	\$38.74	\$139.43
@ Proposed Rates Tier 1	\$134.99	6.0	\$1.88	\$11.25	\$146.24
@ Proposed Rates Tier 2		7.0	\$2.57	\$17.96	\$17.96
@ Proposed Rates Tier 3		7.0	\$3.21	\$22.47	\$22.47
@ Proposed Rates Tier 4		6.0	\$5.42	\$32.51	\$32.51
@ Proposed Rates					\$219.19
				Monthly \$ Impact	\$79.76
Very High Water Use Month (3x average)					
@ Current Rates	\$100.69	39.0	\$1.49	\$58.11	\$158.80
@ Proposed Rates Tier 1	\$134.99	6.0	\$1.88	\$11.25	\$146.24
@ Proposed Rates Tier 2		7.0	\$2.57	\$17.96	\$17.96
@ Proposed Rates Tier 3		7.0	\$3.21	\$22.47	\$22.47
@ Proposed Rates Tier 4		19.0	\$5.42	\$102.94	\$102.94
@ Proposed Rates					\$289.62
				Monthly \$ Impact	\$130.82

5.3 Bill Comparison

Anytime changes are proposed to rates, it is common for those ratepayers impacted to compare their rates to those of their neighbors in nearby jurisdictions. **Figure 5-7** and **Figure 5-8** provide comparisons of current and proposed bills for residential customers in the District with neighboring agencies. **Figure 5-7** provides a comparison of bills with average water use, assuming 13 units (9,750 gallons) of water are used in a month. **Figure 5-8** provides a comparison of bills with high water use, assuming 26 units (19,500 gallons) of water are used in a month. All neighboring agencies charge customers at a rate of per 1 HCF, or 748.052 gallons, consumed instead of the units of at a rate per 750 gallons as the District bills.

Figure 5-7. Residential Bill Comparison for Average Monthly Water Use (9,750 gallons)

Jurisdiction	Fixed	Commodity	Total
City of Tracy	\$30.90	\$26.20	\$57.10
City of Modesto	\$36.11	\$25.81	\$61.92
Oakwood Lake Water District	\$55.50	\$21.90	\$77.40
Golden Hills Community Services District	\$29.50	\$44.30	\$73.80
Mountain House Community Service District ¹	\$62.48 - \$153.32	\$11.77	\$74.25 - \$165.09
Western Hills (Current)	\$100.69	\$19.37	\$120.06
Western Hills Water District (COS)	\$134.99	\$29.27	\$164.26

¹Range shown to reflect rates are a range depending on density classification of parcel.

Figure 5-8. Residential Bill Comparison for High Monthly Water Use (19,500 gallons)

Jurisdiction	Fixed	Commodity	Total
City of Tracy	\$30.90	\$52.40	\$83.30
Mountain House Community Service District ¹	\$62.48 - \$153.32	\$23.55	\$239.35 - \$176.87
City of Modesto	\$36.11	\$51.61	\$87.72
Oakwood Lake Water District	\$55.50	\$43.79	\$99.29
Golden Hills Community Services District	\$29.50	\$92.65	\$122.15
Western Hills (Current)	\$100.69	\$38.74	\$139.43
Western Hills Water District (COS)	\$134.99	\$84.26	\$219.25

¹Range shown to reflect rates are a range depending on density classification of parcel.

From the comparison of average monthly use in **Figure 5-7**, we can see the District's current rates and proposed rates generate bills that are higher than all surrounding jurisdictions. It is expected that larger cities, such as Tracy and Modesto would have lower rates as the economies of scale allow them to require lower rates to meet their water service expenses. These cities each serve customer populations of nearly 100,000. In comparison, the District provides service to 588 residential accounts and a population that is less than 10% that of Modesto or Tracy. Moreover, the District's fixed charge exceeds the total bill amount of all others compared. This demonstrates there is a high fixed cost to provide water to the District before customers turn on the faucet. Golden Hills Community Services District rates were last studied in 2017 and at that time rates were recommended to be increased according to CPI after the initial adjustment was made. It is possible that larger rate increases are necessary and a future increase to bills is ahead. Oakwood Lake Water District's rates, which were studied in 2018 and set through FY 2022-23, are lower than the District's in part due to their groundwater supply. Instead of purchasing water like the District, Oakwood Lake Water District pumps its own groundwater, reducing water supply costs. Mountain House Community Services District has a high fixed service charge due to a monthly debt service charge which ranges from \$16.28 to \$127.21 based on the density designation of the parcel. Medium density parcels are most-common, and customers pay \$42.83 toward monthly debt service.

Figure 5-8 shows that in months of higher use, the District's customer bill at proposed rates is the highest of the comparison. This is due to the proposed four tiers of usage charge rates. Existing usage charge rates bill all residential customers of the District at a uniform rate of \$1.49 per unit, regardless of use. The proposed rate structure bills customers at four tiers of rates. A customer using 26 units of water on a monthly basis begins paying for consumption at the highest tiered rate of \$5.42 once consumption exceeds 20 units (15,000 gallons). Golden Hills

Community Services District has a two-tier rate structure, but all other jurisdictions bill using a uniform rate.

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APPENDIX A. RATE MODEL

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	A	B	C	D	E	F	G	H	I	J	K
1	Western Hills Water District										
2	Water Rate Study										
3	Tab 1a. Summary										
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37			FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26			
38		Water Charges Revenue	\$926,498	\$931,680	\$931,680	\$931,680	\$931,680	\$931,680	\$931,680		
39		Non-Op Revenue	\$11,925	\$25,459	\$26,172	\$26,904	\$27,658	\$28,432			
40		Net Revenue at Current Rates	\$938,423	\$957,139	\$957,852	\$958,584	\$959,338	\$960,112			
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	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Annual Revenue Requirement	\$3,555,098	\$3,577,590	\$3,186,321	\$3,255,673	\$3,331,862	\$3,410,160
Water Purchases	\$1,351,686	\$1,373,930	\$1,396,547	\$1,419,544	\$1,442,926	\$1,466,702
O&M Salaries & Benefits	\$568,659	\$587,262	\$606,547	\$626,544	\$647,285	\$668,803
Utilities/Chemicals	\$344,020	\$354,341	\$364,971	\$375,920	\$387,198	\$398,813
Other O&M	\$381,227	\$391,938	\$402,951	\$414,272	\$425,913	\$437,880
Equipment Loan Repayment	\$483,127	\$437,676	\$4,798	\$0	\$0	\$0
General & Administrative	\$324,720	\$330,784	\$308,848	\$317,733	\$326,881	\$336,301
Capital Projects/Replacement	\$101,660	\$101,660	\$101,660	\$101,660	\$101,660	\$101,660
Annual increase		0.6%	-10.9%	2.2%	2.3%	2.3%

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1	Western Hills Water District										
2	Water Rate Study										
3	Tab 1b. General										
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1	Western Hills Water District											
2	Water Rate Study											
3	Tab 2. Revenue Requirement Projection											
4												
5				Table 1B	Budgeted	Budgeted	Projected					
6				Factors	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	Notes
7												
8	Operating Costs - Pump Stations											
9	60301	Salaries/Wages	c.	\$	59,063	\$ 60,835	\$ 62,660	\$ 64,540	\$ 66,476	\$ 68,471	\$ 70,525	
10	60391	Benefits	d.		5,456	5,892	6,364	6,873	7,423	8,017	8,658	
11	60300	Other Payroll-related	c.		21,565	22,212	22,879	23,565	24,272	25,000	25,750	
12	62002	Repairs & Maint.	b.		30,000	30,840	31,704	32,591	33,504	34,442	35,406	
13	62003	Generator Maint.	b.		-	-	-	-	-	-	-	
14	62049	Permits & Fees	b.		820	843	867	891	916	941	968	
15	62102	Electricity - Pump Stations	f.		202,000	208,060	214,302	220,731	227,353	234,173	241,199	
16		Total Pump Station Op Costs		\$	318,905	\$ 328,683	\$ 338,775	\$ 349,191	\$ 359,943	\$ 371,044	\$ 382,505	
17												
18	Operating Costs - Water Treatment											
19	60351	Salaries/Wages	c.	\$	350,073	\$ 360,575	\$ 371,393	\$ 382,534	\$ 394,010	\$ 405,831	\$ 418,006	
20	60391	Benefits	d.		23,129	24,979	26,978	29,136	31,467	33,984	36,703	
21	60300	Other Payroll-related	c.		91,421	94,164	96,989	99,899	102,895	105,982	109,162	
22	63002	Repairs & Maintenance	b.		51,500	52,942	54,424	55,948	57,515	59,125	60,781	
23	63003	Small Equipment	b.		1,500	1,542	1,585	1,630	1,675	1,722	1,770	
24	63004	Generator Maint.	f.		18,000	18,540	19,096	19,669	20,259	20,867	21,493	
25	63006	Pump Repair	b.		3,000	3,084	3,170	3,259	3,350	3,444	3,541	
26	63010	WTP Supplies	b.		42,000	43,176	44,385	45,628	46,905	48,219	49,569	
27	63011	Chemicals	f.		66,000	67,980	70,019	72,120	74,284	76,512	78,807	
28	63012	Water Filtration Media	b.		2,000	2,056	2,114	2,173	2,234	2,296	2,360	
29	63013	Tank Cleaning	b.		20,000	20,560	21,136	21,727	22,336	22,961	23,604	
30	63048	H2O Sampling/Testing	b.		144,000	148,032	152,177	156,438	160,818	165,321	169,950	
31	63049	Permits & Fees	b.		14,588	14,996	15,416	15,848	16,292	16,748	17,217	
32	61052	Purchased Water for Treated Use	i.		450,910	458,125	465,455	472,902	480,468	488,156	495,966	
33	61051	Purchased Water for Raw Use	q.		828,899	842,162	855,636	869,326	883,236	897,367	911,725	
34	61053	Pioneer/Cross Valley Admin Costs	b.		50,000	51,400	52,839	54,319	55,840	57,403	59,010	County Admin charge, District is challenging. This may change
35	63061	Lab Trailer Rent	b.		8,400	8,635	8,877	9,126	9,381	9,644	9,914	
36	63062	Water Truck Lease	b.		-	-	-	-	-	-	-	
37	63063	Water Truck Repair	b.		-	-	-	-	-	-	-	
38	63064	Water Truck Rental	b.		10,000	10,280	10,568	10,864	11,168	11,481	11,802	
39	63102	Electricity - Water Treatment	f.		66,000	67,980	70,019	72,120	74,284	76,512	78,807	
40	63201	Computer/SCADA Support	b.		-	-	-	-	-	-	-	
41	64002	Repairs & Maintenance	b.		1,000	1,028	1,057	1,086	1,117	1,148	1,180	
42	64003	Distribution Inspection	b.		-	-	-	-	-	-	-	
43	64005	New Flow Meter	b.		14,000	14,392	14,795	15,209	15,635	16,073	16,523	
44	64004	Pumps	b.		10,000	10,280	10,568	10,864	11,168	11,481	11,802	
45		Total Water Treatment Costs		\$	2,266,421	\$ 2,316,909	\$ 2,368,696	\$ 2,421,824	\$ 2,476,336	\$ 2,532,277	\$ 2,589,693	
46												
47	Operating Costs - Marshal Davis Well											
48			b.	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
49	Operating Costs - Waste Water											
50			b.	\$	554,000	\$ 569,512	\$ 585,458	\$ 601,851	\$ 618,703	\$ 636,027	\$ 653,835	
51	Operating Costs - Storm Drain											
52			b.		4,693	\$ 4,825	\$ 4,960	\$ 5,099	\$ 5,242	\$ 5,388	\$ 5,539	
53	Operating Costs - Principal and Interest (Equip. Loans)											
54				\$	483,127	\$ 483,127	\$ 437,676	\$ 4,798	\$ -	\$ -	\$ -	Source: and FY 2018-19 and FY 2019-20 Financial Statements

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1	Western Hills Water District											
2	Water Rate Study											
3	Tab 2. Revenue Requirement Projection											
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2	Water Rate Study									
3	Tab 3a. Revenue Increases									
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1	Western Hills Water District											
2	Water Rate Study											
3	Tab 8a. Rate Revenue - Current											
4												
5				2021		Projected			Projected		Annual	
6				Current		Annual			Annual		Revenue	
7				Meter		Service Charge	Projected	Current	Usage Charge		Current	
8				Count	per meter per mo	Revenue	Usage (per Unit)	Usage Charge	Revenue		Revenue	
9								per 750 gal/unit			Current Cust.	
10	Treated Water											
11			Residential	588	\$100.69	\$ 710,469	100,702	\$1.49	\$ 150,047		\$ 860,515	
12			Subtotal Residential	588		710,469	100,702		150,047		860,515	
13						83%			17%			
14	Non-Residential											
15			Residential HOA	4	\$0.00	\$ -	8,342	\$5.87	\$ 48,968		48,968	
16			Commercial Owners Assoc (COA) (2")	8	\$0.00	-	3,639	\$5.87	\$ 21,364		21,364	Includes COA #9 usage
17			Golf Course			-						
18			1" Meter	1	\$0.00	-		\$5.87	-		-	
19			2" Meter	1	\$0.00	-		\$5.87	-		-	
20			District Office	1	\$0.00	-	117	\$5.87	689		689	
21			Fire Station	1	\$0.00	-	25	\$5.87	144		144	
22			Subtotal Non-Residential	12		-	3,781		71,165		71,165	
23			Total Treated Water	600		\$ 710,469	104,484		\$ 221,211		\$ 931,680	
24						76%			24%			
25	Raw Water											
26			Vineyard	1	\$0.00	\$ -	-	\$4.01	\$ -		\$ -	No water use anticipated
27			Golf Course	1	\$0.00	-	-	\$4.01	-		-	No water use anticipated
28			2" Meter (COA #9)	1		-	-	\$4.01	-		-	Usage captured on line 9
29			Total Raw Water	3		\$ -	-		\$ -		\$ -	
30												
31			Grand Total	603		\$ 710,469	104,484		\$ 221,211		\$ 931,680	
32												
33												
34											\$1,413,155	FY 2021-22 Rev. at Revised Rates
35											\$481,475	Increase in Revenue
36											51.7%	

	A	B	C	D	E	F	G	H	I	J
1	Western Hills Water District									
2	Water Rate Study									
3	Tab 4. CIP									
4			Budgeted	Estimated	Projected					
5	Project #	Project Name	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	Total Cost
6										
7		Motors for Lift Stations 2, 3 & 4	\$31,799	\$0	\$0	\$0	\$0	\$0	\$0	\$ 31,799
8		Chemical Pumps	\$24,402	\$0	\$0	\$0	\$0	\$0	\$0	\$ 24,402
9		Chlorine & Turbidity Meters & contro	\$40,387	\$0	\$0	\$0	\$0	\$0	\$0	\$ 40,387
10		Purchase of WTP Lab Trailer	\$24,000	\$0	\$0	\$0	\$0	\$0	\$0	\$ 24,000
11		Water Truck	\$184,325	\$0	\$0	\$0	\$0	\$0	\$0	\$ 184,325
12		Future CIP Projects	\$0	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$ 600,000
13		Vehicle Replacements	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -
14		Total Projects	\$304,913	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$ 904,913
15										
16		Total Operating	\$96,588	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$ 696,588
17		Total Replacement	\$208,325	\$0	\$0	\$0	\$0	\$0	\$0	\$ 208,325
18		Total Unfunded	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -
19		Total Annual Project Cost	\$304,913	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$904,913
20										
21		Construction Cost Inflation	0.0%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	
22										
23		Inflated Operating Total	\$96,588	\$101,660	\$101,660	\$101,660	\$101,660	\$101,660	\$101,660	\$ 706,547
24		Inflated Replacement Total	\$208,325	\$0	\$0	\$0	\$0	\$0	\$0	\$ 208,325
25		Inflated Unfunded Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ -
26										

	A	C	D	E	F	G	H	I
1	Western Hills Water District							
2	Water Rate Study							
3	Tab 5. Debt Service							
4								
5								
6	Projected							
7		FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	
8	<u>2007 Caterpillar Financial Services (matures 2022)</u>							
9	Principal	\$410,494	\$400,388					
10	Interest	\$40,638	\$13,151					
11	Total Payment	\$451,132	\$413,539	\$0	\$0	\$0	\$0	per debt service schedule
12								
13	<u>2016 Dodge Ram (matures 2023)</u>							
14	Principal	\$27,776	\$22,468	\$4,709				
15	Interest	\$4,219	\$1,669	\$89				
16	Total Payment	\$31,995	\$24,137	\$4,798	\$0	\$0	\$0	per debt service schedule
17								
18	Total debt and loan repayment	\$483,127	\$437,676	\$4,798	\$0	\$0	\$0	
19								
20	# of Parcels	595	595	595	595	595	595	
21								
22	Annual Loan Payment per Parcel	\$811.98	\$735.59	\$8.06	\$0.00	\$0.00	\$0.00	
23	Monthly Loan Payment per Parcel	\$67.66	\$61.30	\$0.67	\$0.00	\$0.00	\$0.00	
24								

	A	B	C	D	E	F	H	I	J	K	L	M
1	Western Hills Water District											
2	Water Rate Study											
3	Tab 6a. COS Analysis FY2021-22											
4												
5			Projected	Allocation	Water Services			Water Services		Storm		
6			FY 2021-22	Factor	Treated - Res	Treated -	Raw	Subtotal	Sewer	Drain	Grand Total	
7					(Current)	NonRes						
8												
9	Operating Costs - Water Purchases											
10			\$465,455	Treated Usage	\$449,177	\$16,277	\$0	\$465,455	\$0	\$0	\$465,455	
11			\$855,636	Total Usage	\$825,166	\$29,903	\$567	\$855,636	\$0	\$0	\$855,636	
12			Total Water Purchases		\$1,321,091	\$1,274,344	\$46,180	\$567	\$1,321,091	\$0	\$0	\$1,321,091
13	Operating Costs - Pump Stations											
14	60301	Salaries/Wages	\$62,660	Total Usage	\$60,429	\$2,190	\$42	\$62,660	\$0	\$0	\$62,660	
15	60391	Benefits	\$6,364	Total Usage	\$6,137	\$222	\$4	\$6,364	\$0	\$0	\$6,364	
16	60300	Other Payroll-related	\$22,879	Total Usage	\$22,064	\$800	\$15	\$22,879	\$0	\$0	\$22,879	
17	62002	Repairs & Maint.	\$31,704	Total Usage	\$30,575	\$1,108	\$21	\$31,704	\$0	\$0	\$31,704	
18	62003	Generator Maint.	\$0	Total Usage	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
19	62049	Permits & Fees	\$867	Total Usage	\$836	\$30	\$1	\$867	\$0	\$0	\$867	
20	62102	Electricity - Pump Stations	\$214,302	Total Usage	\$206,670	\$7,489	\$142	\$214,302	\$0	\$0	\$214,302	
21		Total Pump Station Op Costs	\$338,775		\$326,711	\$11,839	\$225	\$338,775	\$0	\$0	\$338,775	
22												
23	Operating Costs - Water Treatment											
24	60351	Salaries/Wages	\$371,393	Treated Usage	\$358,405	\$12,988	\$0	\$371,393	\$0	\$0	\$371,393	
25	60391	Benefits	\$26,978	Treated Usage	\$26,034	\$943	\$0	\$26,978	\$0	\$0	\$26,978	
26	60300	Other Payroll-related	\$96,989	Treated Usage	\$93,597	\$3,392	\$0	\$96,989	\$0	\$0	\$96,989	
27	63002	Repairs & Maintenance	\$54,424	Treated Usage	\$52,521	\$1,903	\$0	\$54,424	\$0	\$0	\$54,424	
28	63003	Small Equipment	\$1,585	Treated Usage	\$1,530	\$55	\$0	\$1,585	\$0	\$0	\$1,585	
29	63004	Generator Maint.	\$19,096	Treated Usage	\$18,428	\$668	\$0	\$19,096	\$0	\$0	\$19,096	
30	63006	Pump Repair	\$3,170	Treated Usage	\$3,059	\$111	\$0	\$3,170	\$0	\$0	\$3,170	
31	63010	WTP Supplies	\$44,385	Treated Usage	\$42,833	\$1,552	\$0	\$44,385	\$0	\$0	\$44,385	
32	63011	Chemicals	\$70,019	Treated Usage	\$67,571	\$2,449	\$0	\$70,019	\$0	\$0	\$70,019	
33	63012	Water Filtration Media	\$2,114	Treated Usage	\$2,040	\$74	\$0	\$2,114	\$0	\$0	\$2,114	
34	63013	Tank Cleaning	\$21,136	Treated Usage	\$20,397	\$739	\$0	\$21,136	\$0	\$0	\$21,136	
35	63048	H2O Sampling/Testing	\$152,177	Treated Usage	\$146,855	\$5,322	\$0	\$152,177	\$0	\$0	\$152,177	
36	63049	Permits & Fees	\$15,416	Treated Usage	\$14,877	\$539	\$0	\$15,416	\$0	\$0	\$15,416	
37	61053	Pioneer/Cross Valley Admin Costs	\$52,839	Treated Usage	\$50,991	\$1,848	\$0	\$52,839	\$0	\$0	\$52,839	
38	63061	Lab Trailer Rent	\$8,877	Treated Usage	\$8,567	\$310	\$0	\$8,877	\$0	\$0	\$8,877	
39	63062	Water Truck Lease	\$0	Treated Usage	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
40	63063	Water Truck Repair	\$0	Treated Usage	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
41	63064	Water Truck Rental	\$10,568	Treated Usage	\$10,198	\$370	\$0	\$10,568	\$0	\$0	\$10,568	
42	63102	Electricity - Water Treatment	\$70,019	Treated Usage	\$67,571	\$2,449	\$0	\$70,019	\$0	\$0	\$70,019	
43	63201	Computer/SCADA Support	\$0	Treated Usage	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
44	64002	Repairs & Maintenance	\$1,057	Treated Usage	\$1,020	\$37	\$0	\$1,057	\$0	\$0	\$1,057	
45	64003	Distribution Inspection	\$0	Treated Usage	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
46	64005	New Flow Meter	\$14,795	Treated Usage	\$14,278	\$517	\$0	\$14,795	\$0	\$0	\$14,795	
47	64004	Pumps	\$10,568	Treated Usage	\$10,198	\$370	\$0	\$10,568	\$0	\$0	\$10,568	
48		Total Water Treatment Costs	\$1,047,605	Treated Usage	\$1,010,969	\$36,636	\$0	\$1,047,605	\$0	\$0	\$1,047,605	
49												
50	Operating Costs - Marshal Davis Well											
51			\$0	Total Usage	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
52	Operating Costs - Waste Water											
53			\$585,458	Direct	\$0	\$0	\$0	\$0	\$585,458	\$0	\$585,458	
54	Operating Costs - Storm Drain											
55			\$4,960	Direct	\$0	\$0	\$0	\$0	\$0	\$4,960	\$4,960	
56	Operating Costs - Equip. Loans											
57			\$437,676	Total Usage	\$422,090	\$15,296	\$290	\$437,676	\$0	\$0	\$437,676	

	A	B	C	D	E	F	H	I	J	K	L	M
1	Western Hills Water District											
2	Water Rate Study											
3	Tab 6a. COS Analysis FY2021-22											
4												
5				Projected	Allocation	Water Services			Water Services		Storm Drain	
6				FY 2021-22	Factor	Treated - Res (Current)	Treated - NonRes	Raw	Subtotal	Sewer		Grand Total
58	Subtotal Operating Costs			\$2,075,699		\$1,433,059	\$51,931	\$290	\$1,485,281	\$585,458	\$4,960	\$2,075,699
59					% of Grand Total	69.0%	2.5%	0.0%	71.6%	28.2%	0.2%	100.0%
60					% of Water Service Subtotal	96.5%	3.5%	0.0%	100.0%			
61												
62	Capital Costs											
63	Motors for Lift Stations 2, 3 & 4	\$0		Total Usage	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
64	Chemical Pumps	\$0		Total Usage	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
65	Chlorine & Turbidity Meters & controllers	\$0		Total Usage	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
66	Purchase of WTP Lab Trailer	\$0		Total Usage	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
67	Water Truck	\$0		Total Usage	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
68	Future CIP Projects	\$101,660		Total Usage	\$98,040	\$3,553	\$67	\$101,660	\$0	\$0	\$101,660	\$0
69	Vehicle Replacements	\$0		Total Usage	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
70	Total Capital Costs	\$101,660			\$98,040	\$3,553	\$67	\$101,660	\$0	\$0	\$101,660	\$0
71												
72	General & Administrative											
73	60381 Salaries/Wages	\$51,679		G&A is allocated	\$35,855	\$1,623	\$188	\$37,666	\$13,896	\$118	\$51,679	\$0
74	60391 Benefits	\$3,970		to each service	\$2,754	\$125	\$14	\$2,893	\$1,067	\$9	\$3,970	\$0
75	60335 Contract Labor	\$0		by % share of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
76	60300 Other Payroll-related	\$14,272		total rev req.	\$9,902	\$448	\$52	\$10,402	\$3,837	\$33	\$14,272	\$0
77	68701 Attorney	\$76,088		Water services	\$52,790	\$2,389	\$277	\$55,456	\$20,459	\$173	\$76,088	\$0
78	68702 Engineering	\$42,271		share further alloc	\$29,328	\$1,327	\$154	\$30,809	\$11,366	\$96	\$42,271	\$0
79	68703 Accounting	\$19,551		to customer classes	\$13,564	\$614	\$71	\$14,249	\$5,257	\$45	\$19,551	\$0
80	Other G&A	\$246,020		by EMU	\$170,688	\$7,725	\$896	\$179,309	\$66,151	\$560	\$246,020	\$0
81	Total G&A	\$453,851			\$314,880	\$14,252	\$1,652	\$330,784	\$122,034	\$1,034	\$453,851	\$0
82												
83	Total Expenses	\$4,291,076			\$3,447,033	\$127,755	\$2,802	\$3,577,590	\$707,492	\$5,994	\$4,291,076	\$0
84												
85												
86	Non-Operating Revenue											
87	Water Banking Revenue	(\$500,000)			(\$482,420)	(\$17,482)	(\$98)	(\$500,000)	\$0	\$0	(\$500,000)	\$0
88	Portion of Water Banking Revenue given as rebate	\$500,000			\$482,420	\$17,482	\$98	\$500,000	\$0	\$0	\$500,000	\$0
89	Late Fees	(\$13,200)		Op Cost Composite	(\$12,736)	(\$462)	(\$3)	(\$13,200)	\$0	\$0	(\$13,200)	\$0
90	Mitigation Area Maintenance	(\$10,145)		(Water Services	(\$9,788)	(\$355)	(\$2)	(\$10,145)	\$0	\$0	(\$10,145)	\$0
91	Backflow Testing	(\$2,114)		Subtotal)	(\$2,039)	(\$74)	(\$0)	(\$2,114)	\$0	\$0	(\$2,114)	\$0
92	Total Non-Operating Revenue	(\$25,459)			(\$24,564)	(\$890)	(\$5)	(\$25,459)	\$0	\$0	(\$25,459)	\$0
93												
94	Contributions to Reserves											
95	Operating Reserves	\$0		Op Cost Composite	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
96	Net Expenses	\$4,265,617			\$3,422,470	\$126,865	\$2,797	\$3,552,132	\$707,492	\$5,994	\$4,265,617	\$0
97												
98	Revenue at Current Rates					\$ 926,222		\$ 276	\$ 926,498	\$ 390,000	\$ 36,000	\$ 1,352,498
99												
100	Revenue Surplus/(Shortfall)					\$ (2,496,248)		\$ (2,521)	\$ (2,625,633)	\$ (317,492)	\$ 30,006	\$ (2,913,119)
101	% Surplus/(Shortfall)					-270%		-913%	-283%	-81%	83%	

	A	B	C	D	E	F	G	H
1		Western Hills Water District						
2		Water Rate Study						
3		Tab 6b. Allocators						
4								
5		Total Water Use and Treated Water Use Allocations						
6			Projected Usage	Total Usage	Treated Usage			
7				Allocator	Allocator			Notes
8		Treated Water (CCF)						
9		Residential	91,759					Based on 12.85 HCF per month for 595 accounts
10		Residential HOA - Irrigation Only						
11		1-1/2" Meter	4,221					3-yr avg CY 2017-2019
12		2" Meter	4,173					3-yr avg CY 2017-2019
13		Subtotal Residential	100,153	96.4%	96.5%			
14			96.5%					
15								
16		Commercial Owners Assoc (COA)	3,441					3-yr avg CY 2017-2019
17		Golf Course						
18		1" Meter	-					Assumed no use, per District
19		2" Meter	-					Assumed no use, per District
20		District/World Office	157					3-yr avg CY 2017-2019
21		Fire Station	32					3-yr avg CY 2017-2019
22		Subtotal Commercial	3,629	3.5%	3.5%			
23			3.5%					
24		Total Treated Water	103,782	99.9%	100.0%			
25								
26								
27		Raw Water (CCF)						
28		Raw Water - Vineyards	-					Assumed no use, per District
29		Raw Water - Golf Course	-					Assumed no use, per District
30		2" Meter	69					3-yr avg CY 2017-2019
31		Total Raw Water	69	0.1%	0.0%			
32								
33		Grand Total Water Use	103,851	100%	100%			
34								
35								
36		Equivalent Meter Unit Calculation (to allocate Water-related G&A costs) - based on beginning of FY count						
37			Treated - Res (curre	Treated - Res (grow	Treated - NonRes	Raw	Total	Notes
38								
39		2" Meters	4	-	8	1	13	Counts provided by District
40		1" Meter Equivalents	13	-	26	3	42	
41								
42		1 1/2" Meters	1	-			1	
43		1" Meter Equivalents	2	-			2	
44								
45		1" Meters (existing and to be developed)	595	-	2	-	597	
46								
47		Total 1" Meter Equivalents - Current	610	-	28	3	641	
48		% of Total	95.2%		4.3%	0.5%	100.0%	
49					100%			
50								
51		Total 1" Meter Equivalents	610	-	28	3	641	
52		% of Total	95.2%	0.0%	4.3%	0.5%	100.0%	
53								
54		Operating & Capital Expenses (to allocate G&A costs to Water, Sewer and Storm Drain services)						
55			Water	Sewer	Storm Drain	Total		
56		FY 2021-22 Operating & Capital Expenses	1,586,941	585,458	4,960	2,177,359		
57		% of Total	72.9%	26.9%	0.2%	100.0%		

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Western Hills Water District																		
2	Water Rate Study																		
3	Tab 6c. Rate Design																		
4																			
5	Revenue Requirement															Total		\$1,413,155	
6	District Shortfall																	TRUE	
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
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31																			
32																			
33																			
34																			
35																			
36																			
37																			

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
38				Cost Allocation Factors	Base Day	Average Day	Max Day	Max Hour	Accounts	Total									
39				Demand Services															
40				Average Day	29%	71%	0%	0%	0%	100.00%									
41				Purchased Water	88%	0%	0%	0%	12%	100.00%									
42				Max Day	18%	45%	37%	0%	0%	100.00%									
43				Max Hour	9%	22%	18%	50%	0%	100.00%									
44				Customer Services															
45				Accounts	0%	0%	0%	0%	100%	100.00%									
46				Composite Allocations															
47				O&M Composite	78%	3%	2%	6%	10%	100.00%									
48				O&M & Cap. Composite	60%	3%	3%	5%	29%	100.00%									
49				Other	90.0%	2.5%	2.5%	2.5%	2.5%	100.00%									
50																			
51																			
52				Levels of Demand	2021 Future Use (per 750 gal)	2019 Future Use (per 750 gal)			Residential Proposed Rat	Tiered Use (Units/mo)	Rates	Future Use (per 750 gal)	Volumetric Revenue						
53				Tier 1	9,065	Tier 1 6,988			Tier 1	0-6	\$1.88	9,065	\$16,998						
54				Tier 2	22,207	Tier 2 17,119			Tier 2	>6-13	\$2.57	22,207	\$56,992						
55				Tier 3	18,606	Tier 3 14,343			Tier 3	>13-20	\$3.21	18,606	\$59,736						
56				Tier 4	50,824	Tier 4 39,180			Tier 4	20+	\$5.42	50,824	\$275,366						
57					100,702	77,631				Each Unit = 750 gal		100,702	\$409,092						
58																			
59				Residential Volumetric Rates		Tier 1	Tier 2	Tier 3	Tier 4	Total									
60				Demand Condition		Base Day	Average Day	Max Day	Max Hour										
61				Units per Tier (1 unit = 750 gal.)		0-6	>6-13	>13-20	>20										
62						9,065	22,207	18,606	50,824	100,702									
63				Residential Cost of Service															
64				Water Purchases	\$1,121,422	\$0	\$0	\$0	\$0		TRUE								
65				Pump Stations	\$29,410	\$72,047	\$60,364	\$164,890			TRUE								
66				Water Treatment	\$889,653	\$0	\$0	\$0			TRUE								
67				Capital Costs	\$17,818	\$43,650	\$36,572	\$0			TRUE								
68				Non-Operating Revenue	(\$14,667)	(\$824)	(\$691)	(\$1,175)			TRUE								
69				District Subsidy	(\$1,854,809)	(\$51,522)	(\$51,522)	(\$51,522)			TRUE								
70				Total Residential COS	A	\$188,827	\$63,349	\$44,723	\$112,193	\$409,092									
71																			
72				Demand per Tier															
73				0-6 units		9,065						\$	4.06	avg unit cost					
74				>6-13 units		22,207	22,207												
75				>13-20 units		18,606	18,606	18,606											
76				>20 units		50,824	50,824	50,824	50,824										
77				Total Units Consumed	B	100,702	91,637	69,430	50,824										
78																			
79				Cost-of-Service per Unit	C = A/B	\$1.88	\$0.69	\$0.64	\$2.21										
80																			
81																			
82				Unit Cost Calculation	Base Day	Average Day	Max Day	Max Hour											
83				Max Hour Component				\$2.21											
84				Max Day Component				\$0.64											
85				Average Day Component			\$0.69	\$0.69	\$0.69										
86				Base Day Component		\$1.88	\$1.88	\$1.88	\$1.88										
87				Proposed Residential Rates		\$1.88	\$2.57	\$3.21	\$5.42										
88																			
89				Variable Residential Revenue Check						Total									
90				Units		100,702	91,637	69,430	50,824										
91				Revenue		\$188,827	\$63,349	\$44,723	\$112,193	\$409,092									
92				COS Revenue						\$409,092									
93										\$0	CHECK								
94																			

Monthly Proposed Rates	
Residential Charge per Account	\$134.99
Residential Consumption Rates	Tiered Use (Units/mo)
Tier 1	0-6 \$1.88
Tier 2	>6-13 \$2.57
Tier 3	>13-20 \$3.21
Tier 4	20+ \$5.42
Commercial Consumption Rate	\$4.25
Each Unit = 750 gal for all customers	

Residential Service Charge	Service Charge Revenue
Residential Accounts	588
Charge per Residential Account Monthly	\$134.99
	\$952,479

Commercial Proposed Rate	Rate	Future Use (per 750 gal)	Volumetric Revenue
	\$4.25	12,123	\$51,584

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
95			Fixed Residential Costs		\$952,479													
96			Residential Accounts		588													
97			Cost per Account Annually		\$1,619.86													
98			Charge per Residential Account Monthly		\$134.99													
99																		
100			Volumetric Commercial Rate															
101			Total Expenses		\$51,584													
102			Total Consumption (units of 750 gall)		12,123													
103			\$/HCF		\$4.25													
104																		
105																		
106																		
107																		
108																		
109																		
110			Bill Impacts															
111			Bill Impacts	Monthly	Monthly	Charge	Monthly	Total Bill										
112				Service Charge	Usage (750 gal)	per 750 gal	Usage Charge	(service + Usage)										
113			Low Water Use Month (50% of average)															
114			@ Current Rates	\$100.69	6.5	\$1.49	\$9.69	\$110.38										
115			@ Proposed Rates Tier 1	\$134.99	6.0	\$1.88	\$11.25	\$146.24										
116			@ Proposed Rates Tier 2		0.5	\$2.57	\$1.28	\$1.28										
117			@ Proposed Rates					\$147.52										
118								Monthly \$ Impact										
119			Average Water Use Month															
120			@ Current Rates	\$100.69	13.0	\$1.49	\$19.37	\$120.06										
121			@ Proposed Rates Tier 1	\$134.99	6.0	\$1.88	\$11.25	\$146.24										
122			@ Proposed Rates Tier 2		7.0	\$2.57	\$17.96	\$17.96										
123			@ Proposed Rates					\$164.20										
124								Monthly \$ Impact										
125			High Water Use Month (2x average)															
126			@ Current Rates	\$100.69	26.0	\$1.49	\$38.74	\$139.43										
127			@ Proposed Rates Tier 1	\$134.99	6.0	\$1.88	\$11.25	\$146.24										
128			@ Proposed Rates Tier 2		7.0	\$2.57	\$17.96	\$17.96										
129			@ Proposed Rates Tier 3		7.0	\$3.21	\$22.47	\$22.47										
130			@ Proposed Rates Tier 4		6.0	\$5.42	\$32.51	\$32.51										
131			@ Proposed Rates					\$219.19										
132								Monthly \$ Impact										
133			Very High Water Use Month (3x average)															
134			@ Current Rates	\$100.69	39.0	\$1.49	\$58.11	\$158.80										
135			@ Proposed Rates Tier 1	\$134.99	6.0	\$1.88	\$11.25	\$146.24										
136			@ Proposed Rates Tier 2		7.0	\$2.57	\$17.96	\$17.96										
137			@ Proposed Rates Tier 3		7.0	\$3.21	\$22.47	\$22.47										
138			@ Proposed Rates Tier 4		19.0	\$5.42	\$102.94	\$102.94										
139			@ Proposed Rates					\$289.62										
140								Monthly \$ Impact										

Component	Amount	Residential Revenue	Total Revenue
Residential Volumetric	\$409,092	30%	33%
Residential Fixed	\$952,479	70%	67%
	\$1,361,571		
Non-residential	\$51,584		
Total Revenue	\$1,413,155	100%	100%
Total Revenue Requirement	\$3,552,132		
District Subsidy	(\$2,138,977)		