



## **NORTH MARIN WATER DISTRICT**

2020 Novato and Recycled Water Rate Study  
Final Report  
March 4, 2020



March 4, 2020

Mr. Drew McIntyre  
General Manager  
North Marin Water District  
999 Rush Dr.  
Novato, CA 94945



Re: Final 2020 Novato and Recycled Water Rate Study

Dear Mr. McIntyre,

Hildebrand Consulting is pleased to present this 2020 Water Rate Study (Study) for the Novato Enterprise and Recycled Water Enterprise that was performed for North Marin Water District (District). We appreciate the fine assistance provided by you and all of the members of the District staff who participated in the Study.

If you or others at the District have any questions, please do not hesitate to contact me at:

[mhildebrand@hildco.com](mailto:mhildebrand@hildco.com)  
(510) 316-0621

We appreciate the opportunity to be of service to the District and look forward to the possibility of doing so again in the near future.

Sincerely,

A handwritten signature in blue ink, appearing to read 'M. Hildebrand', is located below the 'Sincerely,' text.

Mark Hildebrand  
Hildebrand Consulting, LLC

Enclosure

## Executive Summary

Hildebrand Consulting, LLC has been retained by North Marin Water District (District) to conduct a rate study (Study) for the Novato water service area and the District's recycled water system. This report describes in detail the assumptions, procedures, and results of the Study, including conclusions and recommendations.

The District provides water service to approximately 61,000 residents in the greater Novato area through over 20,000 potable water service connections and 90 recycled water connections. Nearly three quarters of the Novato service area's water supply is purchased from the Sonoma County Water Agency (SCWA), while the remaining supply is treated surface water from Stafford Lake.

The scope of this Study is to prepare multi-year financial plans, review the rate structures, and propose a 5-year rate schedule for both the Novato Enterprise and the Recycled Water Enterprise.

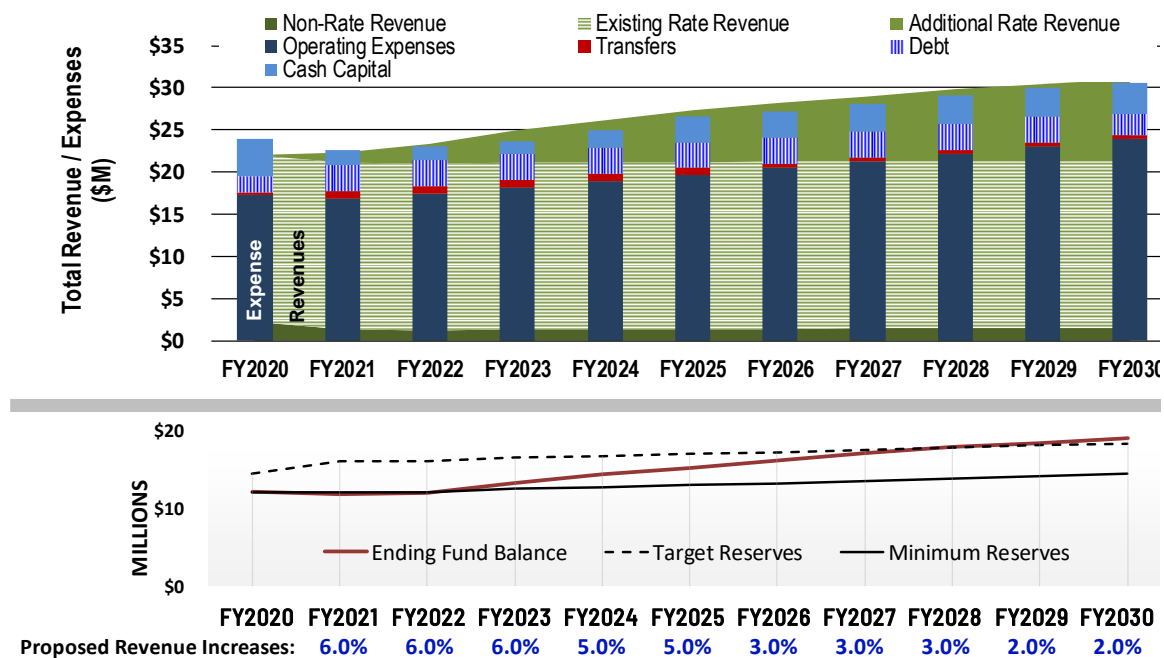
This Study applied methodologies that are aligned with industry standard practices for rate setting as laid out in the American Water Works Association (AWWA) M1 Manual, and all applicable law, including California Constitution Article XIII D, Section 6(b), commonly known as Proposition 218.

### Financial Plans

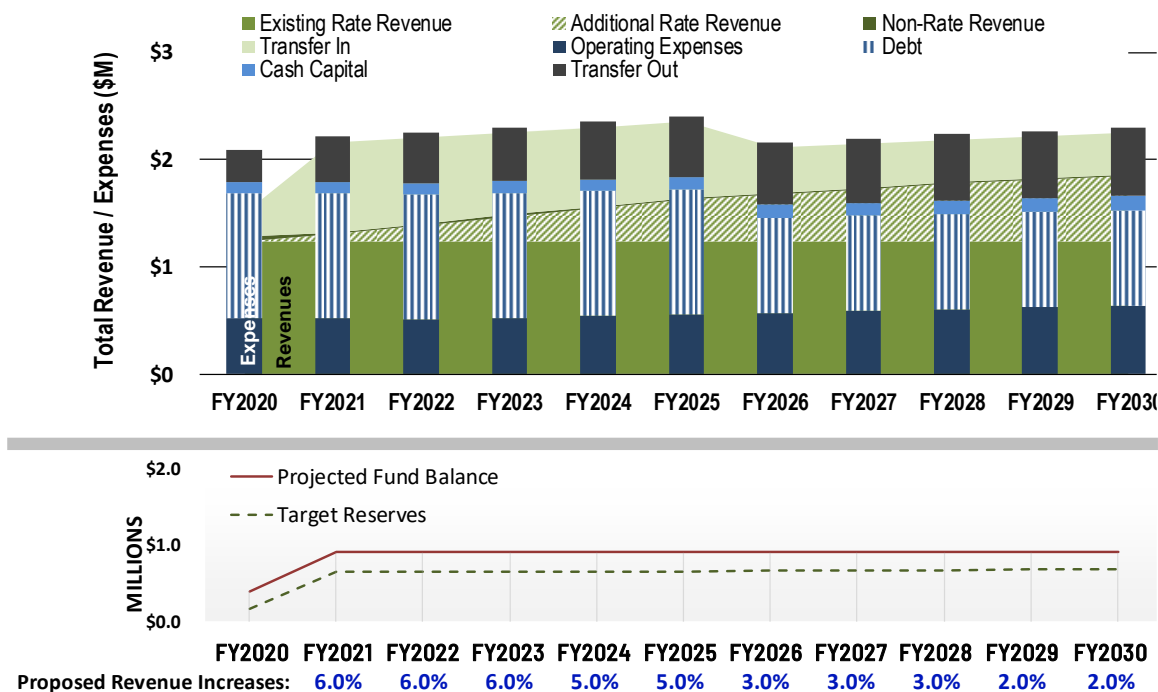
The Study developed 10-year financial plans for both the Novato Enterprise and the Recycled Water Enterprise based on historical and budgeted financial information associated with operation of the Novato Enterprise and Recycled Water Enterprise, including historical and budgeted operating costs, a multi-year capital improvement program (CIP), and outstanding debt service obligations. The 10-year financial plans were developed through several interactive work sessions with both District staff and the Board's Ad Hoc Water Rate Study Subcommittee. The analysis identifies a revenue

shortfall in upcoming years which leads to a conclusion that revenue adjustments are required for both the Novato Enterprise and the Recycled Water Enterprise.

Based upon the Study's financial data, assumptions, policies, and debt strategy, this Study proposes a 5-year schedule of rate adjustments for the Novato Enterprise as summarized graphically in the figure below.



Similarly, this Study proposes a 5-year schedule of rate adjustments for the Recycled Water Enterprise as summarized graphically in the figure below.



### Recycled Water Financial Projections with Recommended Rate Increases

For both enterprises, it is projected that minimal (approximately inflationary) increases will be necessary following the final recommended increase in FY 2024/25.

### Cost of Service & Rate Structure

The Cost-of-Service (COS) analysis evaluates the cost of providing water and recycled water service and to allocate those costs to rate structure components to ensure the proposed rates are aligned with costs to provide service. The COS analysis is done in order to comply with Proposition 218, which requires water rates to be equitably apportioned and proportional to the cost of providing water service. Upon completion of the COS analysis, a rate structure analysis was performed to evaluate rate structure modifications and calculate specific rate schedules for implementation in FY 2020/21. The complete schedule of proposed rates for FY 2020/21 through FY 2024/25 is detailed in the full report.

The rate structure proposed by the Study is designed to:

- ▶ Fairly and equitably recover costs through rates;
- ▶ Conform to accepted industry practice and legal requirements; and
- ▶ Provide fiscal stability and recovery of system fixed costs.

This Study employed a COS methodology that is consistent with the “commodity-demand” COSA methodology promulgated in AWWA’s *Manual M1: Principles of Water Rates, Fees, and Charges (M1)*. This is a well-established methodology as recognized by the AWWA and other accepted industry standards.

### **Proposed Rate Structure Changes**

The Study found that the District’s current rate structures are consistent with common industry practices and recommends updating the meter equivalency schedule and structuring the potable tiered and seasonal rates to reflect the cost of water supply. The Residential Tier 1 rate and the Commercial Winter rate are designed to recover the cost of importing water from SCWA (the District’s lowest cost source of water). The Residential Tier 2 & 3 rate and the Commercial Summer rate are designed to recover the cost of treating local surface water at the Stafford Treatment Plant. The costs of the Conservation Program are recovered through the Tier 3 rates and Summer rates because it is those customers that use the most water who create the need for the Conservation Program.

The allocation of water in Tier 1 is 262 gallons per day per dwelling unit, which results in same proportion of water sold at Tier 1 rates as is purchased from SCWA. Similarly, the “season” for Commercial Winter Rates extends from October through June, which also results in same proportion of water being sold at the Winter Rate.

No structural changes are proposed for the Recycled Water Rates.

## Proposed Novato Water Rates

The proposed fixed Service Charge for Novato customers is made up of an account charge and a meter charge as summarized in the table below.

### Proposed Service Charges – Novato

Meter Size	Account Charge	Meter Charge	Bi-Monthly Service Charge
5/8"	\$19.73	\$21.73	\$41.46
1"	\$19.73	\$54.33	\$74.06
1.5"	\$19.73	\$108.65	\$128.38
2"	\$19.73	\$173.84	\$193.57
3"	\$19.73	\$347.68	\$367.41
4"	\$19.73	\$543.25	\$562.98
6"	\$19.73	\$1,086.50	\$1,106.23
8"	\$19.73	\$1,412.45	\$1,432.18

The residential, commercial and raw water Quantity Charges are calculated by combining unit costs associated with water supply costs and an appropriate elevation charge as summarized below.

### Proposed Quantity Charges – Novato

Residential Quantity Charges	
Tier 1*	\$5.50
Tier 2**	\$6.23
Tier 3	\$7.67
Commercial Quantity Charges	
Winter (Oct. to June)	\$5.50
Summer (Jul. to Sept.)	\$7.67
Other Quantity Charges	
Raw Water	\$2.93
Temporary Meter	\$6.99
Elevation Zone Charge	
Zone B	\$0.76
Zone C	\$2.10

\* Allocation is 262 gpd per dwelling unit

\*\* Allocation is 458 gpd per dwelling unit

### Proposed Recycled Water Rates

Similarly, the proposed fixed Service Charge for Recycled Water customers is made up of an account charge and a meter charge as summarized in the following table.

#### Proposed Service Charges – Recycled Water Enterprise

Meter Size	Account Charge	Meter Charge	Bi-Monthly Service Charge
5/8"	\$24.11	\$24.67	\$48.78
1"	\$24.11	\$61.68	\$85.79
1.5"	\$24.11	\$123.35	\$147.46
2"	\$24.11	\$197.36	\$221.47
3"	\$24.11	\$394.72	\$418.83
4"	\$24.11	\$616.75	\$640.86
6"	\$24.11	\$1,233.50	\$1,257.61

The Quantity Charge for Recycled Water of \$6.24 per TGAL.

### Conclusion

The Study used methodologies that are aligned with industry standard practices for rate setting as promulgated by AWWA and all applicable laws, including California's Proposition 218. The proposed annual adjustments to the rates will allow the District to continue to provide reliable service to customers while meeting the state's mandates.

The water rates will need to be adopted in accordance with Proposition 218, which will require a detailed notice describing the proposed charges to be mailed to each affected property owner or customer at least 45 days prior to conducting a public hearing to adopt the rates.

The full report includes schedules which detail 5 years of proposed rates.



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## List of Acronyms

AEEP	Aqueduct Energy Efficiency Project
AWWA	American Water Works Association
CIP	capital improvement program
COS	cost of service
DCR	debt service coverage ratio
FY	fiscal year (which ends on June 30 for the District)
G&A	general and administrative
GPD	gallons per day
GPM	gallons per minute
MG	million gallons
MMWD	Marin Municipal Water District
O&M	operations and maintenance
OPEB	Other Post-Employment Benefits
pay-go	“pay as you go” (i.e. cash financing for capital projects)
SCWA	Sonoma County Water Agency
SRF	State Revolving Fund (loan program)
TGAL	thousand gallons

## **Section 1. INTRODUCTION**

Hildebrand Consulting, LLC has been retained by North Marin Water District (District) to conduct a rate study (Study) for the Novato water service area and the District's recycled water system. This report describes in detail the assumptions, procedures, and results of the Study, including conclusions and recommendations.

### **1.1 UTILITY BACKGROUND**

The District provides water service to approximately 61,000 residents in the greater Novato area through over 20,000 potable water service connections and 90 recycled water connections. The District also provides water service to approximately 1,800 residents in the Point Reyes service area of West Marin County through over 780 service connections and sewer service to approximately 500 residents in the Oceana Marin service area of West Marin County through approximately 230 service connections. The focus of this Study is both the Novato service area (which sells potable water) and the Recycled Water system. The District was formed by voter approval in April 1948 pursuant to provisions of the County Water District Law and is governed by a five-member Board of Directors, elected by division from within the District's service area.

Nearly three quarters of the Novato service area's water supply is purchased from the Sonoma County Water Agency (SCWA), while the remaining supply is treated surface water from Stafford Lake.

### **1.2 SCOPE & OBJECTIVES OF STUDY**

The scope of this Study is to prepare multi-year financial plans, review the rate structures, and propose a 5-year rate schedule for both the Novato Enterprise and the Recycled Water Enterprise.

The primary objectives of this Study are to:

- i. Develop multi-year financial management plans that integrate operational and capital project funding needs;
- ii. Identify future rate adjustments to water rates to help ensure adequate revenues to meet each enterprises' respective ongoing financial obligations;
- iii. Determine the cost of providing water service using industry-accepted methodologies; and
- iv. Recommend specific modifications to the District's existing rate structures in order to ensure that the District is equitably recovering the cost of service and comporting with industry standards and California's legal requirements.

### **1.3 STUDY METHODOLOGY**

This Study applied methodologies that are aligned with industry standard practices for rate setting as laid out in the American Water Works Association (AWWA) M1 Manual, and all applicable law, including California Constitution Article XIII D, Section 6(b), commonly known as Proposition 218.

The Study began with a review of the District's current financial dynamics and latest available data for the utility's operations. Multi-year financial management plans for both the Novato (Potable) Enterprise and the Recycled Water Enterprise were then developed to determine the level of annual rate revenue required to cover projected annual operating expenses, debt service (including coverage targets), and capital cost requirements while maintaining adequate reserves. This portion of the Study was conducted using an MS Excel©-based financial planning model which was customized to reflect both enterprises financial dynamics and latest available data for the utility's operations in order to develop a long-term financial management plan, inclusive of projected annual revenue requirements and corresponding annual rate adjustments.

Revenue requirements calculated for fiscal year ending June 2021 (FY 2020/21<sup>1</sup>) were then used to perform a detailed cost-of-service (COS) analysis. The COS analysis and rate structure design were conducted based upon principles outlined by the AWWA, legal requirements (Proposition 218) and other generally accepted industry practices to develop rates that reflect the cost of providing service.

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<sup>1</sup> Fiscal years are sometimes indicated by their ending years. For example, FY 2019/20, starts on July 1, 2019 and ends on June 30, 2020, can also be expressed as FY 2020.

## **Section 2. FINANCIAL PLANS**

This section presents the 10-year financial plans for both the Novato Enterprise and the Recycled Water Enterprise, including a description of the source data, assumptions, and the District's financial policies. The District provided historical and budgeted financial information associated with operation of the Novato Enterprise and Recycled Water Enterprise, including historical and budgeted operating costs, a multi-year capital improvement program (CIP), and outstanding debt service obligations. District staff also assisted in providing other assumptions and policies, such as reserve targets and escalation rates for operating costs (all of which are described in the following subsections).

The 10-year financial plans were developed through several interactive work sessions with both District staff and the Board's Ad Hoc Water Rate Study Subcommittee. As a result of this process, the Study has produced robust financial plans that will allow the District to meet the revenue requirements of the respective enterprises and achieve financial performance objectives throughout the projection period while striving to minimize rate increases.

The analysis identifies a revenue shortfall in upcoming years which leads to a conclusion that revenue adjustments are required for both the Novato Enterprise and the Recycled Water Enterprise. The schedules attached to this report include detailed data supporting the financial plan discussed herein.

### **2.1 NOVATO ENTERPRISE FINANCIAL PLAN**

The following provides the details of the Novato Enterprise financial plan.

### 2.1.1 Novato Enterprise Beginning Fund Balances

The ending cash balances for FY 2018/19 were used to establish the FY 2019/20 beginning balances, as outlined in **Table 1**.

**Table 1: Novato Enterprise FY 2019/20 Beginning Cash Balance**

Cash	\$0
Self-Insured Workers' Compensation Fund	\$507,000
Retiree Medical Benefits Fund	\$4,124,000
Maintenance Accrual Fund	\$2,500,000
Operating Reserve Fund	\$2,332,000
Liability Contingency Reserve	\$1,142,000
<b>Total Unrestricted:</b>	<b>\$10,605,000</b>
Restricted:	\$1,628,000
<b>Total Reserves:</b>	<b>\$12,233,000</b>
Long-term Receivable from Recycled Water:	\$7,659,000

The District's self-insurance program was recently terminated, and the associated funds (\$507 thousand) have been transferred to the Operating Reserve Fund. The "restricted reserves" are primarily associated with reserves that set aside in conformance with debt covenants for an existing State Revolving Fund (SRF) loan. The purpose and target reserve levels for the remaining funds is detailed in Section 2.1.8. The "Long-term Receivable" from Recycled Water is explained in Section 2.2.5.

### 2.1.2 Novato Service Area Customer Growth

Over the past 4 years the District has collected an average of approximately \$1 million per year in Connection Fee revenue from new customers connecting to the system. While this level of growth may continue, this Study conservatively assumes that Connection Fee revenue will average \$486 thousand per year going forward (based on 50% of the average revenue from FY2014/15 – FY2018/19). This level of revenue corresponds with a growth rate of approximately 0.07%. This Study assumes that this



rate of growth will continue over the next 10-year planning period, while also recognizing that actual growth may turn out to be materially higher.

### **2.1.3 Novato Enterprise Rate Revenues**

Rate revenue is the revenue generated from customers for water service. The District collects rate revenue from potable water customers in the Novato service area based on a fixed “Service Charge” (assessed based on meter sizes) and a water usage “Quantity Rate.” Customers receive a bimonthly bill. The Novato Enterprise financial plan starts with FY 2018/19 actual rate revenues and then inflates those revenues by 3.5% to estimate FY 2019/20 revenues (the District adopted a 3.5% increase on June 1, 2019). Future rate revenues include assumed customer growth (see Section 2.1.2) as well as the annual rate revenue adjustments proposed by this Study. Budgeted and projected rate revenues (including proposed rate adjustments) are listed in **Schedule 1**.

### **2.1.4 Novato Enterprise Non-Rate Revenues**

In addition to rate revenue, the District receives some “non-rate revenue” from sources such as miscellaneous service fees, wheeling charges<sup>2</sup>, Connection Fee<sup>3</sup> revenue, rents/leases on District property, grants, loan repayments<sup>4</sup>, and interest revenue on investments. Projections of all non-rate revenues were based on FY 2019/20 budgeted revenues with the exception of interest income which was calculated annually based upon projected fund balances and assumed interest rate of 1.47% on invested funds, which is consistent with the District’s historical interest

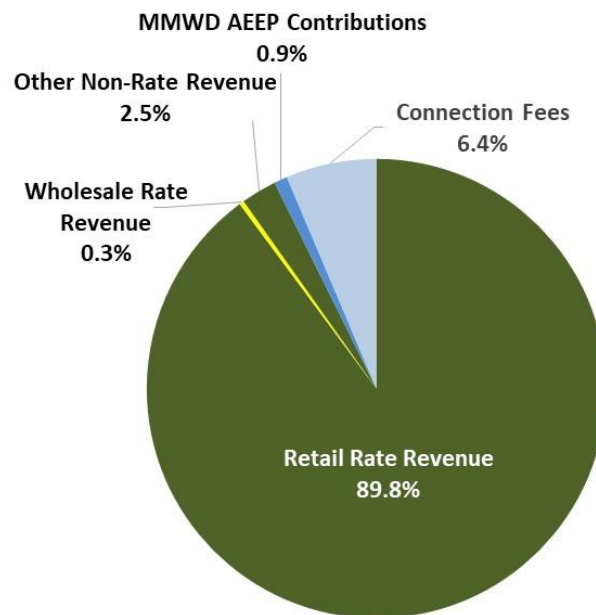
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<sup>2</sup> Charged to Marin Municipal Water District (MMWD) for wholesale water transfers through NMWD’s Aqueduct.

<sup>3</sup> The District’s “Connection Fees” are known as “Capacity Charges” per Government Code Section 66013.

<sup>4</sup> Namely from MMWD for capital contributions to the Aqueduct Energy Efficiency Project (AEEP).

earnings. Budgeted non-rate revenues are depicted in Figure 2 below and listed in detail in Schedule 1.



**Figure 1: Novato Enterprise Budgeted Revenue Categories (FY 2019/20)**

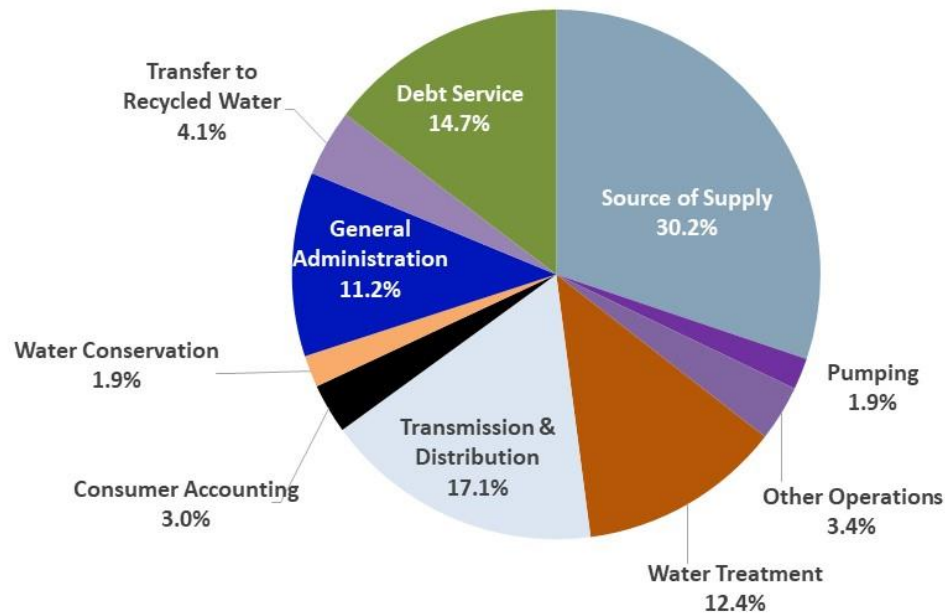
It should be noted that California law (specifically Government Code Section 66013) requires that Connection Fee revenue be spent “solely for the purposes for which the charges were collected” (i.e. expansion-related projects). In the case of the District, Connection Fee revenue is used to contribute to existing debt service payments for Recycled Water system expansion projects. The use of Connection Fee revenue to pay for the expansion of the Recycled Water system is reasonable given that Recycled Water is part of the District’s larger water portfolio and the use of recycled water mitigates the District’s need to pay for other (potentially more expensive) new sources of water. The mechanics of the transfer of Connection Fee revenue from the Novato Enterprise to the Recycled Water Enterprise are explained in more detail in Section 2.2.5.

### 2.1.5 Novato Enterprise Operating and Debt Expenses

Novato Enterprise expenses include operating and maintenance expenses, SCWA water purchase payments, debt service, transfers to the Recycled Water Enterprise (see Section 2.2.5). Capital spending is addressed in Section 2.1.7. The Novato Enterprise current outstanding debt includes a 2008 loan from Bank of Marin (a \$8.0 million loan, \$7 million of which was for the Aqueduct Energy Efficiency Project and \$1 million for West Marin capital projects), a 2010 SRF loan for the Stafford Treatment Plant (\$16.5 million), and a 2019 loan from JP Morgan Chase (\$4.6 million for the Advanced Meter Information (AMI) Project). The Novato Enterprise total annual debt service in FY 2019/20 is \$1,903,800.

Future operating expenses were projected based upon the budgeted expenditures from FY 2019/20 and adjusted for inflation (see Section 2.1.6).

Budgeted expense categories for FY 2019/20 are depicted in **Figure 2**. Budgeted and projected operating and debt expenses are listed in detail in **Schedule 2**.



**Figure 2: Novato Enterprise Forecasted Expense Categories (FY 2020/21)**

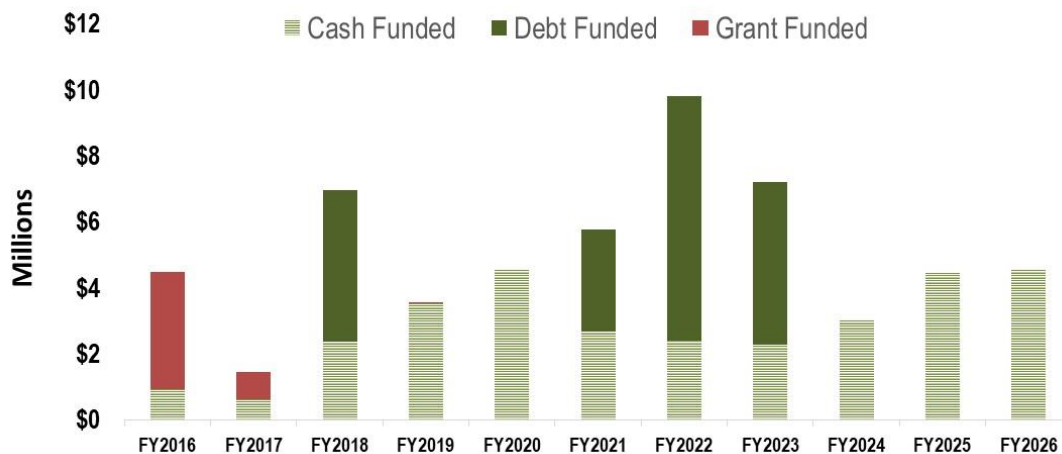
#### **2.1.6 Cost Escalation**

Annual cost escalation factors for the various types of expenses were developed based upon a review of historical inflation trends, published inflation forecasts, industry experience, and discussions with District staff. During the projection period, most of the Novato Enterprise and Recycled Water Enterprise expenses are projected to increase at 3.0% per year. The only exception are water purchase costs from SCWA, which are assumed to increase by 6% per year based on projections provided by SCWA.

### 2.1.7 Novato Enterprise Capital Improvement Program

Figure 3 shows that total capital spending from FY 2015/16 to FY 2018/19 has averaged \$4.1 million, of which an average of \$1.9 million was cash financed (“pay-go”). During that period, the District received \$4.4 million in grants and issued a \$4.6 million loan.

Going forward, the District is planning to increase its annual pay-go spending to an average of \$4.0 million. The District is increasing its pay-go spending in order to proactively address aging pipes, pump stations, water tanks, and other system deficiencies, such as making improvement to the system’s fire flow capacity. A \$15 million loan is projected to be issued in FY 2020/21 to rehabilitate the Administrative Building and laboratory facilities.



**Figure 3: Novato Enterprise Historic and projected capital spending**

A detailed list of capital projects and associated costs is provided in **Schedule 3**.

It should be noted that capital spending forecasts beyond FY 2024/25 is based on the District’s 2019 Water Master Plan 5-year spending forecast of \$19.2 million, for an average annual expense of \$3.8 million (in today’s dollars). All capital spending values

provided by the District were provided in current dollars and were inflated at a rate of 3% per year.

### **2.1.8 Novato Enterprise Reserve Targets**

Target reserves for utilities are cash balances retained for specific cash flow needs. The target for reserves is an important component when developing a multi-year financial plan. Utilities rely on reserves for financial stability; credit rating agencies evaluate utilities in part on their adherence to formally adopted reserve targets; and lending agencies require utilities to maintain specific debt reserves for outstanding loans.

The Novato Enterprise has formal reserve policies (Policy No. 45, last revised on May 1, 2018) which includes three separate reserve targets, which are summarized below. The target levels of the policies below are consistent with: 1) the findings of reserve studies conducted by the AWWA; 2) a healthy level of reserves for a utility per the evaluation criteria published by rating agencies (e.g. Fitch, Moody's, and Standard & Poor's); and, 3) Hildebrand Consulting's industry experience for similar systems.

**Operating Reserve** – The Operating Reserve is comprised of a minimum of four months of budgeted operating expenditures as recommended by the District's financial advisors. This reserve serves to ensure adequate working capital for operating, capital, and unanticipated cash flow needs that arise during the year.

Given the forecasted FY 2020/21 O&M budget of \$16.8 million, the Operating Reserve target will be **\$5.6 million**.

**Other Post-Employment Benefits (OPEB) Liability Reserve** – The District pays the cost of health insurance for retirees (subject to certain limitations). The target level for this reserve is based on a 2018 actuarial analysis which calculated the District's total OPEB accrued liability at \$4.1 million (later adjusted to \$4.5 million in FY 2018/19).

**Liability Contingency Reserve** – This reserve was established when the District first elected to self-insure its general liability risk. Today the reserve target is \$2 million based on an independent financial assessment of the District’s current liabilities.

**Maintenance Accrual Fund Reserve** – This reserve provides a source of funds for the replacement of treatment, storage, transmission and distribution facilities as they wear out. Until recently the reserve target goal has been \$2.5 million, based on the Novato Enterprise’s annual capital spending pay-go budget. Starting in FY 2020/21 the target for this reserve will be increased to \$4.0 million based on the District’s planned increase in pay-go spending.

This Study proposes that the District distinguish between “**Minimum “Reserves”** and “**Reserve Targets**”. The first three reserves targets above (the Operating Reserve target, OPEB Liability Reserve target, and Liability Contingency Reserve target, which add up to approximately \$12 million) are maintained for the purpose of mitigating unexpected expenses or events. For this reason, the District should always plan to have these reserves fully funded (in case those unexpected events come to pass, at which time it may be appropriate to draw down on the reserves). On the other hand, the Maintenance Accrual Fund Reserve is designed to give the District some “cushion” to smooth out the peaks and valleys in the pay-go capital spending program. As such, it make sense to draw down on this reserve during years of higher-than-average pay-go spending and replenish the reserve during years with lower-than-average spending. As such, the Maintenance Accrual Fund Reserve is treated as a “target” rather than a “minimum”.

The total reserve target by year is shown in **Schedule 4** (Novato Enterprise 10-Year Cash Flow Proforma), which shows that the projected cash reserves don’t dip below the minimum reserve target of \$12 million, while the Target Reserve level of \$16 million (\$12 million + \$4 million) is only occasionally fully funded.

### 2.1.9 Future Borrowing Assumptions

This Study assumes that the \$15 million Administrative Building & Laboratory rehabilitation project will be debt financed with a bank loan in FY 2020/21. This Study assumes a repayment period of 20-years and a fixed interest rate of 3.10% based on information provided by the District's financial advisor. The annual debt service associated with the \$16.6 million loan (after escalation, cost of issuance (@ 1%) and reserve requirement (@ one year of debt service) is estimated to be \$1.13 million.

The District's existing loans have a debt service coverage ratio (DCR) requirement of 1.20. Based on recently published guidance from Fitch Ratings<sup>5</sup>, utility systems with *midrange* financial profiles should maintain a DCR greater than 1.50 times annual debt service. As per the District's debt management policy (Policy No. 47), a DCR of at least 1.50 was maintained throughout the projection period to enable the District to access favorable borrowing terms in the future.

### 2.1.10 Proposed Novato Enterprise Rate Revenue Increases

All of the above information was entered into a Novato Enterprise financial planning model to produce a 10-year projection of the sufficiency of revenues to meet current and projected financial requirements and determine the level of rate revenue increases necessary in each year of the projection period.

Based upon the previously discussed financial data, assumptions, policies, and debt strategy (a \$16.4 million loan), this Study proposes a 5-year schedule of rate adjustments as detailed in **Table 2**.

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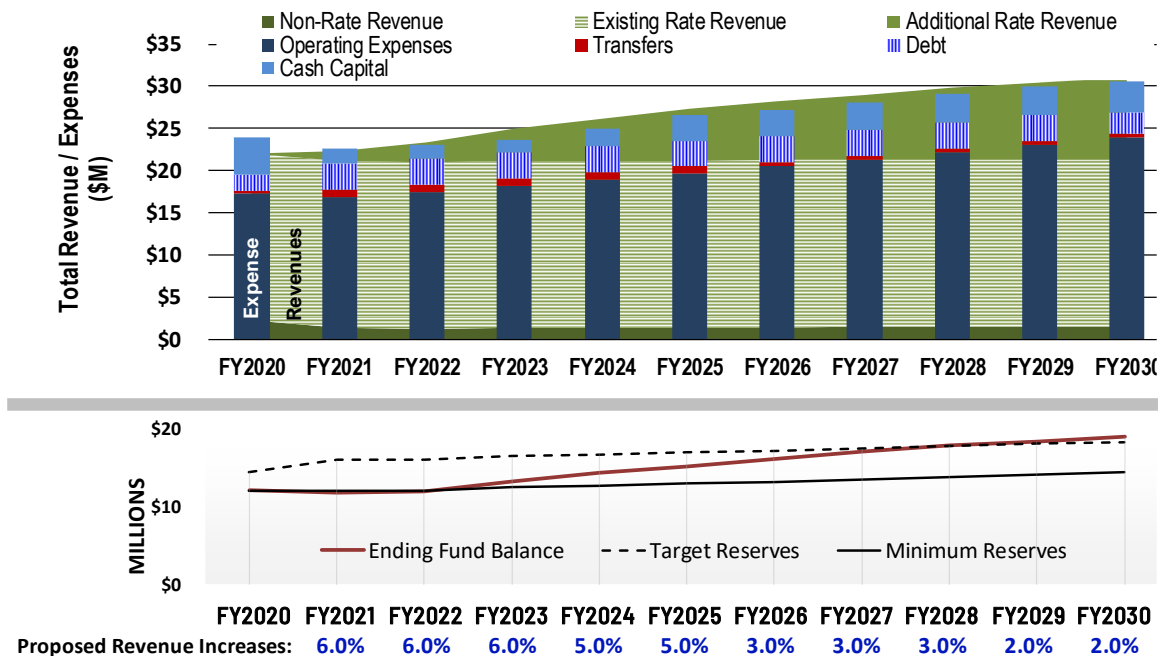
<sup>5</sup> As published on July 31, 2013.



**Table 2: Recommended Novato Enterprise Water Rate Revenue Increase**

Rate Adjustment Date	Proposed Rate Revenue Increase
July 1, 2020	6.0%
July 1, 2021	6.0%
July 1, 2022	6.0%
July 1, 2023	5.0%
July 1, 2024	5.0%

The numbers provided in **Schedule 4** (Novato Enterprise cash flow proforma) are summarized graphically in **Figure 4**, which shows that cash reserves and DCR targets are maintained over the course of the planning period.



**Figure 4: Novato Enterprise Financial Projection with Recommended Rate Increases**

After the final recommended increase in FY 2024/25, it is projected that minimal (approximately inflationary) increases will be necessary going forward, barring unforeseen emergencies or changes in infrastructure/operational needs.

Section 3.6 discusses the Board’s options when deciding how many years of proposed rates to adopt.

## 2.2 RECYCLED WATER ENTERPRISE FINANCIAL PLAN

The following provides the details of the Recycled Water Enterprise financial plan.

### 2.2.1 Recycled Water Enterprise Beginning Fund Balances

The ending cash balances for FY 2018/19 were used to establish the FY 2019/20 beginning balances, as outlined in **Table 3**.

**Table 3: Recycled Water Enterprise FY 2019/20 Beginning Cash Balance**

Cash	\$230,000
Operating Reserve Fund	\$174,000
<b>Total Unrestricted:</b>	<b>\$404,000</b>
Restricted	\$2,416,000
Capital Replacement & Expansion Fund	\$1,867,000
<b>Total Reserves:</b>	<b>\$4,687,000</b>

The “restricted reserves” are associated with (1) reserves that set aside per an interagency agreement with Novato Sanitary District and Las Gallinas Valley Sanitary District, (2) reserves set aside in conformance with debt covenants for existing SRF loans and (3) the Deer Island RWF Replacement Fund. The purpose and target reserve levels for the remaining funds is detailed in Section 2.2.8.

### **2.2.2 Recycled Water Customer Growth**

Extending the recently developed Recycled Water system is a long and expensive endeavor. At this time the District doesn’t have any plans to expand the Recycled Water system, although the existing system has capacity to allow for expansion of the customer base in the future.

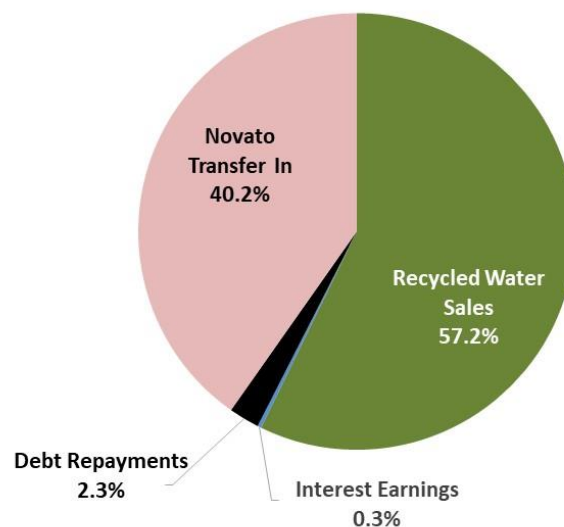
### **2.2.3 Recycled Water Rate Revenues**

Much like potable water customers, the Recycled Water Enterprise receives rate revenue from a fixed “Service Charge” and a water usage “Quantity Rate” and customers receive a bimonthly bill. Rate revenue in the Recycled Water Enterprise financial plan begins with FY 2019/20 budgeted rate revenues. Future rate revenues are modeled to increase annually with the annual rate revenue adjustments proposed by this Study. Budgeted and projected rate revenues are listed in **Schedule 5**.

#### 2.2.4 Recycled Water Enterprise Non-Rate Revenues

In addition to rate revenue, the Recycled Water Enterprise receives “non-rate revenue” from sources such as loan repayments<sup>6</sup>, miscellaneous service fees, grants, and interest revenue on investments. Most substantially, the Recycled Water Enterprise receives an annual transfer from the Novato Enterprise (explained in Section 2.2.5).

Projections of all non-rate revenues were based on FY 2019/20 budgeted revenues with the exception of interest income which was calculated annually based upon projected average fund balances and assumed the same interest rate as the Novato Enterprise. Budgeted revenues are depicted in **Figure 5** below and listed in detail in **Schedule 5**.



**Figure 5: Recycled Water Forecasted Revenue Categories (FY 2020/21)**

<sup>6</sup> Namely Marin Country Club contributions to the enterprise’s debt service (approximately \$49 thousand per year).

### **2.2.5 Transfer In from Novato Enterprise**

As previously mentioned in Section 2.1.4, Connection Fee revenue from the Novato Enterprise pays for the debt service on loans that were used to expand the Recycled Water storage and distribution system. However, this Connection Fee revenue is insufficient (in the short-term) to pay for the debt service. As such, the Novato Enterprise is using reserves from the Operating Reserve Fund to temporarily fund any debt service that exceeds Connection Fee revenue. Eventually Connection Fee revenue will begin to exceed the annual debt service payments (as the loans begin to be paid off starting in FY 2025/26 (see Schedule 6, Row 36)), at which time Connection Fee revenue will begin to reimburse the Novato Enterprise Operating Reserve Fund.

At present time, transfers are made from the Novato Enterprise Operating Reserve Fund to the Recycled Water Enterprise in amounts that are equal to the Recycled Water Enterprise's debt service less recycled water rate revenue surplus<sup>7</sup>. As explained in the previous paragraph, Connection Fee revenue is used to offset the cost of the transfer (i.e. loan) from the Novato Enterprise Operating Reserve Fund. For example, in FY2020/21 the transfer out is budgeted to be \$743 thousand and the Connection Fee revenue is budgeted to be \$486 thousand, therefore the balance of the loan (identified as "Long-Term Receivables" in the Novato Enterprise financial, see Section 2.1.1) from the Recycled Water Enterprise will increase by the difference (\$257 thousand). Again, in years when the Connection Fee revenue is greater than the transfer out to the Recycled Water Enterprise, the balance of the Long-Term Receivable will decrease.

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<sup>7</sup> Any surplus in revenue accounts for contributions from the Marin Country Club for debt service (which, by District policy, should be subtracted from transfers from the Novato Enterprise.

### 2.2.6 Recycled Water Operating and Debt Expenses

Recycled Water expenses include operating and maintenance expenses, debt service, and transfers to the partner agencies. Capital spending is address in Section 2.2.7. The Recycled Water Enterprise currently has nine (9) outstanding SRF loans, ranging from a \$457 thousand loan to a \$7.1 million loan. The Recycled Water Enterprise total annual debt service in FY 2019/20 is \$1,163,439.

Future operating expenses were projected based upon the budgeted expenditures from FY 2019/20 and adjusted for inflation (see Section 2.1.6).

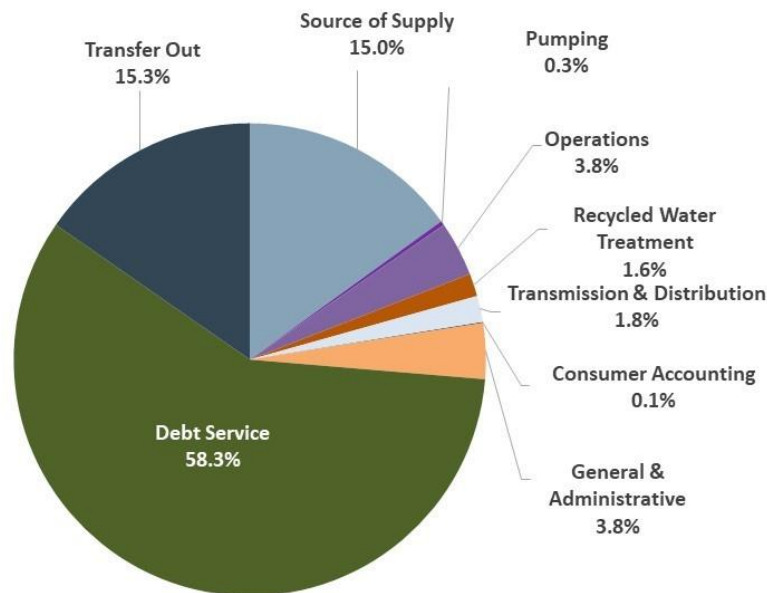
In accordance with its agreements with Novato Sanitary District and Las Gallinas Valley Sanitary District<sup>8</sup>, the District also transfers out half of its revenue that is in excess of operating costs<sup>9</sup> to partner agencies for the purpose of paying for the costs of repair and replacement at each respective agency.

Budgeted expense categories for FY 2019/20 are depicted in **Figure 6**. Budgeted and projected operating and debt expenses are listed in detail in **Schedule 6**.

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<sup>8</sup> The “Inter Agency Agreement for Recycled Water Between Las Gallinas Sanitary District and North Marin Water District” and the “Inter Agency Agreement for Recycled Water Between Novato Sanitary District and North Marin Water District” both executed in 2011.

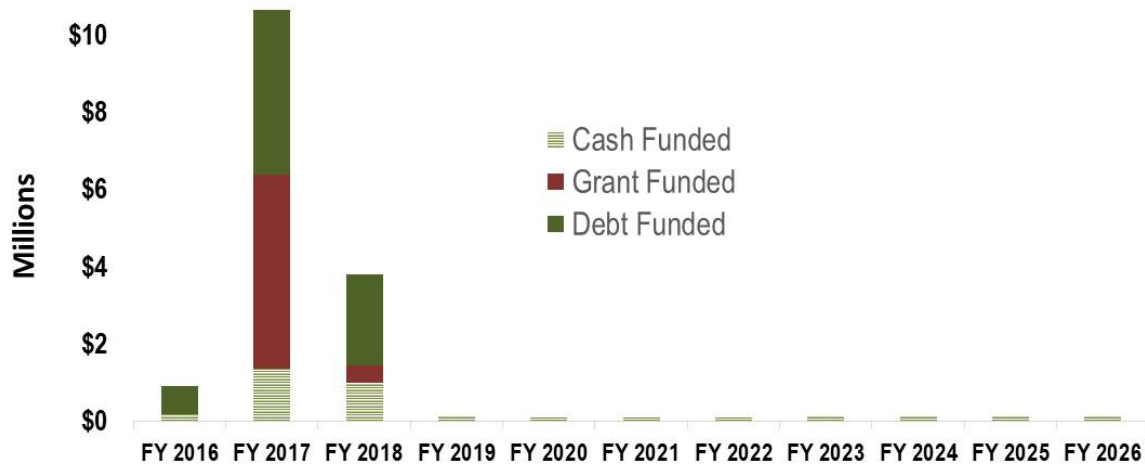
<sup>9</sup> The Inter Agency Agreements for Recycled Water between Novato Sanitary District, Las Gallinas Valley Sanitary District & NMWD in 2011 require that any payments to the NMWD by its retail customers in excess of “Operating and Maintenance Costs” shall be deposited in a separate fund for capital expenditures at each respective agency. “Operation and Maintenance Costs” are defined as the actual cost of labor, equipment and vehicle charges, consumables, and spare parts and/or replaced components necessary to reliably treat and deliver recycled water to the retail customers. Operation and Maintenance Costs do not include costs for major capital replacement or process changes.



**Figure 6: Recycled Water Budgeted Expense Categories (FY 2019/20)**

### 2.2.7 Recycled Water Capital Improvement Program

Figure 7 shows that total capital spending from FY 2015/16 to FY 2017/18 was \$15.4 million of which \$7.4 million was debt financed, \$5.4 million was grant funded and \$2.6 million was cash funded. Starting in FY 2018/19 the annual capital spending drops to approximately \$100 thousand, all of which will be funded by pay-go.



**Figure 7: Recycled Water Historic and projected capital spending**

### 2.2.8 Recycled Water Enterprise Reserve Targets

As discussed in Section 2.1.8, target reserves for utilities are cash balances retained for specific cash flow needs. The Recycled Water Enterprise's only formal reserve (as stated in District Policy No. 45 last revised on May 1, 2018) is its Operating Reserve, which is comprised of a minimum of four months of budgeted operating expenditures and serves to ensure adequate working capital for operating, capital, and unanticipated cash flow needs that arise during the year. Given the forecasted FY 2020/21 O&M budget of \$523 thousand, the Recycled Water Operating Reserve target will be \$175 thousand.

This Study also proposed to establish a **Capital Reserve** for the Recycled Water Enterprise. Much like the Maintenance Accrual Fund Reserve (see Section 2.1.8) this reserve is designed to equip the enterprise to withstand the natural volatility of annual capital spending while also providing emergency funds in the event of a catastrophic asset failure. The proposed target for this reserve is equal to the enterprise's annual depreciation expense (currently \$474 thousand).



The total reserve target by year is shown in **Schedule 7** (Recycled Water Enterprise 10-Year Cash Flow Proforma, Row 31), which shows that the projected cash reserves are projected to remain very steady at around \$900 thousand (which is just above the targeted reserve levels). The reason that the reserve levels are forecasted to remain so steady (which is atypical for a utility) is due to the fact that the transfer in from Novato (see Section 2.2.5) is calculated to balance the Recycled Water Enterprise's cash flow requirements.

### 2.2.9 Proposed Recycled Water Rate Revenue Increases

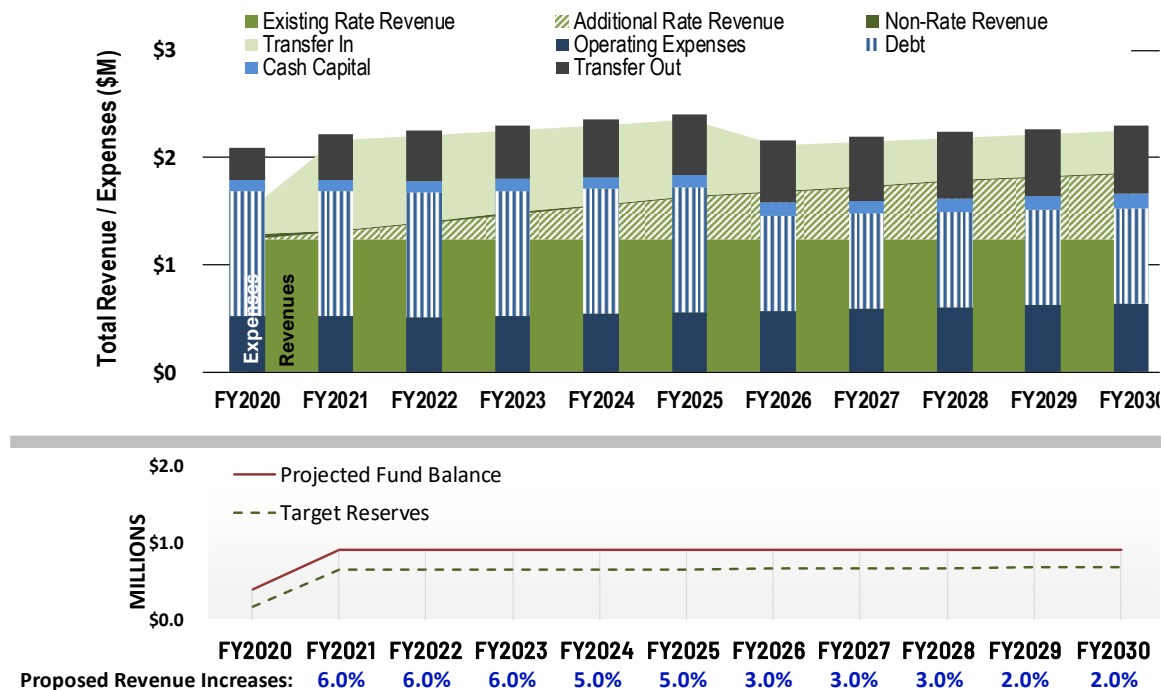
All of the above information was entered into a Recycled Water Enterprise financial planning model to produce a 10-year projection of the sufficiency of revenues to meet current and projected financial requirements and determine the level of rate revenue increases necessary in each year of the projection period.

Based upon the previously discussed financial data, assumptions, and policies, this Study proposes a 5-year schedule of rate adjustments which mirror those of the Novato Enterprise, as detailed in **Table 2**.

**Table 4: Recommended Recycled Water Enterprise Rate Revenue Increase**

Rate Adjustment Date	Proposed Rate Revenue Increase
July 1, 2020	6.0%
July 1, 2021	6.0%
July 1, 2022	6.0%
July 1, 2023	5.0%
July 1, 2024	5.0%

The numbers provided in **Schedule 7** (Recycled Water Enterprise cash flow proforma) are summarized graphically in **Figure 8**, which shows that cash reserves and DCR targets are maintained over the course of the planning period.



**Figure 8: Recycled Water Financial Projections with Recommended Rate Increases**

After the final recommended increase in FY 2024/25, it is projected that minimal (approximately inflationary) increases will be necessary going forward, barring unforeseen emergencies or changes in infrastructure/operational needs.

Section 3.6 discusses the Board's options when deciding how many years of proposed rates to adopt.

## Section 3. COST OF SERVICE & RATE STRUCTURE

The Cost-of-Service (COS) analysis evaluates the cost of providing water and recycled water service and to allocate those costs to rate structure components to ensure the proposed rates are aligned with costs to provide service. The COS analysis is done in order to comply with Proposition 218, which requires water rates to be equitably apportioned and proportional to the cost of providing water service.

Upon completion of the COS analysis, a rate structure analysis was performed to evaluate rate structure modifications and calculate specific rate schedules for implementation in FY 2020/21. The complete schedule of proposed rates for FY 2020/21 through FY 2024/25 is detailed in **Schedule 10**.

The rate structure proposed by this Study is designed to:

- ▶ Fairly and equitably recover costs through rates;
- ▶ Conform to accepted industry practice and legal requirements; and
- ▶ Provide fiscal stability and recovery of system fixed costs.

This Study employed a COS methodology that is consistent with the “commodity-demand” COSA methodology promulgated in AWWA’s *Manual M1: Principles of Water Rates, Fees, and Charges (M1)*. This is a well-established methodology as recognized by the AWWA and other accepted industry standards.

### 3.1 CURRENT RATES

The structure for the District’s current potable water and recycled water rates follow a common industry practice with a two-part structure that is comprised of a fixed Service Charge and a consumption-based Quantity Charge. In addition, some potable water customers pay an additional Elevation Zone Charge, which is a consumption-based charge based on the elevation of the property. The Service Customer Charge is scaled based on the individual account’s meter size and currently recovers

approximately 24% of rate revenue for the Novato Enterprise and 5% of rate revenue for the Recycled Water Enterprise.

The Quantity Charge is assessed based on actual water usage (measured in thousand-gallon increments or “TGALs”) and the rate varies by customer class. Residential potable water customers pay inclining block rates (three tiers) and receive water allocations for each tier as summarized in **Table 5**.

**Table 5: Current Residential Potable Tiered Rates**

Tier	Rate (per TGAL)	Allocation (gallons per day per dwelling unit)
1	\$5.42	0 - 615
2	\$8.64	615 - 1856
3	\$15.05	Greater than 1845

Commercial (i.e. all non-residential) potable water customers currently pay a uniform season rate as shown in **Table 6**.

**Table 6: Current Commercial Seasonal Rates**

Season	Rate (per TGAL)
Summer (June through October)	\$6.42
Winter (November through May)	\$5.97

Recycled Water customer classes currently pay a uniform rate of \$5.97 per TGAL.

The Novato Enterprise has two raw water customers that pay only a Quantity Charge of \$2.46 per TGAL.

The Elevation Zone Charge is a surcharge added to the potable water Quantity Rates, as summarized **Table 7**.

**Table 7: Current Elevation Zone Charges**

Zone	Rate (per TGAL)	Elevation
A	\$0.00	0 to 60 ft
B	\$0.65	60 to 200 feet
C	\$2.08	Over 200 feet

### 3.2 PROPOSED RATE STRUCTURE CHANGES

This Study has found that the District’s current rate structures are consistent with common industry practices and recommends the following minor modifications.

1. Update the meter equivalency schedule (see Section 3.3.3); and
2. Structure the potable tiered and seasonal rates to reflect the cost of water supply (see Section 3.2.2).

The above proposed changes are explained in more detail in the following subsections.

#### 3.2.1 Meter Equivalency

A meter equivalency schedule is an industry-standard factor used to represent the relative capacity associated with various meter sizes based on their hydraulic flow capacity (measured in gallons per minute (GPM)). A meter equivalency schedule allows for indexing of each meter size in terms of multiples of the lowest common denominator (in this case a 5/8” meter). This Study recommends a standard meter equivalency table as taken from AWWA’s M1 manual as shown in **Table 8**. The application of this meter equivalency schedule is discussed in Section 3.3.3.

**Table 8: Meter Equivalency Schedule**

Meter Size	Meter Type	Rating (gpm)	Equivalency Schedule
5/8"	Displacement	20	1.00
3/4"	Displacement	30	1.50
1"	Displacement	50	2.50
1 1/2"	Displacement	100	5.00
2"	Displacement	160	8.00
3"	Compound Class 1	320	16.00
4"	Compound Class 1	500	25.00
6"	Compound Class 1	1,000	50.00
8"	Compound Class 1	1,300	65.00

Source: Table VI.2-5 AWWA meter Standards, *AWWA M1 Manual*, 6th Ed.

### 3.2.2 Tier and Seasonal Rate Pricing and Allocation

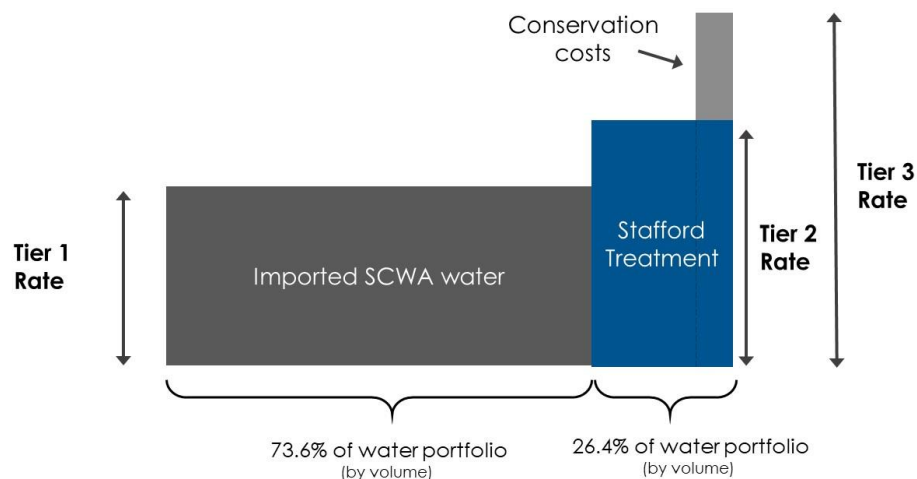
Tiered and seasonal rates are made up of two components: the rate (i.e. the cost) and the allocation (i.e. the amount). The rate is how much is charged per unit of water while the allocation is how much water can be purchased at each tier (or the duration of each season for seasonal rates). This Study proposes to use water supply costs and availability to calculate the rates and the allocations for the tiered/seasonal rates.

The Residential **Tier 1 rate** and the Commercial **Winter rate** are designed to recover the cost of importing water from SCWA (the District's lowest cost source of water). The rates are calculated based on the costs associated with purchasing and importing the water, as summarized in the "Imported Water" column of **Schedule 8**. Since this imported water constituted about 74% of the District's water usage over the past 4 years, the allocation of Tier 1 is 262 gallons per day (GPD) per dwelling unit, which results in 74% of water sold to residential accounts to be sold at Tier 1 rates. Similarly, the "season" for Commercial Winter Rates extends from October through June, which also results in approximately 75% of the commercial water being sold at the Winter Rate.

The Residential **Tier 2 & 3 rate** and the Commercial **Summer rate** are designed to recover the cost of treating local surface water at the Stafford Treatment Plant. These

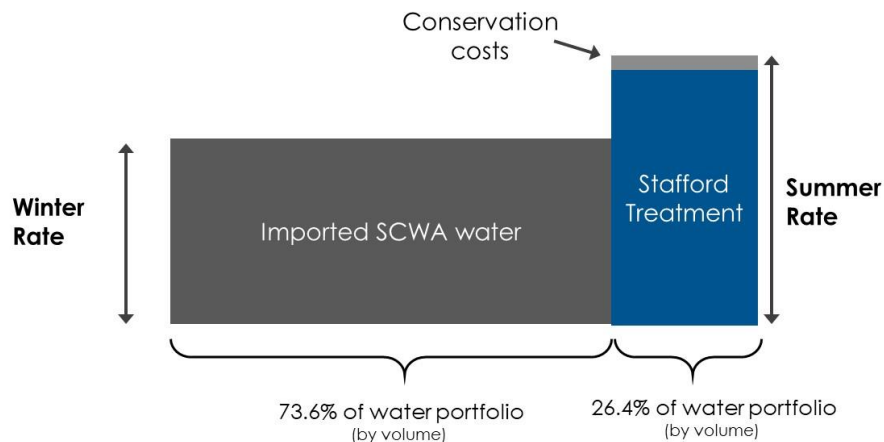
costs are as summarized in the “Treated Local Water” column of **Schedule 8**. As a final component, the costs of the District’s Conservation Program are “layered” onto the Tier 2 rates in order to create the **Tier 3 rate**. Conservation program costs are also recovered through Commercial **Summer Rates**. The costs of the Conservation Program are recovered through the Tier 3 rates and Summer rates because it is those customers that use the most water who create the need for the Conservation Program. The sale of water in Tier 2, Tier 3, and the Summer Rate<sup>10</sup> will collectively amount to 26% of the potable water sales (and this is also the proportion of the District water that comes from the Stafford Treatment Plant). The Tier 2 allocation is 458 GPD per dwelling unit (i.e. for water usage between 262 GPD to 720 GPD), which results in about 21% of water sold to residential accounts to be sold at Tier 2 rates. The remaining 5% is sold at Tier 3 rates, which is a reasonable percentage for the purpose of isolating those customers that use the most water.

**Figure 9** and **Figure 10** present graphical summaries of the cost basis and allocation basis for the tiered rates and seasonal rates, respectively.



**Figure 9: Basis for Tiered Rate Costs and Allocations**

<sup>10</sup> The Summer Rate will apply to the months of July, August and September, as opposed to the current months of June, July, August, September and October.



**Figure 10: Basis for Seasonal Rate Costs and Allocations**

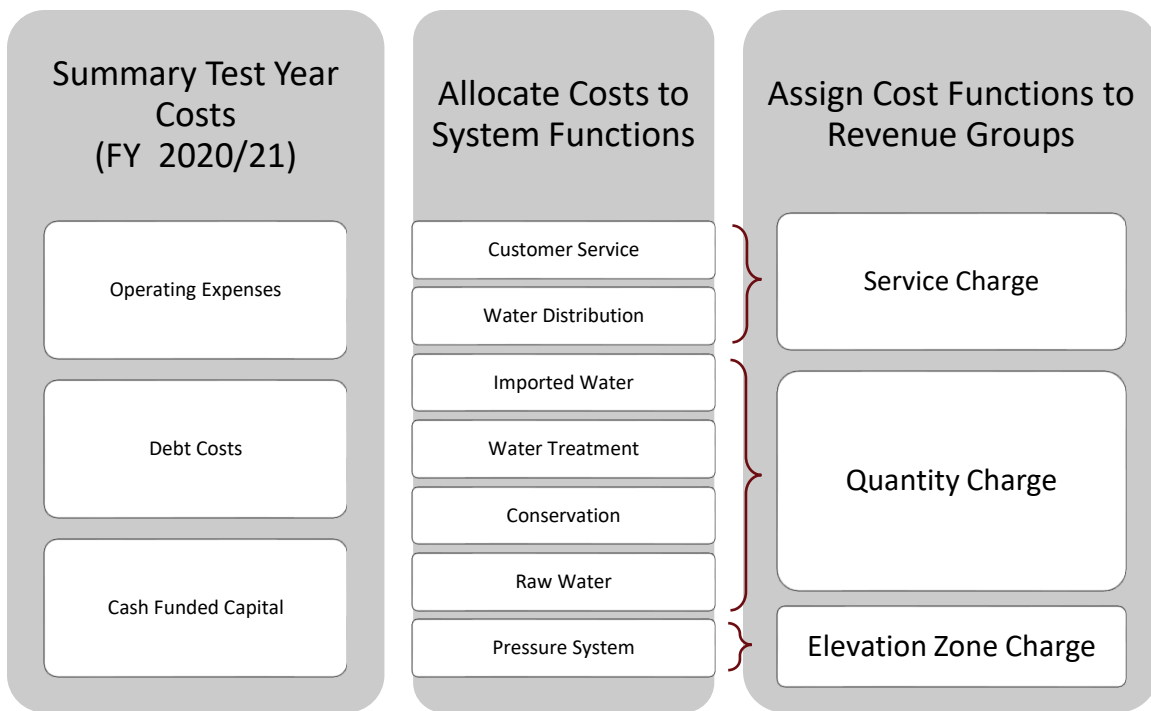
### 3.3 RATE STRUCTURE DEVELOPMENT – NOVATO ENTERPRISE

The following section presents a detailed description of the process for developing the water rate structure for the Novato Enterprise using cost of service principles. The following rates are proposed to be adopted for FY 2020/21. A complete schedule of proposed rates is provided in **Schedule 10**.

#### 3.3.1 Cost Functions - Novato Enterprise

First, all costs for the Novato Enterprise’s FY 2020/21 (“Test Year”) are allocated to seven (7) system functions: Customer Service, Water Distribution, Imported Water, Water Treatment, Conservation, Raw Water, and Pressure System (i.e. the pumping system which pressurized the water for delivery through-out the service area). These grouped costs will eventually form the basis of the proposed Service Charges, Quantity Charges and Elevation Zone Charges (as illustrated in **Figure 11**).





**Figure 11: Novato Enterprise Cost Functions**

Operating and capital line-item expenses are assigned to a specific system function or activity. The following explains the percent allocations that are detailed in **Schedule 8**:

- Direct allocations - Some costs can be allocated directly to a functional component. For example, on Row 8 purchased water costs are allocated 100% to the Imported Water function.
- Asset value-based allocations - Most line items are allocated to functions based on the value of existing District assets<sup>11</sup> in the relevant functions. Asset values are a reasonable proxy for estimating the cost to operate and maintain various functions within the system. Rows 1 through 4 of **Table 9** show how asset values are proportionately divided among Functional Components. Row

<sup>11</sup> This Study used the replacement cost new less depreciation (RCNLD) of assets in the District's asset register.

1 shows the relative value for all assets, while Rows 2, 3 and 4 show the relative value of assets when isolating certain functions. For example, Row 2 of Table 9 shows the relative value of all assets when excluding Raw Water. These percentages are used to allocate the costs of Operations (see Rows 15 through 20 of Schedule 8) since the raw water customers have very limited reliance on District operations.

- Water utilization allocation – Costs associated with managing Stafford Lake not including the treatment plant (see Rows 3 through 7 of Schedule 8) are split between Water Treatment and Raw Water based on the amount of water used by each customer group (644 million gallons and 59 million gallons per year, respectively).
- Indirect cost allocation – Beginning with Row 78 in Schedule 8, most costs are allocated using the indirect cost allocation method, which is based on the proportionate allocation of all costs that were previously allocated to the respective system functions (see Row 6 of Table 8). General & Administration (G&A) costs combine the Customer Service indirect allocation (11.3%) and Water Distribution indirect allocation (19.4%) and puts the combined amount (30.7%) under the Customer Service function because (as will be explained in more detail in Section 3.3.3), Customer Service costs are allocated to customers on a per-account basis rather than a meter equivalency basis, which is appropriate for G&A costs. This logic also applies to transfers and the “Changes in Fund Balance” (which together net \$476 thousand in the Test Year).

**Table 9: System Function Allocation Percentages**

	Customer Service	Water Distribution	Imported Water	Water Treatment	Conservation	Raw Water	Pressure System
<b>Asset Value Based Allocations</b>							
All Assets:	0.0%	38.2%	23.4%	14.3%	0.0%	3.5%	20.6%
All Assets less Raw Water:	0.0%	39.6%	24.2%	14.8%	0.0%	0.0%	21.3%
Water Supply and Pumping Only:	0.0%	0.0%	37.9%	23.1%	0.0%	5.7%	33.3%
Water Supply Only:	0.0%	0.0%	56.7%	39.7%	0.0%	3.6%	0.0%
<b>Other Allocation Bases</b>							
Water Utilization:	0.0%	0.0%	0.0%	91.6%	8.4%	0.0%	0.0%
Indirect Cost Allocation:	11.3%	19.4%	43.1%	19.5%	2.8%	0.1%	3.8%

### 3.3.2 Allocating Non-Rate Revenue - Novato Enterprise

In order to complete the allocation of costs to each system function, a final step requires non-rate revenue to be used to offset costs that would otherwise need to be recovered through rates. Non-rate revenue includes interest income, and other operating revenue such as miscellaneous fees. These revenues are credited to each system function using the indirect cost allocation method (see Row 102 of Schedule 8 and **Table 10**).

Table 10 below summarizes the allocation of all expenses and non-rate revenues to each system function, which establishes the rate revenue requirement for each function.

**Table 10: Novato Rate Revenue Requirement by Function**

	Customer Service	Water Distribution	Imported Water	Water Treatment	Conservation	Raw Water	Pressure System
Total Expenses	\$2,525,036	\$3,548,431	\$9,092,767	\$4,374,445	\$481,785	\$189,193	\$2,066,890
Less Non-Rate Revenue	(\$152,420)	(\$261,075)	(\$580,774)	(\$263,234)	(\$37,363)	(\$1,338)	(\$50,797)
Rate Revenue Requirement	\$2,372,615	\$3,287,356	\$8,511,993	\$4,111,211	\$444,422	\$187,855	\$2,016,093
	11.3%	15.7%	40.7%	19.6%	2.1%	0.9%	9.6%

### 3.3.3 Units of Service – Novato Enterprise

As explained in Section 3.3.1, the revenue requirements established for each system function (see Table 10) are recovered through the Service Charge, Quantity Charge and Elevation Zone Charge, respectively. Those charges are calculated by dividing the Rate Revenue Requirement of each system function by an appropriate metric. For example, the Customer Service revenue requirement is divided by the number of accounts in the Novato Enterprise to calculate a cost per account.

The following describe units of service that were quantified for this Study.

**Accounts** – This is simply a count of all water accounts within the Novato Enterprise.

**Equivalent Meters** – **Table 11** shows the calculation of the total equivalent meters for potable water accounts in the Novato service area.

**Table 11: Novato Potable Water Meter Equivalencies**

Meter Size:	5/8"	1"	1.5"	2"	3"	4"	6"	8"
Residential:	17,896	573	143	58	0	0	1	0
Commercial:	550	377	249	164	18	6	2	1
<b>Total:</b>	<b>18,446</b>	<b>950</b>	<b>392</b>	<b>222</b>	<b>18</b>	<b>6</b>	<b>3</b>	<b>1</b>
Meter Equivalency:	1.0	2.5	5.0	8.0	16.0	25.0	50.0	65.0
<b>Equivalent Meters:</b>	<b>18,446</b>	<b>2,375</b>	<b>1,960</b>	<b>1,776</b>	<b>288</b>	<b>150</b>	<b>150</b>	<b>65</b>
							<b>Total:</b>	<b>25,210</b>

**Imported Water** – Over the past five years the District has purchases between 68% to about 77% of its water supply from SCWA (or approximately 1.65 billion gallons per year).

**Treated Local Water** – Over the same period, the Stafford Treatment Plant has supplied between 23% and 32% of the District’s water supply (or approximately 700 million gallons (MG) per year).

**Conservation** – The costs for the District’s conservation program are recovered through Tier 3 and Summer rates. As explained in Section 3.2.2, the quantity of water to be sold at those rates is designed to be approximately 5% of water sales (or 308 MG).

**Raw Water** – Raw water customers utilized 64 million gallons of water in FY 2018/19, which is assumed to be a representative quantity for purposes of this Study.

**Table 12** presents a summary of the units of service used for the purpose of calculating unit costs for each system function.

**Table 12: Units of Service (FY 2017)**

<b>System Function</b>	<b>Units of Service</b>
Number of Customers	20,040 Accounts
Distribution System Utilization	25,210 EDUs
Imported Water Volume	1,647.3 MG
Local Treated Water Volume	696.9 MG
Conservation	308.0 MG
Raw Water Volume	64.0 MG

### 3.3.4 Unit Costs – Novato Enterprise

The revenue requirements for each system function (Table 10) are divided by the appropriate units of service (Table 12) in order to calculate the unit costs that will build the rate structure. These calculations are shown in **Table 13**.

**Table 13: Calculation of Unit Costs – Novato Enterprise**

<b>System Function:</b>	Customer	Distribution System	Imported Water	Treated Local Water	Conservation	Raw Water
<b>Units of Service:</b>	20,040 Accounts	25,210 Equivalent Meters	1,647,296 TGALs	696,911 TGALs	307,977 TGALs	64,025 TGALs
<b>Revenue Requirement:</b>	\$2,372,615	\$3,287,356	\$8,511,993	\$4,111,211	\$444,422	\$187,855
<b>Unit Costs:</b>	<b>\$118.39</b> per account per year  or <b>\$19.73</b> per account per bi-month	<b>\$130.40</b> Per equivalent meter per year  or <b>\$21.73</b> Per equivalent meter per bi-month	<b>\$5.17</b> Per TGAL for Tier 1 Water & Winter Water	<b>\$5.90</b> Per TGAL for Tier 2 & 3 Water & Summer Water	<b>\$1.44</b> Per TGAL for Tier 2 & 3 Water & Summer Water	<b>\$2.93</b> Per TGAL for Raw Water

### 3.3.5 Elevation Zone Charge

All potable water in the Novato service area is pressurized when delivered to customers. The District must provide additional pressurization to deliver water to customers located at higher elevations. The District has previously calculated the

relative cost of pumping water to each respective elevation zone<sup>12</sup>. It was not in the scope of this Study to independently calculate the Elevation Zone Charge, rather this Study updates the existing Elevation Zone Charges based on current costs.

As a first step, the revenue requirements associated with the pressure system were calculated (\$2,016,000 see Table 10). Next the existing cost relationships between the elevation zones were used to calculate elevation “factors” (see column b of Table 14). These factors were multiplied by the amount of water sold in each zone (column c) to derive “scaled” TGALs (Column d). The revenue requirement (\$2,016,000) was divided by the “scaled” TGALs (\$6,136,966) to calculate the unit cost per scaled TGAL (\$0.33), which is then multiplied by the elevation factor to calculate the cost per TGAL for each zone (Column e). The Zone A pumping costs are included in all Quantity Charges, therefore the Elevation Zone surcharges for Zone B and Zone C are shown in Column f.

**Table 14: Elevation Zone Charge Calculation**

	(a) Elevation Range (ft)	(b) Elevation "Factor"	(c) Water Usage (TGAL)	(d) "Scaled" TGALs	(e) Cost per TGAL	(f) Proposed Surcharge (per TGAL)
<b>Zone A:</b>	0 - 60	1.0	1,067,197	1,067,197	\$0.33	(na)
<b>Zone B:</b>	60 - 200	3.3	1,078,367	3,558,613	\$1.09	\$0.76
<b>Zone C:</b>	200+	7.4	205,599	1,511,156	\$2.43	\$2.10
<b>Total:</b>			<b>2,351,164</b>	<b>6,136,966</b>		

### 3.3.6 Service Charges – Novato Enterprise

The fixed Service Charge is made up of an account charge (\$19.73 per bi-month) and a meter charge (\$21.73 per equivalent meter per bi-month). **Table 15** provides a complete schedule for all meter sizes in the Novato service area.

<sup>12</sup> Cost of Service Study, December 2018 draft

**Table 15: Proposed Service Charges – Novato Enterprise**

Meter Size	Account Charge	Meter Charge	Bi-Monthly Service Charge
5/8"*	\$19.73	\$21.73	\$41.46
1"	\$19.73	\$54.33	\$74.06
1.5"	\$19.73	\$108.65	\$128.38
2"	\$19.73	\$173.84	\$193.57
3"	\$19.73	\$347.68	\$367.41
4"	\$19.73	\$543.25	\$562.98
6"	\$19.73	\$1,086.50	\$1,106.23
8"	\$19.73	\$1,412.45	\$1,432.18

\* This Study recommends residential account with a 1" meter that would otherwise have a 5/8" meter but-for fire requirements, should be charged at the 5/8" meter rate.

### 3.3.7 Quantity Charge – Novato Enterprise

The residential, commercial and raw water Quantity Charges are calculated by combining the unit costs shown in Table 13 and Table 14 (with exception to Raw Water which does not pay the elevation charge since those customers do not receive pumping services from the District). For example, the Tier 1 unit cost from Table 13 (\$5.17 per TGAL) is combined with the Zone A Elevation Zone Charge (\$0.33) for a total of \$5.50 for Tier 1 Zone A. The various combinations of adding these unit costs together is summarized below in Table 16.

**Table 16: Proposed Quantity Charges – Novato Enterprise**

<b>Residential Quantity Charges</b>	
Tier 1*	\$5.50
Tier 2**	\$6.23
Tier 3	\$7.67
<b>Commercial Quantity Charges</b>	
Winter (Oct. to June)	\$5.50
Summer (Jul. to Sept.)	\$7.67
<b>Other Quantity Charges</b>	
Raw Water	\$2.93
Temporary Meter <sup>†</sup>	\$6.99
<b>Elevation Zone Charge</b>	
Zone B	\$0.76
Zone C	\$2.10

\* Allocation is 262 gpd per dwelling unit

\*\* Allocation is 458 gpd per dwelling unit

<sup>†</sup> Temporary Meters will be charged the Tier 2, Zone B Quantity Charge and a Service Charge depending on the size of the construction meter. It is reasonable to charge Temporary Meter customers for the District's more costly source of water (reflected in Tier 2 rates) and for the "middle" elevation zone (Zone B) since the meters may be installed in various zones.

### 3.4 RATE STRUCTURE DEVELOPMENT – RECYCLED WATER ENTERPRISE

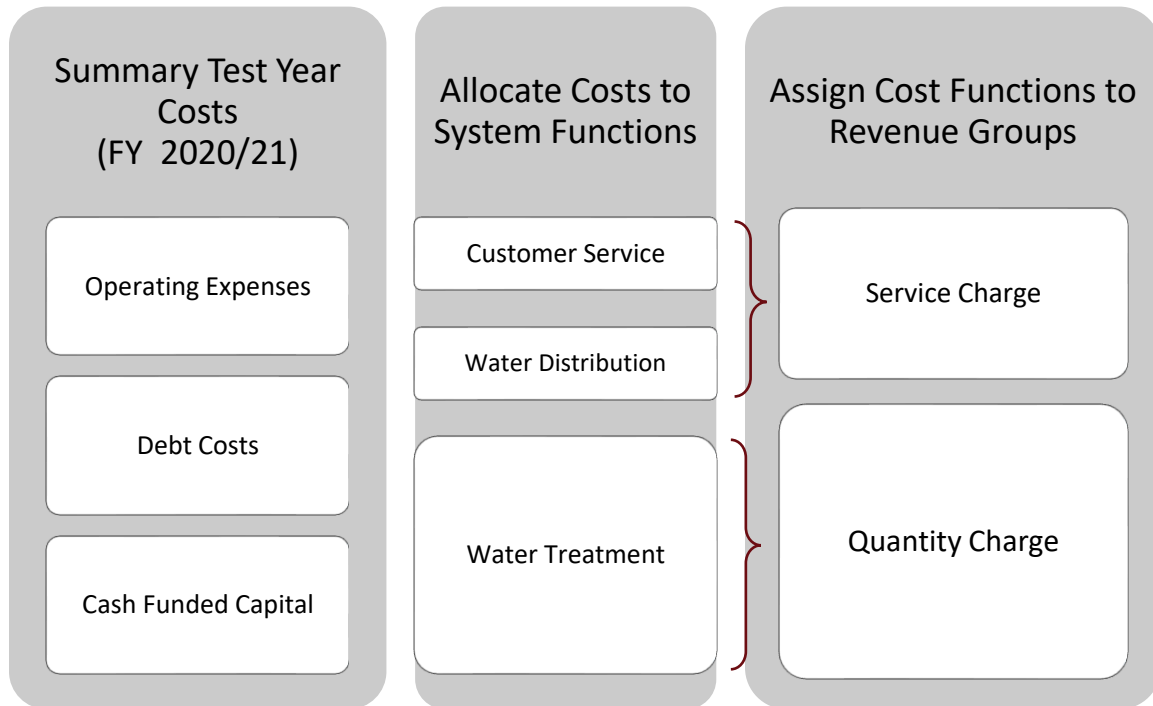
The following section presents a detailed description of the process for developing the water rate structure for the Recycled Water Enterprise using the same cost of service principles as for the Novato Enterprise. The following rates are proposed to be adopted for FY 2020/21. A complete schedule of proposed rates is provided in **Schedule 10**.

#### 3.4.1 Cost Functions – Recycled Water Enterprise

All costs for the enterprise's FY 2020/21 Test Year are first allocated to three (3) system functions: Customer Service, Water Distribution, and Water Treatment, as illustrated



in **Figure 11**. These grouped costs will eventually form the basis of the proposed Service Charge and Quantity Charge.



**Figure 12: Recycled Water Cost Functions**

Operating and capital line-item expenses are assigned to a specific system function. The following explains the percent allocations that are detailed in **Schedule 9**:

- Direct allocations - Most costs can be allocated directly to a functional component.
- Indirect cost allocation - Those line-items that cannot be allocated directly are allocated using the indirect cost allocation method (for explanation, see Section 3.3.1). General & Administration (G&A) costs combine the Customer Service indirect allocation (0.1%) and Recycled Water Distribution allocation (17.0%) and puts the full 17.1% under Customer Service. This also applies to transfers and the Changes in Fund Balance.

### 3.4.2 Allocating Non-Rate Revenue - Recycled Water Enterprise

As explained in Section 3.3.1, non-rate revenue is used to offset costs that would otherwise need to be recovered through rates. Table 17 below summarizes the allocation of all expenses and non-rate revenues to each Recycled Water system function, which establishes the rate revenue requirement for each function.

**Table 17: Recycled Water Rate Revenue Requirement by Function**

	<b>Customer Service</b>	<b>Recycled Water Distribution</b>	<b>Water Treatment</b>
Total Expenses	\$14,086	\$241,972	\$1,904,418
Less Non-Rate F	(\$1,069)	(\$144,208)	(\$703,723)
Rate Revenue R	\$13,017	\$97,764	\$1,200,695
	1.0%	7.5%	91.6%

### 3.4.3 Units of Service – Recycled Water Enterprise

As explained in Section 3.3.1, the revenue requirements established for each system function (see Table 17) are recovered through the Service Charge and Quantity Charge, respectively. Those charges are calculated by dividing the Rate Revenue Requirement of each system function by an appropriate metric.

**Accounts** – This is a count of all Recycled Water accounts.

**Equivalent Meters** –Table 18 shows the calculation of the total Recycled Water equivalent meters.

**Table 18: Recycled Water Enterprise Meter Equivalencies**

Meter Size:	5/8"	1"	1.5"	2"	3"	4"	6"
Recycled Water	2	9	32	43	2	0	2
Meter Equivalency:	1.0	2.5	5.0	8.0	16.0	25.0	50.0
Equivalent Meters:	2	23	160	344	32	0	100
Total Equivalent Meters:							661

**Treated Wastewater (sold as Recycled Water)** – During the most recent billing period, the Recycled Water Enterprise sold 192 MG.

#### 3.4.4 Unit Costs – Recycled Water Enterprise

The revenue requirements for each system function (Table 10) are divided by the appropriate units of service (Section 3.3.3) in order to calculate the unit costs that will build the rate structure. These calculations are shown in Table 19.

**Table 19: Calculation of Unit Costs – Recycled Water Enterprise**

System Function:	Customer	Distribution System	Treated Wastewater
Units of Service:	90 Accounts	661 Equivalent Meters	192,300 TGALs
Revenue Requirement:	\$13,017	\$97,764	\$1,200,695
Unit Costs:	<b>\$144.64</b> per account per year  or <b>\$24.11</b> per account per bi-month	<b>\$148.02</b> Per equivalent meter per year  or <b>\$24.67</b> Per equivalent meter per bi-month	<b>\$6.24</b> Per TGAL

### 3.4.5 Service Charges – Recycled Water Enterprise

The fixed Service Charge is made up of the account charge (\$24.11 per bi-month) and the meter charge (\$24.67 per equivalent meter per bi-month). Table 20 provides a complete schedule for all meter sizes in the Recycled Water service area.

**Table 20: Proposed Service Charges – Recycled Water Enterprise**

Meter Size	Account Charge	Meter Charge	Bi-Monthly Service Charge
5/8"	\$24.11	\$24.67	\$48.78
1"	\$24.11	\$61.68	\$85.79
1.5"	\$24.11	\$123.35	\$147.46
2"	\$24.11	\$197.36	\$221.47
3"	\$24.11	\$394.72	\$418.83
4"	\$24.11	\$616.75	\$640.86
6"	\$24.11	\$1,233.50	\$1,257.61

### 3.4.6 Quantity Charge – Recycled Water Enterprise

The Quantity Charge for Recycled Water of \$6.24 per TGAL is calculated in Table 19.

## 3.5 FIRE LINE SERVICE CHARGE

The District provides maintenance services for private fire service lines, which is a service that is not provided to other customers. The annual maintenance costs are \$155 thousand. The Fire Line Service Charge is calculated by first charging a bi-monthly \$10 administrative charge to all 427 accounts (see Table 21), which will generate about \$25 thousand. The remaining costs of \$130 thousand are recovered through a maintenance service charge which is scaled based on the size of the service line. This scale is based on the relative replacement cost ratio between service lines (see column c of Table 21).

**Table 21: Fire Line Service Charge Calculation and Schedule**

(a)	(b)	(c)	(d)	(e)	(f)
Service Size	No. of Accounts	Cost Ratio*	Bi-monthly Maintenance Charge	Bi-monthly Administrative Charge	Total Proposed Bi-Monthly Charge
1"	58	1	\$4.24	\$10.00	<b>\$14.24</b>
2"	14	2.1	\$8.78	\$10.00	<b>\$18.78</b>
4"	127	10.0	\$42.40	\$10.00	<b>\$52.40</b>
6"	177	15.0	\$63.60	\$10.00	<b>\$73.60</b>
8"	48	20.7	\$87.83	\$10.00	<b>\$97.83</b>
10"	3	27.9	\$118.11	\$10.00	<b>\$128.11</b>
<b>427</b>					

\* Source: American Water Works Association

### 3.6 ADOPTION OF PROPOSED RATES

This Study has calculated, and is proposing, a 5-year schedule of water rates (see Schedule 10). That being said, the Board has the discretion to adopt as few as one (1) year of the proposed rates or as many as all five (5) years of the proposed rates. In addition, in the event that the Board chooses to adopt just one year of rates, the Board may elect to adopt the second year of rates during the subsequent fiscal year (assuming that the financial projections from the Study can be shown to have remained reasonable as compared to actuals).

All rates are proposed to be effective as of July 1, as opposed to the current practice of making new rates effective on June 1.

## **Section 4. CONCLUSION**

This Study used methodologies that are aligned with industry standard practices for rate setting as promulgated by AWWA and all applicable laws, including California's Proposition 218. The proposed annual adjustments to the rates will allow the District to continue to provide reliable service to customers while meeting the state's mandates.

The water rates will need to be adopted in accordance with Proposition 218, which will require a detailed notice describing the proposed charges to be mailed to each affected property owner or customer at least 45 days prior to conducting a public hearing to adopt the rates.

## **SCHEDULES**

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**Schedule 1 – Novato Enterprise Budgeted and Projected Cash Inflows**

**Schedule 2 - Novato Enterprise Budgeted and Projected Cash Outflows**

**Schedule 3 - Novato Enterprise Capital Spending Plan**

**Schedule 4 - Novato Enterprise Cash Flow Pro Forma**

**Schedule 5 –Recycled Water Enterprise Budgeted and Projected Cash Inflows**

**Schedule 6 - Recycled Water Enterprise Budgeted and Projected Cash Outflows**

**Schedule 7 - Recycled Water Enterprise Cash Flow Pro Forma**

**Schedule 8 – Allocation of Costs to System Functions – Novato**

**Schedule 9 – Allocation of Costs to System Functions – Recycled Water**

**Schedule 10 – Schedule of Proposed Rates**

Novato Enterprise Budgeted and Projected Cash Inflows

Schedule 1

	FY2019/20	FY2020/21	FY2021/22	FY2022/23	FY2023/24	FY2024/25	FY2025/26	FY2026/27	FY2027/28	FY2028/29	FY2029/30
1 Growth in Water Accounts	na	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%
2 Proposed Water Rate Increase	(na)	6.0%	6.0%	6.0%	5.0%	5.0%	3.0%	3.0%	3.0%	2.0%	2.0%
<b>Rate Revenue</b>											
3 Water Rate Revenue	\$19,734,000	\$19,734,000	\$20,932,000	\$22,203,000	\$23,551,000	\$24,746,000	\$26,001,000	\$26,800,000	\$27,623,000	\$28,472,000	\$29,062,000
4 Increase due to growth		14,000	15,000	16,000	17,000	18,000	19,000	19,000	20,000	21,000	21,000
5 Increase due to new rate adjustments		1,184,000	1,256,000	1,332,000	1,178,000	1,237,000	780,000	804,000	829,000	569,000	581,000
6 <b>Total Rate Revenue</b>	<b>\$19,734,000</b>	<b>\$20,932,000</b>	<b>\$22,203,000</b>	<b>\$23,551,000</b>	<b>\$24,746,000</b>	<b>\$26,001,000</b>	<b>\$26,800,000</b>	<b>\$27,623,000</b>	<b>\$28,472,000</b>	<b>\$29,062,000</b>	<b>\$29,664,000</b>
<b>Other Revenue:</b>											
7 Account Turn-on Charges	\$79,000	\$79,000	\$79,000	\$79,000	\$79,000	\$79,000	\$79,000	\$79,000	\$79,000	\$79,000	\$79,000
8 New Account Charges	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000
9 Returned Check Charges	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
10 Hydrant Meter Up/Down Charges	5,000	5,000	5,000	5,000	5,000	5,000	5,000	6,000	6,000	6,000	6,000
11 Backflow Service Charges	142,000	142,000	142,000	142,000	142,000	142,000	142,000	142,000	142,000	142,000	142,000
12 Lab Service-Outside Clients	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000
13 Wheeling Charges - MMWD	75,000	77,000	80,000	82,000	84,000	87,000	90,000	92,000	95,000	98,000	101,000
14 Other Non-Operating Revenue	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
15 MMWD AEEP Capital Contributi	205,000	205,000	205,000	205,000	205,000	205,000	205,000	205,000	205,000	205,000	205,000
16 Rents & Leases	83,000	83,000	83,000	83,000	83,000	83,000	83,000	83,000	83,000	83,000	83,000
17 Interest Earnings	150,000	179,000	0	179,000	197,000	216,000	227,000	242,000	257,000	270,000	278,000
18 Connection Fees	1,400,000	486,000	486,000	486,000	486,000	486,000	486,000	486,000	486,000	486,000	486,000
19 <b>Total Other Revenue</b>	<b>\$2,230,000</b>	<b>\$1,347,000</b>	<b>\$1,171,000</b>	<b>\$1,352,000</b>	<b>\$1,372,000</b>	<b>\$1,394,000</b>	<b>\$1,408,000</b>	<b>\$1,426,000</b>	<b>\$1,444,000</b>	<b>\$1,460,000</b>	<b>\$1,471,000</b>
20 <b>TOTAL REVENUE</b>	<b>\$21,964,000</b>	<b>\$22,279,000</b>	<b>\$23,374,000</b>	<b>\$24,903,000</b>	<b>\$26,118,000</b>	<b>\$27,395,000</b>	<b>\$28,208,000</b>	<b>\$29,049,000</b>	<b>\$29,916,000</b>	<b>\$30,522,000</b>	<b>\$31,135,000</b>



North Marin Water District  
2020 Novato and Recycled Water Rate Study

Schedules

Novato Enterprise Budgeted and Projected Operating & Debt Expenses (existing)

Schedule 2 (1 of 3)

	FY2019/20	FY2020/21	FY2021/22	FY2022/23	FY2023/24	FY2024/25	FY2025/26	FY2026/27	FY2027/28	FY2028/29	FY2029/30
<b>SOURCE OF SUPPLY</b>											
1 Supervision & Engineering	\$11,000	\$11,300	\$11,700	\$12,000	\$12,400	\$12,800	\$13,100	\$13,500	\$13,900	\$14,400	\$14,800
2 Operating Expense - Source	14,000	14,400	14,900	15,300	15,800	16,200	16,700	17,200	17,700	18,300	18,800
3 Maint/Monitoring of Dam	67,000	69,000	71,100	73,200	75,400	77,700	80,000	82,400	84,900	87,400	90,000
4 Maint of Lake & Intakes	20,000	20,600	21,200	21,900	22,500	23,200	23,900	24,600	25,300	26,100	26,900
5 Maint of Structures	5,000	5,200	5,300	5,500	5,600	5,800	6,000	6,100	6,300	6,500	6,700
6 Maint of Watershed	45,000	46,400	47,700	49,200	50,600	52,200	53,700	55,300	57,000	58,700	60,500
7 Water Quality Surveillance	14,000	14,400	14,900	15,300	15,800	16,200	16,700	17,200	17,700	18,300	18,800
8 Purchased Water	5,710,000	6,052,600	6,415,800	6,800,700	7,208,700	7,641,300	8,099,700	8,585,700	9,100,900	9,646,900	10,225,700
9 Sonoma County Water Agency (bond opt-out payment)	1,200,000	0	0	0	0	0	0	0	0	0	0
10 GASB68 Adjustment	10,000	10,300	10,600	10,900	11,300	11,600	11,900	12,300	12,700	13,000	13,400
<b>PUMPING</b>											
11 Operating Expense - Pumping	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000
12 Maint of Structures & Grounds	32,000	33,000	33,900	35,000	36,000	37,100	38,200	39,400	40,500	41,800	43,000
13 Maint of Pumping Equipment	53,000	54,600	56,200	57,900	59,700	61,400	63,300	65,200	67,100	69,200	71,200
14 Electric Power	288,000	296,600	305,500	314,700	324,100	324,100	324,100	324,100	324,100	324,100	324,100
15 GASB68 Adjustment (Pension)	8,000	8,200	8,500	8,700	9,000	9,300	9,600	9,800	10,100	10,400	10,800
<b>OPERATIONS</b>											
16 Supervision & Engineering	158,000	162,700	167,600	172,700	177,800	183,200	188,700	194,300	200,100	206,200	212,300
17 Operating Expense - Operations	238,000	245,100	252,500	260,100	267,900	275,900	284,200	292,700	301,500	310,500	319,900
18 Maintenance Expense	57,000	58,700	60,500	62,300	64,200	66,100	68,100	70,100	72,200	74,400	76,600
19 Telemetry Equipment/Controls Maint	87,000	89,600	92,300	95,100	97,900	100,900	103,900	107,000	110,200	113,500	116,900
20 Leased Lines	17,000	17,500	18,000	18,600	19,100	19,700	20,300	20,900	21,500	22,200	22,800
21 GASB68 Adjustment (Pension)	128,000	131,800	135,800	139,900	144,100	148,400	152,800	157,400	162,100	167,000	172,000
<b>WATER TREATMENT</b>											
22 Supervision & Engineering	143,000	147,300	151,700	156,300	160,900	165,800	170,700	175,900	181,100	186,600	192,200
23 Operating Expense - Water Treatment	322,000	331,700	341,600	351,900	362,400	373,300	384,500	396,000	407,900	420,100	432,700
24 Purification Chemicals	475,000	489,200	503,900	519,000	534,600	534,600	534,600	534,600	534,600	534,600	534,600
25 Sludge Disposal	124,000	127,700	131,600	135,500	139,600	139,600	139,600	139,600	139,600	139,600	139,600
26 Maint of Structures & Grounds	122,000	125,700	129,400	133,300	137,300	141,400	145,700	150,000	154,500	159,200	164,000
27 Maint of Purification Equipment	191,000	196,700	202,600	208,700	215,000	221,400	228,100	234,900	242,000	249,200	256,700
28 Electric Power	156,000	160,700	165,500	170,500	175,600	175,600	175,600	175,600	175,600	175,600	175,600
29 Water Quality Programs	101,000	104,000	107,200	110,400	113,700	117,100	120,600	124,200	127,900	131,800	135,700
30 Laboratory Direct Labor	364,000	374,900	386,200	397,800	409,700	422,000	434,600	447,700	461,100	474,900	489,200
31 Lab Service-Outside Clients	46,000	47,400	48,800	50,300	51,800	51,800	51,800	51,800	51,800	51,800	51,800
32 Water Quality Supervision	75,000	77,300	79,600	82,000	84,400	86,900	89,600	92,200	95,000	97,900	100,800
33 Laboratory Supplies & Expense	80,000	82,400	84,900	87,400	90,000	92,700	95,500	98,400	101,300	104,400	107,500
34 Customer Water Quality	66,000	68,000	70,000	72,100	74,300	76,500	78,800	81,200	83,600	86,100	88,700
35 Lab Cost Distributed	(25,000)	(25,700)	(26,500)	(27,300)	(28,100)	(29,000)	(29,900)	(30,700)	(31,700)	(32,600)	(33,600)
36 GASB68 Adjustment (Pension)	254,000	261,600	269,500	277,600	285,900	294,500	303,300	312,400	321,800	331,400	341,400

North Marin Water District  
2020 Novato and Recycled Water Rate Study

Schedules

Novato Enterprise Budgeted and Projected Operating & Debt Expenses (existing)

Schedule 2 (2 of 3)

	FY2019/20	FY2020/21	FY2021/22	FY2022/23	FY2023/24	FY2024/25	FY2025/26	FY2026/27	FY2027/28	FY2028/29	FY2029/30
<b>TRANSMISSION &amp; DISTRIBUTION</b>											
37 Supervision & Engineering	591,000	608,700	627,000	645,800	665,200	685,100	705,700	726,900	748,700	771,100	794,300
38 Maps & Records	160,000	164,800	169,700	174,800	180,100	185,500	191,000	196,800	202,700	208,800	215,000
39 Operation of T&D System	68,000	70,000	72,100	74,300	76,500	78,800	81,200	83,600	86,100	88,700	91,400
40 Facilities Location	149,000	153,500	158,100	162,800	167,700	172,700	177,900	183,300	188,700	194,400	200,200
41 Safety: Construction & Engineering	60,000	61,800	63,700	65,600	67,500	69,600	71,600	73,800	76,000	78,300	80,600
42 Customer Service Expense	276,000	284,300	292,800	301,600	310,600	320,000	329,600	339,400	349,600	360,100	370,900
43 Flushing	54,000	55,600	57,300	59,000	60,800	62,600	64,500	66,400	68,400	70,500	72,600
44 Storage Facilities Expense	125,000	128,800	132,600	136,600	140,700	144,900	149,300	153,700	158,300	163,100	168,000
45 Cathodic Protection	18,000	18,500	19,100	19,700	20,300	20,900	21,500	22,100	22,800	23,500	24,200
46 Maint of Valves/Regulators	192,000	197,800	203,700	209,800	216,100	222,600	229,300	236,100	243,200	250,500	258,000
47 Maint of Mains	170,000	175,100	180,400	185,800	191,300	197,100	203,000	209,100	215,400	221,800	228,500
48 Leak Detection - Mains	12,000	12,400	12,700	13,100	13,500	13,900	14,300	14,800	15,200	15,700	16,100
49 Backflow Prevention Program	220,000	226,600	233,400	240,400	247,600	255,000	262,700	270,600	278,700	287,100	295,700
50 Maint of Copper Services	141,000	145,200	149,600	154,100	158,700	163,500	168,400	173,400	178,600	184,000	189,500
51 Maint of PB Service Lines	481,000	495,400	510,300	525,600	541,400	557,600	574,300	591,600	609,300	627,600	646,400
52 Maint of Meters	141,000	145,200	149,600	154,100	158,700	163,500	168,400	173,400	178,600	184,000	189,500
53 Detector Check Assembly Maint	84,000	86,500	89,100	91,800	94,500	97,400	100,300	103,300	106,400	109,600	112,900
54 Maint of Hydrants	73,000	75,200	77,400	79,800	82,200	84,600	87,200	89,800	92,500	95,200	98,100
55 GASB68 Adjustment (Pension)	417,000	429,500	442,400	455,700	469,300	483,400	497,900	512,900	528,200	544,100	560,400
<b>CONSUMER ACCOUNTING</b>											
56 Meter Reading	107,000	110,200	113,500	116,900	120,400	124,000	127,800	131,600	135,500	139,600	143,800
57 Collection Expense - Labor	32,000	33,000	33,900	35,000	36,000	37,100	38,200	39,400	40,500	41,800	43,000
58 Collection Expense - Agency	3,000	3,100	3,200	3,300	3,400	3,400	3,400	3,400	3,400	3,400	3,400
59 Billing & Consumer Accounting	213,000	219,400	226,000	232,800	239,700	246,900	254,300	262,000	269,800	277,900	286,300
60 Contract Billing	18,000	18,500	19,100	19,700	20,300	20,300	20,300	20,300	20,300	20,300	20,300
61 Stationery, Supplies & Postage	55,000	56,600	58,300	60,100	61,900	63,800	65,700	67,600	69,700	71,800	73,900
62 Online Payment Processing Fees/CC Fe	60,000	61,800	63,700	65,600	67,500	69,600	71,600	73,800	76,000	78,300	80,600
63 Lock Box Service	11,000	11,300	11,700	12,000	12,400	12,800	13,100	13,500	13,900	14,400	14,800
64 Uncollectable Accounts	5,000	5,200	5,300	5,500	5,600	5,800	6,000	6,100	6,300	6,500	6,700
65 Office Equipment Expense	35,000	36,100	37,100	38,200	39,400	40,600	41,800	43,000	44,300	45,700	47,000
66 Distributed to West Marin (4.1%)	(16,000)	(16,500)	(17,000)	(17,500)	(18,000)	(18,500)	(19,100)	(19,700)	(20,300)	(20,900)	(21,500)
67 GASB68 Adjustment (Pension)	90,000	92,700	95,500	98,300	101,300	104,300	107,500	110,700	114,000	117,400	121,000
<b>WATER CONSERVATION</b>											
68 Residential	255,000	262,700	270,500	278,600	287,000	295,600	304,500	313,600	323,000	332,700	342,700
69 Commercial	20,000	20,600	21,200	21,900	22,500	23,200	23,900	24,600	25,300	26,100	26,900
70 Public Outreach/Information	44,000	45,300	46,700	48,100	49,500	51,000	52,500	54,100	55,700	57,400	59,100
71 Large Landscape	28,000	28,800	29,700	30,600	31,500	32,500	33,400	34,400	35,500	36,500	37,600
72 GASB68 Adjustment (Pension)	43,000	44,300	45,600	47,000	48,400	49,800	51,300	52,900	54,500	56,100	57,800

**Novato Enterprise Budgeted and Projected Operating & Debt Expenses (existing)**

**Schedule 2 (3 of 3)**

	FY2019/20	FY2020/21	FY2021/22	FY2022/23	FY2023/24	FY2024/25	FY2025/26	FY2026/27	FY2027/28	FY2028/29	FY2029/30
<b>GENERAL AND ADMINISTRATIVE</b>											
73 Directors Fees	41,000	42,200	43,500	44,800	46,100	47,500	49,000	50,400	51,900	53,500	55,100
74 Legal Fees	21,000	21,600	22,300	22,900	23,600	23,600	23,600	23,600	23,600	23,600	23,600
75 Human Resources	52,000	53,600	55,200	56,800	58,500	60,300	62,100	64,000	65,900	67,800	69,900
76 Auditing Fees	21,000	21,600	22,300	22,900	23,600	24,300	25,100	25,800	26,600	27,400	28,200
77 Consulting Services/Studies	195,000	200,900	206,900	213,100	219,500	219,500	219,500	219,500	219,500	219,500	219,500
78 General Office Salaries	1,154,000	1,188,600	1,224,300	1,261,000	1,298,800	1,337,800	1,377,900	1,419,300	1,461,900	1,505,700	1,550,900
79 Safety: General District Wide	57,000	58,700	60,500	62,300	64,200	66,100	68,100	70,100	72,200	74,400	76,600
80 Office Supplies	47,000	48,400	49,900	51,400	52,900	54,500	56,100	57,800	59,500	61,300	63,200
81 Employee Events	12,000	12,400	12,700	13,100	13,500	13,900	14,300	14,800	15,200	15,700	16,100
82 Other Administrative Expense	15,000	15,500	15,900	16,400	16,900	17,400	17,900	18,400	19,000	19,600	20,200
83 Dues & Subscriptions	95,000	97,900	100,800	103,800	106,900	110,100	113,400	116,800	120,300	124,000	127,700
84 Vehicle Expense	8,000	8,200	8,500	8,700	9,000	9,300	9,600	9,800	10,100	10,400	10,800
85 Meetings, Conferences & Training	189,000	194,700	200,500	206,500	212,700	219,100	225,700	232,400	239,400	246,600	254,000
86 Recruitment Expense	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000
87 Gas & Electricity	39,000	40,200	41,400	42,600	43,900	43,900	43,900	43,900	43,900	43,900	43,900
88 Telephone	8,000	8,200	8,500	8,700	9,000	9,300	9,600	9,800	10,100	10,400	10,800
89 Water	2,000	2,100	2,100	2,200	2,300	2,300	2,300	2,300	2,300	2,300	2,300
90 Buildings & Grounds Maint	57,000	58,700	60,500	62,300	64,200	66,100	68,100	70,100	72,200	74,400	76,600
91 Office Equipment Expense	129,000	132,900	136,900	141,000	145,200	149,500	154,000	158,700	163,400	168,300	173,400
92 Insurance Premiums & Claims	146,000	150,400	154,900	159,500	164,300	169,300	174,300	179,600	184,900	190,500	196,200
93 Retiree Medical Benefits	172,000	177,200	182,500	187,900	193,600	199,400	205,400	211,500	217,900	224,400	231,200
94 (Gain)/Loss on Overhead Charges	(120,000)	(123,600)	(127,300)	(131,100)	(135,100)	(139,100)	(143,300)	(147,600)	(152,000)	(156,600)	(161,300)
95 G&A Applied to Other Operations (5.9%)	(146,000)	(150,400)	(154,900)	(159,500)	(164,300)	(169,300)	(174,300)	(179,600)	(184,900)	(190,500)	(196,200)
96 G&A Applied to Construction	(326,000)	(335,800)	(345,900)	(356,200)	(366,900)	(377,900)	(389,300)	(400,900)	(413,000)	(425,400)	(438,100)
97 GASB68 Adjustment (Pension)	366,000	377,000	388,300	399,900	411,900	424,300	437,000	450,100	463,600	477,500	491,900
98 Other Non-Operating Expense	20,000	20,600	21,200	21,900	22,500	23,200	23,900	24,600	25,300	26,100	26,900
<b>TRANSFERS</b>											
99 Transfer out to Recycled Water	219,000	794,000	747,000	714,000	687,000	656,000	368,000	353,000	337,000	329,000	321,000
100 Affordability Program	0	86,000	89,000	89,000	89,000	89,000	89,000	89,000	89,000	89,000	89,000
<b>DEBT SERVICE</b>											
101 Existing Debt Service	1,904,000	1,907,000	1,905,000	1,902,000	1,905,000	1,907,000	1,904,000	1,906,000	1,902,000	1,903,000	1,382,000
<b>102 Total Operating Expenses</b>	<b>\$19,474,000</b>	<b>\$19,594,000</b>	<b>\$20,234,000</b>	<b>\$20,916,000</b>	<b>\$21,641,000</b>	<b>\$22,352,000</b>	<b>\$22,834,000</b>	<b>\$23,632,000</b>	<b>\$24,461,000</b>	<b>\$25,346,000</b>	<b>\$25,751,000</b>

**Novato Enterprise Capital Spending Plan**

**Schedule 3**

		FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
<b>PIPELINE REPLACEMENTS/ADDITIONS</b>						
<b>Main/Pipeline Replacements</b>						
1	Replace 12" CIP Pipe (785LF) S. Novato Bl (btwn Rowland/	\$0	\$100,000	\$240,000	\$0	\$0
2	Replace Plastic Thin Walled Pipe < 4-inch	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
3	Relocate 8" Pipe in Country Club Dr.	\$0	\$0	\$0	\$0	\$30,000
4	Other Main Replacements (60+ years old)	\$424,000	\$200,000	\$650,000	\$460,000	\$600,000
<b>Main/Pipeline Additions</b>						
5	San Mateo 24" Inlet/Outlet Pipe (2,200')	\$50,000	\$742,000	\$0	\$0	\$0
6	Loop Mariner Way to Redwood Bl.	\$0	\$0	\$125,000	\$0	\$0
7	Loop Los Robles Rd and Posada Del Sol	\$0	\$0	\$0	\$125,000	\$0
8	Other Main/Pipeline Additions	\$0	\$150,000	\$150,000	\$150,000	\$500,000
<b>Polybutylene Service Line Replacements</b>						
9	Replace PB in Sync w/City Paving (30 Services)	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000
10	Other PB Replacements (80 Services)	\$230,000	\$80,000	\$80,000	\$80,000	\$80,000
<b>Relocations to Sync w/City &amp; County CIP</b>						
11	Other Relocations	\$200,000	\$70,000	\$70,000	\$70,000	\$70,000
<b>SYSTEM IMPROVEMENTS</b>						
12	DCA Repair/Replace-FY20 (~14/yr)	\$200,000	\$60,000	\$100,000	\$100,000	\$100,000
13	Anode Installations-FY20 (150/yr)	\$50,000	\$10,000	\$10,000	\$10,000	\$10,000
14	Asset Management Software Procure/Implement	\$163,000	\$0	\$0	\$0	\$0
15	Facilities Security Enhancements	\$0	\$25,000	\$0	\$25,000	\$0
16	San Marin Aqueduct Valve Pit (STP to Zone 2)	\$0	\$110,000	\$0	\$0	\$0
<b>BUILDING, YARD, STP IMPROVEMENTS</b>						
<b>Administration Building</b>						
17	Electronic Document Management System	\$70,000	\$70,000	\$0	\$0	\$0
18	Office/Yard Building Renovation (Note 1)	\$500,000	\$0	\$0	\$0	\$0
19	Office/Yard Building Renovation (Note 1)	\$0	\$3,000,000	\$7,000,000	\$4,500,000	\$0
20	Yard Roof Repairs	\$0	\$100,000	\$0	\$0	\$0
<b>Corp Yard/Warehouse/Construction Office</b>						
21	Other Yard Improvements	\$30,000	\$0	\$0	\$0	\$0
<b>Stafford Treatment Plant</b>						
22	Dam Concrete Repair (Apron)	\$50,000	\$0	\$50,000	\$0	\$50,000
23	Leveroni Creek Embankment Repair	\$191,000	\$0	\$0	\$0	\$0
24	Concrete Apron Overlay	\$0	\$0	\$0	\$100,000	\$0
25	Other Treatment Plant Improvements	\$114,000	\$50,000	\$50,000	\$50,000	\$50,000
26	Efficiency Improvements	\$100,000	\$100,000	\$0	\$0	\$0
27	STP Generator	\$400,000	\$0	\$0	\$0	\$0
<b>STORAGE TANKS/PUMP STATIONS</b>						
<b>Clear Tank Sites</b>						
28	Woodland Heights (120,000 gal, 1974)	\$0	\$0	\$0	\$0	\$65,000
29	New Half Moon Tank Property Site Acquisition	\$0	\$0	\$0	\$0	\$200,000
30	Old Ranch Rd Tank No. 2 (100k gal)	\$150,000	\$481,000	\$0	\$0	\$0
<b>Tank Rehabilitation</b>						
31	Hydropneumatic Tank Repairs	\$30,000	\$30,000	\$30,000	\$0	\$0
32	Cherry Hill #2 Recoat (0.2 MG)	\$400,000	\$0	\$0	\$0	\$0
33	Garner Tank Recoat (0.1 MG)	\$0	\$0	\$270,000	\$0	\$0
34	Lynwood Recoat/Seismic Upgrade (0.85MG & 0.5MG)	\$0	\$0	\$0	\$700,000	\$700,000
35	Lynwood P.S. Motor Control Center	\$320,000	\$0	\$0	\$0	\$0
36	Crest PS (Design/Const) /Reloc School Rd PS	\$635,000	\$0	\$0	\$0	\$0
37	Davies PS Upgrade	\$0	\$0	\$115,000	\$0	\$0
38	Fire Flow Backfeed Valve Nunes Tank	\$0	\$0	\$100,000	\$0	\$0
39	<b>TOTAL:</b>	<b>\$4,527,000</b>	<b>\$5,598,000</b>	<b>\$9,260,000</b>	<b>\$6,590,000</b>	<b>\$2,675,000</b>
40	<b>TOTAL ADJUSTED FOR INFLATION:</b>	<b>\$4,527,000</b>	<b>\$5,766,000</b>	<b>\$9,824,000</b>	<b>\$7,201,000</b>	<b>\$3,011,000</b>

North Marin Water District  
2020 Novato and Recycled Water Rate Study

Schedules

Novato Enterprise Cash Flow Proforma

Schedule 4

	Actual FY 2019	Budget FY 2020	Forecast FY 2021	Forecast FY 2022	Forecast FY 2023	Forecast FY 2024	Forecast FY 2025	Forecast FY 2026	Forecast FY 2027	Forecast FY 2028	Forecast FY 2029	Forecast FY 2030
1 Water Rate Revenue Increase:	0.00%		6.0%	6.00%	6.00%	5.00%	5.00%	3.00%	3.00%	3.00%	2.00%	2.00%
<b>Rate Revenue</b>												
2 Water Rate Revenue	\$19,073,190	\$19,734,000	\$19,734,000	\$20,932,000	\$22,203,000	\$23,551,000	\$24,746,000	\$26,001,000	\$26,800,000	\$27,623,000	\$28,472,000	\$29,062,000
3 Change due to growth & use			\$14,000	\$15,000	\$16,000	\$17,000	\$18,000	\$19,000	\$19,000	\$20,000	\$21,000	\$21,000
4 Increase due to rate adjustments			\$1,184,000	\$1,256,000	\$1,332,000	\$1,178,000	\$1,237,000	\$780,000	\$804,000	\$829,000	\$569,000	\$581,000
<b>Non-Rate Revenues</b>												
5 Wholesale Rate Revenue	\$97,866	\$75,000	\$77,000	\$80,000	\$82,000	\$84,000	\$87,000	\$90,000	\$92,000	\$95,000	\$98,000	\$101,000
6 Other Charges	\$233,483	\$234,000	\$234,000	\$234,000	\$234,000	\$234,000	\$234,000	\$234,000	\$235,000	\$235,000	\$235,000	\$235,000
7 Interest Earnings	\$238,474	\$150,000	\$179,000	\$0	\$179,000	\$197,000	\$216,000	\$227,000	\$242,000	\$257,000	\$270,000	\$278,000
8 Connection Fees	\$1,484,380	\$1,400,000	\$486,000	\$486,000	\$486,000	\$486,000	\$486,000	\$486,000	\$486,000	\$486,000	\$486,000	\$486,000
9 Operating Revenue	\$118,919	\$116,000	\$116,000	\$116,000	\$116,000	\$116,000	\$116,000	\$116,000	\$116,000	\$116,000	\$116,000	\$116,000
10 Grants	\$20,191	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
11 Misc. Revenue	\$126,306	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
12 MMWD AEEP Contributions	\$245,000	\$205,000	\$205,000	\$205,000	\$205,000	\$205,000	\$205,000	\$205,000	\$205,000	\$205,000	\$205,000	\$205,000
13 Total Revenue	\$21,637,808	\$21,964,000	\$22,279,000	\$23,374,000	\$24,903,000	\$26,118,000	\$27,395,000	\$28,208,000	\$29,049,000	\$29,916,000	\$30,522,000	\$31,135,000
<b>O&amp;M Costs</b>												
14 Source of Supply	\$5,167,409	\$7,096,000	\$6,244,000	\$6,613,000	\$7,004,000	\$7,418,000	\$7,857,000	\$8,322,000	\$8,814,000	\$9,336,000	\$9,890,000	\$10,476,000
15 Pumping	\$389,149	\$384,000	\$396,000	\$407,000	\$420,000	\$432,000	\$435,000	\$439,000	\$442,000	\$446,000	\$449,000	\$453,000
16 Other Operations	\$711,175	\$685,000	\$706,000	\$727,000	\$749,000	\$771,000	\$794,000	\$818,000	\$842,000	\$868,000	\$894,000	\$921,000
17 Water Treatment	\$1,945,958	\$2,494,000	\$2,569,000	\$2,646,000	\$2,725,000	\$2,807,000	\$2,864,000	\$2,923,000	\$2,984,000	\$3,046,000	\$3,111,000	\$3,177,000
18 Transmission & Distribution	\$3,142,281	\$3,432,000	\$3,535,000	\$3,641,000	\$3,750,000	\$3,863,000	\$3,979,000	\$4,098,000	\$4,221,000	\$4,348,000	\$4,478,000	\$4,612,000
19 Consumer Accounting	\$485,786	\$613,000	\$631,000	\$650,000	\$670,000	\$690,000	\$710,000	\$731,000	\$752,000	\$774,000	\$796,000	\$819,000
20 Water Conservation	\$341,784	\$390,000	\$402,000	\$414,000	\$426,000	\$439,000	\$452,000	\$466,000	\$480,000	\$494,000	\$509,000	\$524,000
21 General Administration	\$2,867,267	\$2,257,000	\$2,325,000	\$2,394,000	\$2,466,000	\$2,540,000	\$2,608,000	\$2,677,000	\$2,749,000	\$2,823,000	\$2,899,000	\$2,977,000
22 Total Operating Expenses	\$15,050,810	\$17,351,000	\$16,808,000	\$17,492,000	\$18,210,000	\$18,960,000	\$19,699,000	\$20,474,000	\$21,284,000	\$22,135,000	\$23,026,000	\$23,959,000
<b>Capital Costs</b>												
23 Total Capital Spending	\$3,536,373	\$4,527,000	\$5,766,000	\$9,824,000	\$7,201,000	\$3,011,000	\$4,452,000	\$4,585,000	\$4,723,000	\$4,864,000	\$5,010,000	\$5,161,000
24 Bond Funded Capital	\$0	\$0	\$3,090,000	\$7,426,000	\$4,917,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0
25 SRF Funded Capital	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26 Existing Debt Service	\$1,883,038	\$1,904,000	\$1,907,000	\$1,905,000	\$1,902,000	\$1,905,000	\$1,907,000	\$1,904,000	\$1,906,000	\$1,902,000	\$1,903,000	\$1,382,000
27 Cash Funded Capital Projects	\$2,367,648	\$4,527,000	\$1,873,200	\$1,678,600	\$1,598,800	\$2,107,700	\$3,116,400	\$3,209,500	\$3,306,100	\$3,404,800	\$3,507,000	\$3,612,700
28 New Debt Service	\$0	\$0	\$1,129,000	\$1,129,000	\$1,129,000	\$1,129,000	\$1,129,000	\$1,129,000	\$1,129,000	\$1,129,000	\$1,129,000	\$1,129,000
29 Total Capital Expenses	\$4,250,686	\$6,431,000	\$4,909,200	\$4,712,600	\$4,629,800	\$5,141,700	\$6,152,400	\$6,242,500	\$6,341,100	\$6,435,800	\$6,539,000	\$6,123,700
<b>Transfers</b>												
Transfer Out to Recycled Water	(\$1,239,907)	\$219,000	\$794,000	\$747,000	\$714,000	\$687,000	\$656,000	\$368,000	\$353,000	\$337,000	\$329,000	\$321,000
Funding for Affordability Program	\$0	\$0	\$86,000	\$89,000	\$89,000	\$89,000	\$89,000	\$89,000	\$89,000	\$89,000	\$89,000	\$89,000
30 Total Revenue Requirement	\$18,061,589	\$24,001,000	\$22,597,200	\$23,040,600	\$23,642,800	\$24,877,700	\$26,596,400	\$27,173,500	\$28,067,100	\$28,996,800	\$29,983,000	\$30,492,700
31 Beginning Year Balance	\$10,605,000	\$14,181,000	\$12,144,000	\$11,826,000	\$12,159,000	\$13,419,000	\$14,659,000	\$15,458,000	\$16,493,000	\$17,475,000	\$18,394,000	\$18,933,000
32 Surplus/(Shortfall)	\$3,576,219	(\$2,037,000)	(\$318,200)	\$333,400	\$1,260,200	\$1,240,300	\$798,600	\$1,034,500	\$981,900	\$919,200	\$539,000	\$642,300
33 End of Year Balance	\$14,181,219	\$12,144,000	\$11,825,800	\$12,159,400	\$13,419,200	\$14,659,300	\$15,457,600	\$16,492,500	\$17,474,900	\$18,394,200	\$18,933,000	\$19,575,300
34 Minimum Reserves (by policy)	\$12,002,667	\$12,002,667	\$12,002,667	\$12,002,667	\$12,470,000	\$12,720,000	\$12,966,333	\$13,224,667	\$13,494,667	\$13,778,333	\$14,075,333	\$14,386,333
35 Available Cash	\$2,178,553	\$141,333	(\$176,867)	\$156,733	\$949,200	\$1,939,300	\$2,491,267	\$3,267,833	\$3,980,233	\$4,615,867	\$4,857,667	\$5,188,967
36 Intra-district Loan Balance	(\$7,659,100)	(\$6,040,100)	(\$6,348,100)	(\$6,609,100)	(\$6,837,100)	(\$7,038,100)	(\$7,208,100)	(\$7,090,100)	(\$6,957,100)	(\$6,808,100)	(\$6,651,100)	(\$6,486,100)
37 Debt Coverage Ratio	3.50	2.31	1.51	1.66	1.94	2.10	2.29	2.40	2.41	2.43	2.33	2.69

**Recycled Water Enterprise Budgeted and Projected Cash Inflows**

**Schedule 5**

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1 Growth in Accounts	na	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
2 Proposed Water Rate Increase	(na)	6.0%	6.0%	6.0%	5.0%	5.0%	3.0%	3.0%	3.0%	2.0%	2.0%
<b>Rate Revenue</b>											
3 Rate Revenue	\$1,237,000	\$1,237,000	\$1,311,000	\$1,390,000	\$1,473,000	\$1,547,000	\$1,624,000	\$1,673,000	\$1,723,000	\$1,775,000	\$1,811,000
4 Increase due to growth		0	0	0	0	0	0	0	0	0	0
5 Increase due to new rate adjustments		74,000	79,000	83,000	74,000	77,000	49,000	50,000	52,000	36,000	36,000
6 <b>Total Rate Revenue</b>	<b>\$1,237,000</b>	<b>\$1,311,000</b>	<b>\$1,390,000</b>	<b>\$1,473,000</b>	<b>\$1,547,000</b>	<b>\$1,624,000</b>	<b>\$1,673,000</b>	<b>\$1,723,000</b>	<b>\$1,775,000</b>	<b>\$1,811,000</b>	<b>\$1,847,000</b>
<b>Other Revenue:</b>											
7 Debt Service Repayments	\$45,000	\$6,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000
8 Account Turn-on Charges	1,093,000	49,000	49,000	49,000	49,000	49,000	49,000	49,000	49,000	49,000	49,000
9 <b>Total Other Revenue</b>	<b>\$1,138,000</b>	<b>\$55,000</b>	<b>\$62,000</b>	<b>\$62,000</b>	<b>\$62,000</b>	<b>\$62,000</b>	<b>\$62,000</b>	<b>\$62,000</b>	<b>\$62,000</b>	<b>\$62,000</b>	<b>\$62,000</b>
10 <b>TOTAL REVENUE</b>	<b>\$2,375,000</b>	<b>\$1,366,000</b>	<b>\$1,452,000</b>	<b>\$1,535,000</b>	<b>\$1,609,000</b>	<b>\$1,686,000</b>	<b>\$1,735,000</b>	<b>\$1,785,000</b>	<b>\$1,837,000</b>	<b>\$1,873,000</b>	<b>\$1,909,000</b>

**Recycled Water Enterprise Budgeted and Projected Operating & Debt Expenses (existing)**

**Schedule 6**

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
<b>Source of Supply</b>											
1 Purchased Water - NSD	\$212,000	\$235,000	\$242,500	\$250,100	\$257,600	\$265,400	\$273,400	\$281,700	\$290,200	\$298,900	\$307,900
2 Purchased Water - LGVSD	63,000	65,000	67,000	69,000	71,000	73,100	75,200	77,400	79,600	81,900	84,300
<b>Pumping</b>											
4 Maint of Pumping Equipment	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000
5 Electric Power	3,000	3,100	0	0	0	0	0	0	0	0	0
<b>Operations</b>											
7 Supervision & Engineering	13,000	13,400	13,800	14,200	14,600	15,000	15,400	15,800	16,300	16,700	17,200
8 Operating Expense - Operations	13,000	13,400	13,800	14,200	14,600	15,000	15,400	15,800	16,300	16,700	17,200
9 Potable Water Consumed	11,000	11,100	11,100	11,100	11,100	11,100	11,100	11,100	11,100	11,100	11,100
10 Maintenance Expense	10,000	10,200	10,400	10,700	10,900	11,100	11,400	11,600	11,900	12,200	12,500
11 Telemetry Equipment/Controls Maint	27,000	27,500	28,100	28,800	29,400	30,100	30,800	31,500	32,200	32,900	33,600
<b>Water Treatment</b>											
13 Purification Chemicals	4,000	4,100	4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900	5,000
14 Maint of Purification Equipment	15,000	15,300	0	0	0	0	0	0	0	0	0
15 Electric Power	2,000	2,000	0	0	0	0	0	0	0	0	0
16 Laboratory Direct Labor	6,000	6,200	0	0	0	0	0	0	0	0	0
17 Lab Expense Distributed from Novato	3,000	3,100	3,100	3,200	3,300	3,300	3,400	3,500	3,600	3,700	3,700
<b>Transmission &amp; Distribution</b>											
19 Supervision & Engineering	26,000	0	0	0	0	0	0	0	0	0	0
20 Maps & Records	1,000	0	0	0	0	0	0	0	0	0	0
21 Operation of T&D System	1,000	1,000	1,100	1,100	1,100	1,200	1,200	1,200	1,300	1,300	1,300
22 Facilities Location	1,000	1,000	1,100	1,100	1,100	1,200	1,200	1,200	1,300	1,300	1,300
23 Cathodic Protection	1,000	1,000	1,100	1,100	1,100	1,200	1,200	1,200	1,300	1,300	1,300
24 Customer Service Expense	7,000	7,200	7,400	7,600	7,800	8,100	8,300	8,500	8,800	9,000	9,300
25 Storage Facilities Expense	11,000	11,300	11,700	12,000	12,400	12,800	13,100	13,500	13,900	14,400	14,800
26 Maint of Valves/Regulators	6,000	6,100	6,200	6,400	6,500	6,700	6,800	7,000	7,100	7,300	7,500
27 Backflow Prevention Program	6,000	6,200	6,400	6,600	6,800	7,000	7,200	7,400	7,600	7,800	8,100
28 Maint of Meters	1,000	1,000	1,000	1,100	1,100	1,100	1,100	1,200	1,200	1,200	1,200
29 Maint of Mains	1,000	1,000	1,000	1,100	1,100	1,100	1,100	1,200	1,200	1,200	1,200
<b>Consumer Accounting</b>											
30 Distributed from Novato (0.2%)	1,000	1,000	1,100	1,100	1,100	1,200	1,200	1,200	1,300	1,300	1,300
<b>General &amp; Administrative</b>											
31 Distributed from Novato (2.4%)	55,000	56,000	57,300	58,600	59,900	61,300	62,700	64,100	65,500	67,000	68,500
32 NBWRA Grant Program Administration	20,000	20,300	20,800	21,300	21,800	22,300	22,800	23,300	23,800	24,400	24,900
<b>Transfers</b>											
33 Transfer out to Novato Sanitary	306,000	269,000	304,000	328,000	348,000	370,000	381,000	392,000	404,000	410,000	415,000
34 Transfer out to Las Gallinas	0	100,000	112,000	121,000	129,000	137,000	141,000	145,000	149,000	151,000	154,000
<b>Debt Service</b>											
35 Existing Debt Service	1,163,000	1,163,000	1,163,000	1,163,000	1,163,000	1,163,000	890,000	890,000	890,000	890,000	890,000
36 <b>Total Operating Expenses</b>	<b>\$1,992,000</b>	<b>\$2,058,000</b>	<b>\$2,092,000</b>	<b>\$2,140,000</b>	<b>\$2,182,000</b>	<b>\$2,227,000</b>	<b>\$1,984,000</b>	<b>\$2,015,000</b>	<b>\$2,047,000</b>	<b>\$2,071,000</b>	<b>\$2,096,000</b>

Recycled Water Cash Flow Proforma

Schedule 7

	Actual FY 2019	Budget FY 2020	Forecast FY 2021	Forecast FY2022	Forecast FY2023	Forecast FY2024	Forecast FY2025	Forecast FY2026	Forecast FY2027	Forecast FY2028	Forecast FY2029	Forecast FY2030
1 Rate Revenue Increase:			6.0%	6.0%	6.0%	5.0%	5.0%	3.0%	3.0%	3.0%	2.0%	2.0%
<b>Rate Revenue</b>												
2 RW Service Charge Revenue	\$1,180,811	\$1,237,000	\$1,237,000	\$1,311,000	\$1,390,000	\$1,473,000	\$1,547,000	\$1,624,000	\$1,673,000	\$1,723,000	\$1,775,000	\$1,811,000
3 Increase due to rate adjustments			\$74,000	\$79,000	\$83,000	\$74,000	\$77,000	\$49,000	\$50,000	\$52,000	\$36,000	\$36,000
<b>Non-Rate Revenues</b>												
4 Operating Revenue	\$2,608	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5 Miscellaneous Fees	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6 Interest Earnings	\$76,542	\$45,000	\$6,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000
7 Connection Fees	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
8 Debt Service Repayments	\$349,000	\$1,093,000	\$49,000	\$49,000	\$49,000	\$49,000	\$49,000	\$49,000	\$49,000	\$49,000	\$49,000	\$49,000
8 Total Revenue	\$1,608,961	\$2,375,000	\$1,366,000	\$1,452,000	\$1,535,000	\$1,609,000	\$1,686,000	\$1,735,000	\$1,785,000	\$1,837,000	\$1,873,000	\$1,909,000
<b>O&amp;M Costs</b>												
9 Source of Supply	\$300,457	\$275,000	\$300,000	\$310,000	\$319,000	\$329,000	\$338,000	\$349,000	\$359,000	\$370,000	\$381,000	\$392,000
10 Pumping	\$3,930	\$6,000	\$6,000	\$3,000	\$3,000	\$3,000	\$3,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000
11 Operations	\$222,565	\$74,000	\$75,000	\$77,000	\$79,000	\$81,000	\$82,000	\$84,000	\$86,000	\$88,000	\$90,000	\$92,000
12 Water Treatment	\$15,437	\$30,000	\$31,000	\$7,000	\$7,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$9,000	\$9,000
13 Transmission & Distribution	\$16,718	\$62,000	\$36,000	\$37,000	\$38,000	\$39,000	\$40,000	\$41,000	\$42,000	\$44,000	\$45,000	\$46,000
14 Consumer Accounting	\$1,118	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
15 General & Administrative	\$52,910	\$75,000	\$76,000	\$78,000	\$80,000	\$82,000	\$84,000	\$85,000	\$87,000	\$89,000	\$91,000	\$93,000
16 Total Operating Expenses	\$613,134	\$523,000	\$525,000	\$513,000	\$527,000	\$543,000	\$556,000	\$572,000	\$587,000	\$604,000	\$621,000	\$637,000
<b>Capital Costs</b>												
17 Total Capital Spending	\$134,724	\$100,000	\$103,000	\$106,000	\$109,000	\$113,000	\$116,000	\$119,000	\$123,000	\$127,000	\$130,000	\$134,000
18 Bond Proceeds	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
19 SRF Proceeds	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
20 Existing Debt Service	\$1,163,439	\$1,163,000	\$1,163,000	\$1,163,000	\$1,163,000	\$1,163,000	\$1,163,000	\$890,000	\$890,000	\$890,000	\$890,000	\$890,000
21 Cash Funded Capital Projects	\$134,724	\$100,000	\$103,000	\$106,000	\$109,000	\$113,000	\$116,000	\$119,000	\$123,000	\$127,000	\$130,000	\$134,000
22 New Debt Service			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
23 Total Capital Expenses	\$1,298,163	\$1,263,000	\$1,266,000	\$1,269,000	\$1,272,000	\$1,276,000	\$1,279,000	\$1,009,000	\$1,013,000	\$1,017,000	\$1,020,000	\$1,024,000
<b>Transfers</b>												
24 Transfer In from Novato	(\$1,239,907)	\$219,000	\$794,000	\$747,000	\$714,000	\$687,000	\$656,000	\$368,000	\$353,000	\$337,000	\$329,000	\$321,000
25 Transfer out to Novato Sanitary		\$306,000	\$269,000	\$304,000	\$328,000	\$348,000	\$370,000	\$381,000	\$392,000	\$404,000	\$410,000	\$415,000
26 Transfer out to Las Gallinas		\$0	\$100,000	\$112,000	\$121,000	\$129,000	\$137,000	\$141,000	\$145,000	\$149,000	\$151,000	\$154,000
27 Total Revenue Requirement	\$3,151,204	\$1,873,000	\$1,366,000	\$1,451,000	\$1,534,000	\$1,609,000	\$1,686,000	\$1,735,000	\$1,784,000	\$1,837,000	\$1,873,000	\$1,909,000
28 Beginning Year Balance	\$20,256	\$400,000	\$902,000	\$902,000	\$903,000	\$904,000	\$904,000	\$904,000	\$904,000	\$905,000	\$905,000	\$905,000
29 Surplus/(Shortfall)	(\$1,542,243)	\$502,000	\$0	\$1,000	\$1,000	\$0	\$0	\$0	\$1,000	\$0	\$0	\$0
30 End of Year Balance	(\$1,521,987)	\$902,000	\$902,000	\$903,000	\$904,000	\$904,000	\$904,000	\$904,000	\$905,000	\$905,000	\$905,000	\$905,000
31 Minimum Reserves (by policy)	\$169,674	\$174,000	\$649,000	\$645,000	\$650,000	\$655,000	\$659,000	\$665,000	\$670,000	\$675,000	\$681,000	\$686,000
32 Available Cash	(\$1,691,661)	\$728,000	\$253,000	\$258,000	\$254,000	\$249,000	\$245,000	\$239,000	\$235,000	\$230,000	\$224,000	\$219,000
33 Debt Coverage Ratio	-0.21	1.78	1.41	1.45	1.48	1.51	1.54	1.72	1.74	1.76	1.78	1.79



**(placeholder for PDF of Schedule 8)**

**SCHEDULE 9 - ALLOCATION OF COSTS TO SYSTEM FUNCTIONS - RECYCLED WATER**

	Budget Expense	Test Year Budget	Percent Allocation to System Functions			Cost Allocation to System Functions		
			Customer Service	Recycled Water Distribution	Wastewater Treatment	Customer Service	Recycled Water Distribution	Wastewater Treatment
	<b>Source of Supply</b>							
1	Purchased Water - NSD	\$235,000			100.0%			\$235,000
2	Purchased Water - LGVSD	\$65,000			100.0%			\$65,000
	<b>Pumping</b>							
3	Maint of Pumping Equipment	\$3,090		100.0%			\$3,090	
4	Electric Power	\$3,090			100.0%			\$3,090
	<b>Operations</b>							
5	Supervision & Engineering	\$13,371		100.0%			\$13,371	
6	Operating Expense - Operations	\$13,371		100.0%			\$13,371	
7	Potable Water Consumed	\$11,078		100.0%			\$11,078	
8	Maintenance Expense	\$10,173		100.0%			\$10,173	
9	Telemetry Equipment/Controls Maint	\$27,468		100.0%			\$27,468	
	<b>Water Treatment</b>							
10	Purification Chemicals	\$4,069			100.0%			\$4,069
11	Maint of Purification Equipment	\$15,260		100.0%			\$15,260	
12	Electric Power	\$2,014			100.0%			\$2,014
13	Laboratory Direct Labor	\$6,171		100.0%			\$6,171	
16	Lab Expense Distributed from Novato	\$3,052		100.0%			\$3,052	
	<b>Transmission &amp; Distribution</b>							
17	Operation of T&D System	\$1,030		100.0%			\$1,030	
18	Facilities Location	\$1,030		100.0%			\$1,030	
19	Cathodic Protection	\$1,030		100.0%			\$1,030	
20	Customer Service Expense	\$7,200		100.0%			\$7,200	
21	Storage Facilities Expense	\$11,330		100.0%			\$11,330	
22	Maint of Valves/Regulators	\$6,104		100.0%			\$6,104	
23	Backflow Prevention Program	\$6,180		100.0%			\$6,180	
24	Maint of Meters	\$1,017		100.0%			\$1,017	
25	Maint of Mains	\$1,017		100.0%			\$1,017	
	<b>Consumer Accounting</b>							
26	Distributed from Novato (0.2%)	\$1,030	100.0%			\$1,030		
27	Transfer Out	\$369,000			100.0%			\$369,000
	<b>General &amp; Administrative</b>							
28	Distributed from Novato (2.4%)	\$55,954	17.1%		82.9%	\$9,575		\$46,379
29	NBWRA Grant Program Administration	\$20,347	17.1%		82.9%	\$3,482		\$16,865
	<b>Non-Operating Categories</b>							
30	Debt Service	\$1,163,000			100.0%			\$1,163,000
31	Capital Spending	\$103,000		100.0%			\$103,000	
32	Change in Fund Balance	\$0	17.1%		82.9%	\$0		\$0
33	Non-Rate Revenue	(\$849,000)	0.1%	17.0%	82.9%	(\$1,069)	(\$144,208)	(\$703,723)
<b>Total:</b>		<b>\$1,311,476</b>				<b>\$13,017</b>	<b>\$97,764</b>	<b>\$1,200,695</b>

## Schedule 10 – Proposed Rates Schedules for FY 2020/21 through FY 2024/25

### Proposed Rates beginning July 1, 2020

#### Service Charges

Meter Size	Potable Water Bi-Monthly Service Charge	Recycled Water Bi-Monthly Service Charge	Fire Line Service Charge
5/8"	\$41.46	\$48.78	(na)
1"	\$74.06	\$85.79	\$14.24
1.5"	\$128.38	\$147.46	(na)
2"	\$193.57	\$221.47	\$18.78
3"	\$367.41	\$418.83	(na)
4"	\$562.98	\$640.86	\$52.40
6"	\$1,106.23	\$1,257.61	\$73.60
8"	\$1,432.18	(na)	\$97.83
10"	(na)	(na)	\$128.11

#### Quantity Charges (per TGAL)

##### Residential Quantity Charges

Tier 1*	\$5.50
Tier 2**	\$6.23
Tier 3	\$7.67

##### Commercial Quantity Charges

Winter (Oct. to June)	\$5.50
Summer (Jul. to Sept.)	\$7.67

##### Other Quantity Charges

Raw Water	\$2.93
Temporary Meter	\$6.99
Recycled Water	\$6.24

##### Elevation Zone Charge

Zone B	\$0.76
Zone C	\$2.10

\* Allocation is 262 gpd per dwelling unit

\*\* Allocation is 458 gpd per dwelling unit

### Proposed Rates beginning July 1, 2021

#### Service Charges

Meter Size	Potable Water Bi-Monthly Service Charge	Recycled Water Bi-Monthly Service Charge	Fire Line Service Charge
5/8"	\$43.95	\$51.71	(na)
1"	\$78.50	\$90.93	\$15.09
1.5"	\$136.08	\$156.31	(na)
2"	\$205.18	\$234.76	\$19.91
3"	\$389.45	\$443.96	(na)
4"	\$596.76	\$679.31	\$55.54
6"	\$1,172.60	\$1,333.07	\$78.02
8"	\$1,518.11	(na)	\$103.70
10"	(na)	(na)	\$135.80

#### Quantity Charges (per TGAL)

##### Residential Quantity Charges

Tier 1*	\$5.83
Tier 2**	\$6.60
Tier 3	\$8.13

##### Commercial Quantity Charges

Winter (Oct. to June)	\$5.83
Summer (Jul. to Sept.)	\$8.13

##### Other Quantity Charges

Raw Water	\$3.11
Temporary Meter	\$7.41
Recycled Water	\$6.61

##### Elevation Zone Charge

Zone B	\$0.81
Zone C	\$2.23

\* Allocation is 262 gpd per dwelling unit

\*\* Allocation is 458 gpd per dwelling unit

### Proposed Rates beginning July 1, 2022

#### Service Charges

Meter Size	Potable Water Bi-Monthly Service Charge	Recycled Water Bi-Monthly Service Charge	Fire Line Service Charge
5/8"	\$46.59	\$54.81	(na)
1"	\$83.21	\$96.39	\$16.00
1.5"	\$144.24	\$165.69	(na)
2"	\$217.49	\$248.85	\$21.10
3"	\$412.82	\$470.60	(na)
4"	\$632.57	\$720.07	\$58.87
6"	\$1,242.96	\$1,413.05	\$82.70
8"	\$1,609.20	(na)	\$109.92
10"	(na)	(na)	\$143.95

#### Quantity Charges (per TGAL)

##### Residential Quantity Charges

Tier 1*	\$6.18
Tier 2**	\$7.00
Tier 3	\$8.62

##### Commercial Quantity Charges

Winter (Oct. to June)	\$6.18
Summer (Jul. to Sept.)	\$8.62

##### Other Quantity Charges

Raw Water	\$3.30
Temporary Meter	\$7.86
Recycled Water	\$7.01

##### Elevation Zone Charge

Zone B	\$0.86
Zone C	\$2.36

\* Allocation is 262 gpd per dwelling unit

\*\* Allocation is 458 gpd per dwelling unit

### Proposed Rates beginning July 1, 2023

#### Service Charges

Meter Size	Potable Water Bi-Monthly Service Charge	Recycled Water Bi-Monthly Service Charge	Fire Line Service Charge
5/8"	\$48.92	\$57.55	(na)
1"	\$87.37	\$101.21	\$16.80
1.5"	\$151.45	\$173.97	(na)
2"	\$228.36	\$261.29	\$22.16
3"	\$433.46	\$494.13	(na)
4"	\$664.20	\$756.07	\$61.81
6"	\$1,305.11	\$1,483.70	\$86.84
8"	\$1,689.66	(na)	\$115.42
10"	(na)	(na)	\$151.15

#### Quantity Charges (per TGAL)

##### Residential Quantity Charges

Tier 1*	\$6.49
Tier 2**	\$7.35
Tier 3	\$9.05

##### Commercial Quantity Charges

Winter (Oct. to June)	\$6.49
Summer (Jul. to Sept.)	\$9.05

##### Other Quantity Charges

Raw Water	\$3.47
Temporary Meter	\$8.25
Recycled Water	\$7.36

##### Elevation Zone Charge

Zone B	\$0.90
Zone C	\$2.48

\* Allocation is 262 gpd per dwelling unit

\*\* Allocation is 458 gpd per dwelling unit

**Proposed Rates beginning July 1, 2024**

**Service Charges**

Meter Size	Potable Water Bi-Monthly Service Charge	Recycled Water Bi-Monthly Service Charge	Fire Line Service Charge
5/8"	\$51.37	\$60.43	(na)
1"	\$91.74	\$106.27	\$17.64
1.5"	\$159.02	\$182.67	(na)
2"	\$239.78	\$274.35	\$23.27
3"	\$455.13	\$518.84	(na)
4"	\$697.41	\$793.87	\$64.90
6"	\$1,370.37	\$1,557.89	\$91.18
8"	\$1,774.14	(na)	\$121.19
10"	(na)	(na)	\$158.71

**Quantity Charges (per TGAL)**

<b>Residential Quantity Charges</b>	
Tier 1*	\$6.81
Tier 2**	\$7.72
Tier 3	\$9.50
<b>Commercial Quantity Charges</b>	
Winter (Oct. to June)	\$6.81
Summer (Jul. to Sept.)	\$9.50
<b>Other Quantity Charges</b>	
Raw Water	\$3.64
Temporary Meter	\$8.67
Recycled Water	\$7.73
<b>Elevation Zone Charge</b>	
Zone B	\$0.95
Zone C	\$2.60

\* Allocation is 262 gpd per dwelling unit

\*\* Allocation is 458 gpd per dwelling unit