FINAL REPORT | DECEMBER 2020

Focused Municipal Service Review for the Murrieta Service Area (LAFCO 2019-11-3)

PREPARED FOR

Riverside Local Agency Formation Commission (LAFCO)

PREPARED BY

WEST YOST
Water. Engineered.

Focused Municipal Service Review for the Murrieta Service Area (LAFCO 2019-11-3)

Prepared for

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Project No. 868-40-19-1

Project Manager: Stephen Dopudja, PE	12-10-20 Date
QA/QC Review: Jon Wells, PE	12-10-20 Date

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List of Acronyms and Abbreviations

AACE	Association for the Advancement of Cost Engineering
AACE	Advancement of Cost Engineering
AD	Assessment District
ADD	Average Day Demand
AF/year	Acre Feet Per Year
AWB	Annual Water Budget
CCF	Hundred Cubic Feet
ccf/year	100 Cubic Feet Per Year
CCI	Construction Cost Index
CFD	Community Facilities District
cfs	Cubic Feet Per Second
CII	Commercial, Industrial, Institutional
CIP	Capital Improvement Program
CY	Calendar Year
EMWD	Eastern Municipal Water District
ENR	Engineering News Record
ETAF	Evapotranspiration Adjustment Factor
EVMWD	Elsinore Valley Municipal Water District
FAQ	Frequently Asked Questions
FMSR	Focused Municipal Service Review
ft^3	Cubic Feet
FY	Fiscal Year
GIS	Geographic Information System
gpm	Gallons Per Minute
HGL	Hydraulic Grade Line
HP	Horsepower
IWB	Indoor Water Budget
LAFCO	Local Agency Formation Commission
MDD	Maximum Day Demand
MG	Million Gallons
MSR	Municipal Service Review
MWD	Metropolitan Water District

O&M	Operations and Maintenance
OWB	Outdoor Water Budget
PHD	Peak Hour Demand
PRV	Pressure Reducing Valve
psi	Pounds Per Square Inch
RCWD	Rancho California Water District
TWB	Total Water Budget
VFD	Variable Frequency Drive
WMP	Water Master Plan
WMWD	Western Municipal Water District

Focused Municipal Services Review for the Murrieta Service Area

PREFACE

This report is prepared pursuant to legislation enacted in 2000 that provides the Riverside Local Agency Formation Commission (LAFCO) with the authority to conduct comprehensive reviews to evaluate potential modifications to utility service areas under LAFCO's jurisdiction. Under the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (Government Code § 56000 et seq.), which took effect January 1, 2001, LAFCO is required to prepare Municipal Service Reviews (MSRs).

This focused MSR was prepared for Riverside LAFCO to provide a hydraulic, infrastructure and financial analysis for the retail water component of Western Municipal Water District's Murrieta Service Area.

West Yost would like to extend our appreciation to the staffs of LAFCO, the City of Murrieta, Western Municipal Water District, Rancho California Water District, and Eastern Municipal Water District for their assistance throughout our analysis. We would also like to thank the members of the community who participated in two public outreach sessions, to express their perspectives and input into this focused MSR process.

EXECUTIVE SUMMARY

This Executive Summary (ES) is provided to give the reader a high-level overview of our analyses and findings. The body of the report and appendices provides more in-depth information and supporting detail. To aid the reader in cross referencing, this Executive Summary follows the specific sections from the detailed body report. For example, ES Section Introduction and Background provides a summary of Section 1 Introduction and Background from the detailed body of the report, and ES Section Existing Facilities and Supply Sources provides a summary of Section 2 Existing Facilities and Supply Sources from the detailed body of the report, and continues throughout this Executive Summary.

Introduction and Background

The City of Murrieta is serviced by four different water service providers. For several years, discussions have been held within the Murrieta community and among the water districts serving the Murrieta area regarding service delivery, cost to rate payers, and infrastructure. There are several complex considerations that often overlap, but also compete for consideration. These include competing interest for existing and future customers. Some examples are the costs and efficiencies of system improvements serving existing customers or combined with expansion for future customers, proximity of existing infrastructure compared to rates and an agency's overall cost of service, availability of existing storage versus the feasibility of expanding storage facilities, etc. Nowhere do these issues appear to converge more than in the Murrieta Retail Service Area. This focused MSR specifically considered these competing issues in determining the hydraulic, infrastructure and financial implications for existing and future customers. The City of Murrieta also has a desire to facilitate the needs of future customers that will come from growth, through the potential build out of the region.

The implications of these competing interests have historically existed in the Murrieta Retail Service Area. Several steps have been taken to sort through the challenges to identify alternatives and find the most appropriate path forward. The City of Murrieta convened an ad hoc committee to review these discussions more formally. Consequently, the City of Murrieta initiated a formal request to LAFCO for this focused MSR in order to analyze these concerns, with a particular focus on the portion of the City of Murrieta designated as the Murrieta Retail Service Area. This area includes existing and future residential and commercial connections and is projected to include substantial future planned growth in addition to development projects that have already been approved. In addition to the Murrieta area, the two additional service areas of Rainbow and Rock Mountain were also included for consideration.

Therefore, three separate areas are the subject of this Focused Municipal Service Review (FMSR):

- Murrieta, specifically the portion of the City of Murrieta currently receiving water service from Western Municipal Water District (WMWD). This area is defined as the Murrieta Study Area, or Study Area, for the purposes of this report.
- Rainbow, a portion of WMWD's service area located south of Murrieta (Rainbow Study Area)
- Rock Mountain, a portion of WMWD's service area located south of Murrieta (Rock Mountain Study Area)

Because the Rainbow and Rock Mountain Study Areas are more geographically independent and less complicated from a hydraulic and infrastructure perspective, they are covered more independently in Section 9 of this FMSR.

In 2019, LAFCO issued its request for proposals for this Focused Municipal Service Review, and stated the following objective:

> To conduct a Focused Municipal Service Review (FMSR) that will inform the LAFCO, local water purveyors, the City of Murrieta, and the public, regarding the most effective and efficient method of providing water service to the "Study Area".

Three alternatives for future ownership of WMWD's Murrieta Study Area were evaluated. These three Ownership Scenarios are identified below, and later sections of this report describe the technical and financial implications of the three Ownership Scenarios:

- Continued operation by WMWD "WMWD Ownership Scenario"
- Acquisition by Rancho California Water District (RCWD) "RCWD Ownership Scenario"
- Acquisition by Eastern Municipal Water District (EMWD) "EMWD Ownership Scenario"

Further detail on the background of this report can be found in Section 1.

Existing Facilities and Supply Sources for the Murrieta Service Area

The Murrieta Retail Service Area is 6.5 square miles in size and lies within the City of Murrieta. The area is contained by Interstate 15 to the northeast and the Santa Rosa Plateau to the southwest. It is on the south end of the WMWD service area boundary, bordered by EMWD to the northeast, Elsinore Valley Municipal Water District (EVMWD) to the northwest, and RCWD to the southwest and south.

In 2006, WMWD took over ownership of the Murrieta Study Area from the Murrieta County Water District and incorporated it into WMWD. This transfer created a unique circumstance in which WMWD took ownership of a retail service area that was not adjacent to any of its other retail service areas. As such the Murrieta Study Area operates as a stand-alone retail water system, surrounded by the retail service areas of adjacent water districts.

The Murrieta Retail Area water system consists of 2,869 potable water connections served by over 52 miles of potable water pipelines, three potable water tanks, one booster station, and one pressures reducing valve (PRV) station.

Only one well, New Clay Well, is currently active and producing water for the Murrieta Service Area. WMWD is currently working to bring a replacement for the North Well, a previously inactivated well, online in the near future. New Clay Well currently produces 450 gpm for the system and the North Well is expected to produce 700 gpm, making the total well production 1,150 gpm.

An intertie to EMWD where Los Alamos Rd crosses over the I-15, referred to as the "Los Alamos Interconnection," provides the rest of the supply to the service area under existing conditions. An emergency intertie connects the system to EVMWD on Washington Ave near Palomar street. Further detail on existing facilities and supply sources can be found in Section 2 of this report.

Agency Infrastructure Policies

At the outset of this FMSR process, it was important to establish certain policies that had been, or would be established by each agency under their respective ownership alternatives. Each agency was requested to provide their policy responses that were used in this analysis. The following categories of policies and assumptions were implemented throughout the analysis to evaluate the infrastructure requirements for service for each of the candidate agencies:

- Water Supply Policies
- Water Demand Policies
- Infrastructure Performance Criteria

The details of these policies and criteria can be found in Section 3 of the report.

System Demands

The system demands for the Study Area were evaluated from a historical perspective and developed looking forward into the future. These demands were critical to this study in order to identify potential system improvements to serve both existing and future customers. This has several benefits. It identifies potential system improvements for existing and future customers separately to ensure that "growth pays for growth", which ensure neither customer types subsidize the other. However, in the case of overlapping system improvements, it also allows for a more cost-effective solution to both customer types. For example, a situation could arise where the existing system demands would justify upsizing a pipeline to 12-inches in diameter, but the ultimate demands would require a 16-inch pipeline. Under this type of scenario, the respective cost split to either the existing or future customers would be less than each group constructing their own respective improvements.

Water demand in this report refers to the sum of local groundwater production from WMWD wells plus imported regional water. WMWD estimates its water demand as the amount of metered consumption plus 3.5 percent non-revenue water which is typically water lost through pipe leaks or water use that is not metered.

The CY 2019 estimated water demand for the Murrieta Study Area provided by WMWD is as follows :

- Total metered consumption: 2,304 acre feet per year (AF/year)
- Plus 3.5 percent non-revenue water: 84 AF/year
- Total demand: 2,388 AF/year

The infrastructure analysis described in Sections 5 and 6 of this FMSR uses the following average demands at buildout, with the projected demands obtained from the 2018 Kennedy Jenks analysis:

- Average day demand, current: 1,295 gpm (equal to 2,090 AF/year)
- Average day demand, buildout: 2,338 gpm (approximately 80 percent higher than current)

System demands are detailed in Section 4 of this report.

Infrastructure Requirements

An analysis of system infrastructure to meet current needs of the Murrieta Study Area, and at buildout was performed. While we did carefully analyze the buildout condition, the scope of this FMSR did not include any specific effort to identify how to phase or accommodate immediate development along the Jefferson Avenue Corridor. Any phasing would vary, depending on the specific developer, their funding approaches, goals of the City's General Plan and the water agency ultimately serving the Murrieta Study Area.

West Yost was provided an existing InfoWater model for the Murrieta Service Area by WMWD that was last updated in 2014. This model was updated to the most current geographic information system (GIS) infrastructure data and the most recent demand developments as part of the Draft 2018 Water Master Plan (WMP) Update. The updated model was used as the basis of the hydraulic analysis for the infrastructure within the Murrieta Service Area. Because it was necessary to assess the hydraulic impact of supplying the Murrieta Service Area through the EMWD and RCWD distribution systems, EMWD and RCWD also supplied the most recent versions of their distribution system hydraulic models for this analysis. West Yost regularly works with and updates the EMWD potable water distribution system model. The EMWD hydraulic model used in the analysis was current as of the analysis date of September 2019. The RCWD potable water hydraulic model was provided to West Yost in July 2019. The resulting infrastructure requirements are provided in Sections 5 of the report.

As outlined in System Demands, the system demands have a direct correlation to the size and extent of necessary infrastructure. Infrastructure requirements were considered separately for current and future customers to ensure that "growth pays for growth". We also identified where overlapping current and future upgrades would provide cost benefits for both customer types.

Cost Estimates

West Yost developed opinions of the probable construction cost for the planning and design of the recommended infrastructure identified in the sections above. The opinion of probable construction cost was developed based on a combination of data supplied by manufacturers, published industry standard cost data and curves, construction costs for similar facilities built by other public agencies, and construction costs previously estimated by West Yost for similar facilities with similar construction cost indexes.

Additionally, the costs presented in this document are for construction only and do not include uncertainties in estimation or unexpected construction costs (e.g., variations in final quantities) or specific cost estimates for engineering, legal costs, environmental review, soils investigation, surveying, construction management, and inspections and/or contract administration. Some of these additional cost items are referred to as contingency costs or mark-ups, and are further described below.

The opinion of probable construction cost has been adjusted to reflect January 2020 dollars based on an Engineering News Record (ENR) Construction Cost Index (CCI) of 11,392 (20-Cities Average). These construction costs are to be used for conceptual cost estimates only, and should be updated regularly. Construction costs are not intended to represent the lowest prices in the industry for each type of construction; rather they are representative of average or typical construction costs. These planning-level construction costs have been prepared for guidance in evaluating various facility improvement options, and are intended for budgetary purposes only, within the context of this planning effort.

The cost estimates prepared for this document are in accordance with the guidelines of the Association for the Advancement of Cost Engineering (AACE) International for a Class 5 Estimate, suitable for long-range capital planning, with an accuracy range of -50 percent to +100 percent. Construction costs were developed based on bids from other water system design

projects and from standard cost estimating guides. The basis of the cost estimates and the resulting cost estimates can be found in Section 6 of the Report.

All of the cost estimates have been provided to each of the participants of the FMSR for their review and comments

Financial Assessment Methodology and Policies

The financial assessment for this FMSR is intended to show the effect on three distinct groups in the Study Area:

- Rate payers
- Residents currently on private wells
- Development community

To do this, a financial model was prepared for each Ownership Scenario. The financial model contains a year by year projection of revenues and expenses for the Study Area. Three Ownership Scenarios were created:

- WMWD Ownership Scenario. The financial model for the WMWD Ownership Scenario was prepared as if WMWD would continue to own and operate the water system.
- RCWD Ownership Scenario. The financial model for the RCWD Ownership Scenario was prepared as if RCWD would become the owner of the water system on July 1, 2020.
- EMWD Ownership Scenario. The financial model for the EMWD Ownership Scenario was prepared as if EMWD would become the owner of the water system on July 1, 2020.

Financial models were developed for each Ownership Scenario. The models project what the various expenses are over the next 10 years to operate and maintain the water system, including building the capital improvements described in Sections 5 and 6 of this report. The financial analysis considers whether debt would be issued to pay for capital improvements, estimates future costs for water supply, and shows how growth would pay for growth.

The financial models also show where the money comes from to pay these costs. The majority of utility revenues are from water rates. Smaller amounts of revenues are from connection fees (one time charges that development pays before connecting to the water system), and standby fees. The financial assessment methodology and policies are detailed in Section 7 below.

Financial Assessment of the Three Ownership Scenarios

As described above, three financial models were prepared: one for each Ownership Scenario. The financial models have several elements in common:

- 10-year projection period, starting July 1, 2020 and ending June 30, 2030.
- Identifying how each utility would structure the financial tracking of revenues and expenses: utilities typically create "Funds" which house certain types of revenues and expenses. As examples, most utilities have an Operating Fund, into which water rate revenues are put, and from which operation and maintenance expenses are paid. Many utilities have a separate fund for connection fees, where the fund's revenues are connection fees and the funds expenses are development-related capital projects funded by connection fees. Each utility would do this differently.
- Projections of water rate revenues, using the applicable rate structure, current number of connections and current water use, projected development, and projected increases in water rate revenues.
- Projections of other types of revenues, including connection fees, standby charges, interest income, and (if applicable) ad valorem tax revenue. Each utility charges a standby fee to all parcels in the Study Area, regardless of whether or not they are connected to the water system.
- Projections of operation and maintenance expenses. This includes projecting the cost to purchase imported water and produce local groundwater, and the remaining costs to operate and maintain the water system.
- Identification of which capital costs are related to development, and which capital costs are related to providing service to the existing customer base.
- Identification of which capital costs would be funded on a pay-as-you-go basis, and which capital costs would be debt funded.
- Projected beginning and ending year reserve balances in each utility fund.
- Projected water rates, assuming that the water rate revenue increases are distributed equally among all connections.

The following are assumptions common to the three Ownership Scenarios.

- Inflation assumptions
- Current connection and water use data
- Projected future water demands and water source production
- Calculation of total costs to ratepayers

The results of the financial models and the above assumptions can be found in Section 8 of this report.

Rainbow and Rock Mountain Service Area

At the outset of the FMSR for the Murrieta Study Area, several questions have come up regarding the analysis of the Rainbow and Rock and Mountain Study Areas. The questions center on how the analysis differs for the Rainbow and Rock Mountain Study Areas versus the Murrieta Study Area. It is correct that the Rainbow and Rock Mountain Study Areas were originally contemplated for analysis in the Request for Proposal. However, several key distinctions were identified that eliminated the need for such a detailed analysis of the Rainbow and Rock and Mountain Study Areas.

The most significant distinction is the physical infrastructure. Currently, the Rainbow and Rock Mountain Study Areas are WMWD customers. However, WMWD does not have physical facilities in the Rock Mountain Service Area. WMWD does have a storage reservoir, distribution pipelines and and Metropolitan Water District (MWD) turnout in the Rainbow Service Area. The water operations for both service areas are provided under contract through RCWD. Because of this existing arrangement, a detailed analysis of the Rainbow and Rock Mountain areas would be largely duplicative. It was determined that a duplicate effort was not warranted under this Municipal Service Review. As a result, that detailed analysis was ultimately eliminated from the scope of work.

Findings and Conclusions

The comparison of three potential water purveyors, each with distinct policy drivers, revenue approaches, and physical infrastructure in proximity to the study area, leads to a complex analysis. The contents of this report cover those issues and analysis in detail. In an effort to provide LAFCO, the participating water agencies, the City of Murrieta and the potentially affected customers, with an overview, this Executive Summary is being provided for a quicker reference. All of the supporting analysis is included in the body of this report. Table ES1-1 provides a summary of the key policies and parameters that were considered within this FMSR. These critical parameters reflect policy decision inputs provided each agency, and the corresponding results. It should be noted that the policy decision inputs are a reflection of policy as of this analysis period. The inputs are subject to change in the future through action of the Board of Directors of any of the agencies.

Table ES-1. Key Parameters and Comparison of Ownership Scenarios

Parameter[a]	WMWD	RCWD	EMWD
Key Policies			
Financially Distinct or Financially Integrated	Distinct	Distinct[b]	Integrated
Ad Valorem Tax	No	Possibly[c]	No
Possible Funding Sources for $37M of Pipe Extensions			
Developers	Yes	Yes	Yes
Assessment Districts[d]	Yes	Yes	Yes
Community Facility Districts[d]	Yes, but can't be financed through WMWD	Yes	Yes
Low Income Discount	Yes	No	No
Projected Total Cost to Ratepayers			
Example Single-Family Residence	Middle	Highest	Lowest
Example Commercial Customer	Middle, but higher than EMWD Scenario.	If water rate surcharge then highest. If ad valorem tax then lowest.	Middle, but less than WMWD Scenario.
Residents with Private Wells			
Mandatory Connection of Private Wells	No	No	No
Standby Charge, $/Acre/year	$21	$69.92	$14
Voluntary Connection to Public Water System for Customers Currently Using Private Wells	Option to Convert Indoor Use Only. May reduce meter size and connection fee.	Must Convert Indoor and Irrigation Use.	Option to Convert Indoor Use Only. May reduce meter size and connection fee.
Connection Fee Comparison[e]			
Single Family Residential[f]	$7,050	$2,537	$5,501
2" Meter[g]	$37,599	$13,445	$44,008 - $73,328

(a) Please refer to Section 8 for more detail on these parameters.
(b) RCWD indicated that this policy would be reevaluated after RCWD has experience operating the system.
(c) The decision of whether to adopt an ad valorem tax under the RCWD Ownership Scenario will be made by the RCWD Board of Directors. If RCWD decides not to adopt an ad valorem tax, then RCWD would adopt a water rate surcharge that collects the same amount of money.
(d) Section 8.5.2 contains additional detail, including a comparison of how frequently each agency has used these funding mechanisms in the recent past.
(e) RCWD connection fees are lower because of revenue from Ad Valorem property taxes that reduce reliance on connection fees.
(f) The Connection Fee for a ¾-inch meter is shown to provide a standard for comparison. It is acknowledged that future single-family residences may require a 1-inch meter depending on fire sprinkler requirements inside the home.
(g) A 2-inch meter is shown for comparative purposes. Separately, in the example Total Cost to Ratepayers calculation, a customer with a 2-inch water meter and water consumption of 125 ccf/month is used for comparison. EMWD noted that this customer with water consumption of 125 ccf/month would likely require a 1.5-inch water meter. EMWD's Connection Fee for a 1.5-inch meter is $27,505

After compiling the information and performing our analysis, we can offer the following overall conclusions regarding Infrastructure, Future Development and the Total Cost to Ratepayers.

Infrastructure

The cost of infrastructure to serve the Study Area's supply needs is one of the important factors in determining the most cost effective approach to serve the area. The proximity of the Study Area to existing infrastructure has a significant impact on the cost of future or expanded infrastructure. The closer the Study Area is to existing infrastructure, the less infrastructure would be anticipated. We also analyzed potential impacts to customers with their own private wells:

- Due to its close proximity to the Study Area and current infrastructure, RCWD has the lowest infrastructure costs associated with providing service to future development.
- Under all Ownership Scenarios, nearly $5 million is anticipated to replace legacy small diameter water lines in the Study Area. For purposes of this FMSR, these improvements are projected to be done over the next 10 years.
- Both EMWD and WMWD offer an option for residents who currently use private wells. If a resident chooses to connect to the public water system, EMWD and WMWD offer the option of converting indoor use only, and would allow customers to leave their irrigation demands connected to their private well.
- EMWD offers existing private well users the lowest standby charges.

Future Development

Several important factors are important to accommodate potential development in the Study Area. These include connection fees for agencies, future extension of facilities, policies regarding growth paying for growth, and the funding mechanisms for infrastructure required to serve future development.

- RCWD has the lowest connection fees of the three agencies. Each agency calculates its connection fee differently, and RCWD's lower fees acknowledge that Ad Valorem tax revenues are also used to pay for water system infrastructure.
- The pipe extensions required to extend water service to facilitate development would not be funded directly by the utility. All agencies would allow developers to build and fund them.
- All agencies would allow formation of one or more Assessment Districts where the assessment is based on the value of the property.
- All agencies would allow formation of one or more Community Facilities Districts (CFD), though WMWD does not allow CFDs to be financed through WMWD.
- This FMSR did not specifically asses the ability to immediately serve projected development in the Jefferson Avenue Corridor. That being said, it is likely the RCWD Ownership Scenario would allow some development in the Jefferson Avenue Corridor with less up front cost to developers than the other agencies. However, depending on the location of the development, and the timing of future development, some of this developer-funded investment might be redundant or stranded in the long-term.

Total Cost to Ratepayers

Figure ES-1 shows that the EMWD Ownership Scenario has the lowest total cost of water for the example single-family residence. After EMWD's Acquisition Balance is paid off (expected to be after FY 29/30), the total cost of water for the single-family residential example would decrease further. The RCWD Ownership Scenario has the highest total cost of water, though the total cost of water under the RCWD Ownership Scenario will also depend on whether an Ad Valorem tax is applied, or if RCWD applies the water rate surcharge.

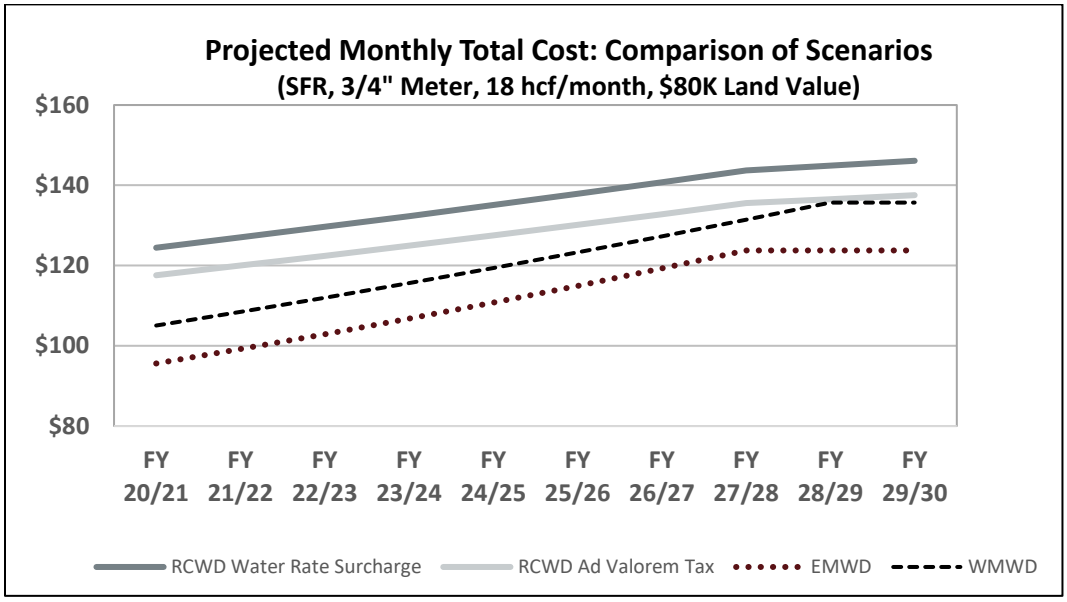

Figure ES-1. Projected Monthly Total Cost: Comparison of Scenarios (SFR, ¾-inch Meter, 18 CCF/month, $80K Land Value)

Figure ES-2 shows that with the implementation of the Ad Valorem Tax, the total cost of water will be lowest under the RCWD Scenario for the property value assumption shown for a commercial water bill. Without implementation of the Ad Valorem Tax, the EMWD Ownership Scenario will provide the lowest total cost of water until the Acquisition Balance is paid off (expected to be after FY 29/30. There is a wide range of projected total cost under the RCWD Ownership Scenario, depending on whether an Ad Valorem Tax or Water Rate Surcharge is applied. After the EMWD's Acquisition Balance is paid off (expected to be after FY 29/30), the total cost of water under the EMWD Ownership Scenario is expected to increase, because EMWD's commercial water rates are generally higher than WMWD's commercial water rates.

It should be noted that EMWD believes its rate structure and policies may result in further commercial conservation. EMWD provided records for commercial connections nearest the Murrieta Study Area which indicated an average of 59 CCF/month for similar 2-inch water meters. Based on the EMWD data, the overall cost of the representative commercial connection would decrease due to the lower volume. The trend would be the same as described above. Initially, EMWD is likely to offer the lowest cost to commercial connections. After the Acquisition Balance is paid off (expected to be after FY 29/30), commercial connections may pay more under the EMWD Ownership Scenario than had WMWD retained water system ownership.

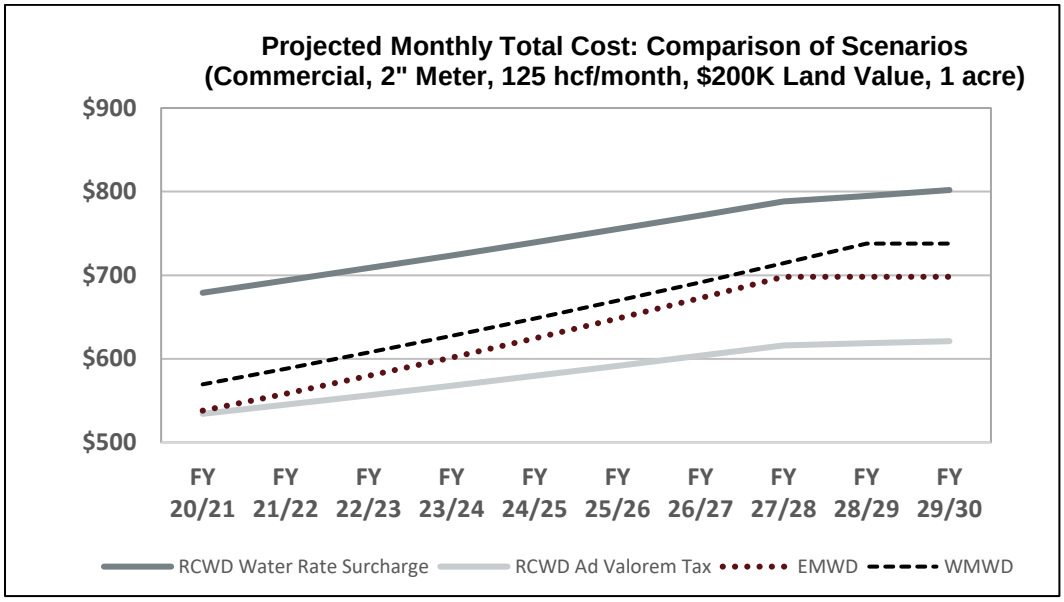

Figure ES-2. Projected Monthly Total Cost: Comparison of Scenarios (Commercial, 2-inch Meter, 125 CCF/month, $200K Land Value, 1 acre)

The total cost to connections under the RCWD scenario will depend on the specifics of each connection and whether RCWD chooses to (and is able to) adopt an Ad Valorem tax or pursue a water rate surcharge.

Areas of Uncertainty

The purpose of this FMSR is the give the agencies and ratepayers an immediate and long-term outlook for each of the potential Ownership Scenarios. The engineering and financial analyses contained in this FMSR contain some underlying estimates and projections of future conditions. Numerically, the analyses and calculations are detailed and are shown throughout this report and in the appendices. Detailed findings and conclusions can be found in Section 10.

1.0 INTRODUCTION AND BACKGROUND

The City of Murrieta is serviced by four different water service providers. For several years, discussions have been held within the Murrieta community and among the water districts serving the Murrieta area regarding service delivery, cost to rate payers, and infrastructure. There are several complex considerations that often overlap, but also compete for consideration. These include competing interest for existing and future customers. Some examples are the costs and efficiencies of system improvements serving existing customers or combined with expansion for future customers, proximity of existing infrastructure compared to rates and an agency's overall cost of service, availability of existing storage versus the feasibility of expanding storage facilities, etc. Nowhere do these issues appear to converge more than in the Murrieta Retail Service Area. This focused MSR specifically considered these competing issues in determining the hydraulic, infrastructure and financial implications for existing and future customers. The City of Murrieta also has a desire to facilitate the needs of future customers that will come from growth, through the potential build out of the region.

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Therefore, three separate areas are the subject of this Focused Municipal Service Review (FMSR):

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- Rainbow, a portion of WMWD's service area located south of Murrieta (Rainbow Study Area)
- Rock Mountain, a portion of WMWD's service area located south of Murrieta (Rock Mountain Study Area)

Because the Rainbow and Rock Mountain Study Areas are more geographically independent and less complicated from a hydraulic and infrastructure perspective, they are covered more independently in Section 9 of this FMSR

Figure 1-1 below, shows the Murrieta Study Area, the Rainbow Study Area, Rock Mountain Study Area. The blue shaded area is the area receiving wholesale water from WMWD, and the pink shaded area is the area receiving wholesale water from Eastern Municipal Water District (EMWD). There are several "islands" shown on Figure 1-1 that do not receive wholesale water from either

WEST YOST - N:\Clients\868 Riverside LAFCO\40-19-01 Water Serv Rev\GIS\MXD_Working Figures\Figure 1-1. Murrieta, Rainbow, Rock Mountain Study Areas.mxd - coconnor - 11/30/2020

EMWD

WMWD

Unshaded areas indicate island parcels which are not within any water district.

Rock Mountain

Rainbow

San Diego County

Study Areas
County Boundary
City Boundary
Interstate Highway
State Highway
Local Roads

Water Districts
Eastern Municipal Water District
Western Municipal Water District

N

0 2,500 5,000

Scale in Feet

fgSolutions

WEST YOST

Figure 1-1

Murrieta, Rainbow & Rock Mountain Study Areas

Riverside LAFCO
Focused Water MSR
Murrieta Area

agency. These islands may be subject to LAFCO review and adjudication if an application is filed by any agency. Table 1-1 shows the current number of connections in the Study Area by connection type.

Table 1-1. Current Number of Water System Connections by Connection Type

Meter Size	Single Family Residential	Multi Family Residential	Non-Residential	Irrigation	Fire Protection	Total
⅝"	347	2	25	3	105	482
¾"	1,939	6	10	3	10	1,968
1"	76		51	45		172
1.5"	1		31	45		77
2"	1	41	75	44		161
3"			4	1		5
4"		2	2			4
Total	2,364	51	198	141	115	2,869

Source: WMWD, 2/19/2020. Based on connection meter export at January 15, 2020.

1.1 Objectives of this Analysis

In 2019, LAFCO issued its request for proposals for this Focused Municipal Service Review. The objective is to conduct an FMSR that will inform the Local Agency Formation Commission (LAFCO), local water purveyors, the City of Murrieta, and the public, regarding the most effective and efficient method of providing water service to the Murrieta Study Area.

To meet this objective, LAFCO retained West Yost Associates to analyze the infrastructure, supply capacity and financial costs for providing water service to the Murrieta Study Area. These analyses were performed for current and future connections, and contemplated how best to provide that service in the most efficient and cost-effective manner. Completion of this Focused MSR will serve as a roadmap for provision of adequate infrastructure and water supply to support development of the area in a manner consistent with the City of Murrieta's General Plan and Downtown Specific Plan which were adopted in 2011 and 2017 respectively.

This analysis considers many of the complex and often competing interests, as well as the specific advantages each agency brings towards resolving these challenges.

1.2 Water Agencies

This section provides a brief introduction to the three candidate agencies, WMWD, Rancho California Water District (RCWD) and EMWD, to provide service to the Study Area, with information obtained from the respective agencies.

1.2.1 Western Municipal Water District

WMWD was formed in 1954. Today, WMWD supplies water on both a wholesale and a retail basis to a region stretching 527-square miles in western Riverside County with an assessed

valuation of $83 billion and a population of more than 880,000 people. This regional area includes the cities of Corona, Norco and Riverside and the water agencies serving Box Springs, Eagle Valley, Lake Elsinore, Temescal Valley and Temecula.

While most of WMWD's business is in wholesaling of water to water agencies and municipalities, WMWD directly serves approximately 25,000 residential and business connections (and provides emergency service when necessary) in the following areas:

- **Riverside** – home to WMWD's largest grouping of direct connections. Areas served include a portion of the city of Riverside, Orangecrest, Mission Grove, El Sobrante, Eagle Valley, Woodcrest, Lake Mathews, portions of Mead Valley and Perris, and March Air Reserve Base.
- **Murrieta** – with the merger of the city's water utility agency in 2005, WMWD now serves a 6.5-square mile section of western Murrieta (the Study Area), primarily in the historic downtown area of the city.
- **Rainbow and Rock Mountain** – WMWD's most distant served communities are an unincorporated area of southern Riverside County bordering San Diego County.

1.2.2 Rancho California Water District

Development of the Temecula / Rancho California community began in 1964 when the Vail Ranch was acquired by the partnership of Kaiser Corporations and Macco Realty Company. In 1965, in order to provide for a continuing and reliable water supply, the developers of Temecula/Rancho California formed the original Rancho California Water District (the "Rancho District") over the easterly 41,000 acres of the community. The Santa Rosa Ranches Water District was organized on January 24, 1968 (the "Santa Rosa District") to serve the westerly 44,800 acres of the community.

In early 1977, the Rancho and Santa Rosa districts were consolidated in accordance with Local Agency Formation Commission resolutions under the name "Rancho California Water District."

RCWD currently serves the area known as Temecula/Rancho California, which includes the City of Temecula, portions of the City of Murrieta, and unincorporated areas of Riverside County. The total gross acreage within the RCWD's service area is approximately 99,000 acres (154.7 square miles). As of Fiscal Year (FY) 18/19, RCWD served approximately 44,000 connections. RCWD currently provides emergency water service calls to customers in close proximity to the Murrieta Study Area, and it appears the RCWD as the surge capacity to extend emergency service to the study area if necessary.

1.2.3 Eastern Municipal Water District

Eastern Municipal Water District (EMWD) is the water, wastewater service and recycled water provider to more than 825,000 people living and working within a 555-square mile service area in western Riverside County. It is California's sixth-largest retail water agency and its mission is "To deliver value to our customers and the communities we serve by providing safe, reliable, economical and environmentally sustainable water, wastewater and recycled water services."

EMWD provides service to retail customers located within the cities of Canyon Lake, Hemet, San Jacinto, Menifee, Moreno Valley, Murrieta, Perris and Temecula, as well as the unincorporated communities of French Valley, Good Hope, Homeland, Lakeview, Mead Valley, Murrieta Hot Springs, Nuevo, Romoland, Valle Vista and Winchester. As of 2019, EMWD served approximately 153,000 connections. EMWD currently provides emergency water service calls to customers in close proximity to the Murrieta Study Area, and it appears the RCWD as the surge capacity to extend emergency service to the study area if necessary.

EMWD also supplies water on a wholesale basis to the Cities of Hemet, San Jacinto and Perris; Lake Hemet Municipal Water District; Nuevo Water Company; Rancho California Water District; and Western Municipal Water District.

1.3 Restructuring Options

Three alternatives for future ownership of WMWD's Murrieta Study Area were evaluated. These three Ownership Alternatives are identified below, and later sections of this report describe the technical and financial implications of the three Ownership Alternatives.

- Continued operation by WMWD "WMWD Ownership Scenario"
- Acquisition by RCWD "RCWD Ownership Scenario"
- Acquisition by EMWD "EMWD Ownership Scenario"

1.4 Public Comments (Responses in Appendix A)

There were two public meetings held in Murrieta at the kick-off of this FMSR. These meetings were held in April 2019 and July 2019, before any of the analysis associated with this FMSR had been completed. During these meetings, public comments were received. A compilation of public comments is included in Appendix A.

Some of the major themes of the public comments included:

- Concerns about changing the water purveyor
- Opposition to imposing an Ad Valorem tax
- Opposition to paying Standby Charges
- Concern about the costs of water service
- Concerns that adequate fire flow is not available
- Concerns about the amount of development in the Study Area
- Drawdown of local aquifers
- Historical and miscellaneous concerns about Rancho California Water District
- Desire to keep private wells, not be connected to the public water system, not be metered, and not have aquifer drawdown.
- Meeting wasn't noticed and the room was too small for the meeting

2.0 EXISTING FACILITIES AND SUPPLY SOURCES

This chapter describes the Murrieta Retail Service Area's characteristics and its existing water distribution system.

2.1 Overview of Murrieta Service Area

The Murrieta Retail Service Area is 6.5 square miles in size and lies within the City of Murrieta. In 2006, WMWD took over ownership of the Murrieta Retail Area from the Murrieta County Water District and incorporated it into WMWD. The area is contained by Interstate 15 to the northeast and the Santa Rosa Plateau to the southwest. It is on the south end of the WMWD service area boundary, bordered by EMWD to the northeast, Elsinore Valley Municipal Water District (EVMWD) to the northwest, and RCWD to the southwest and south.

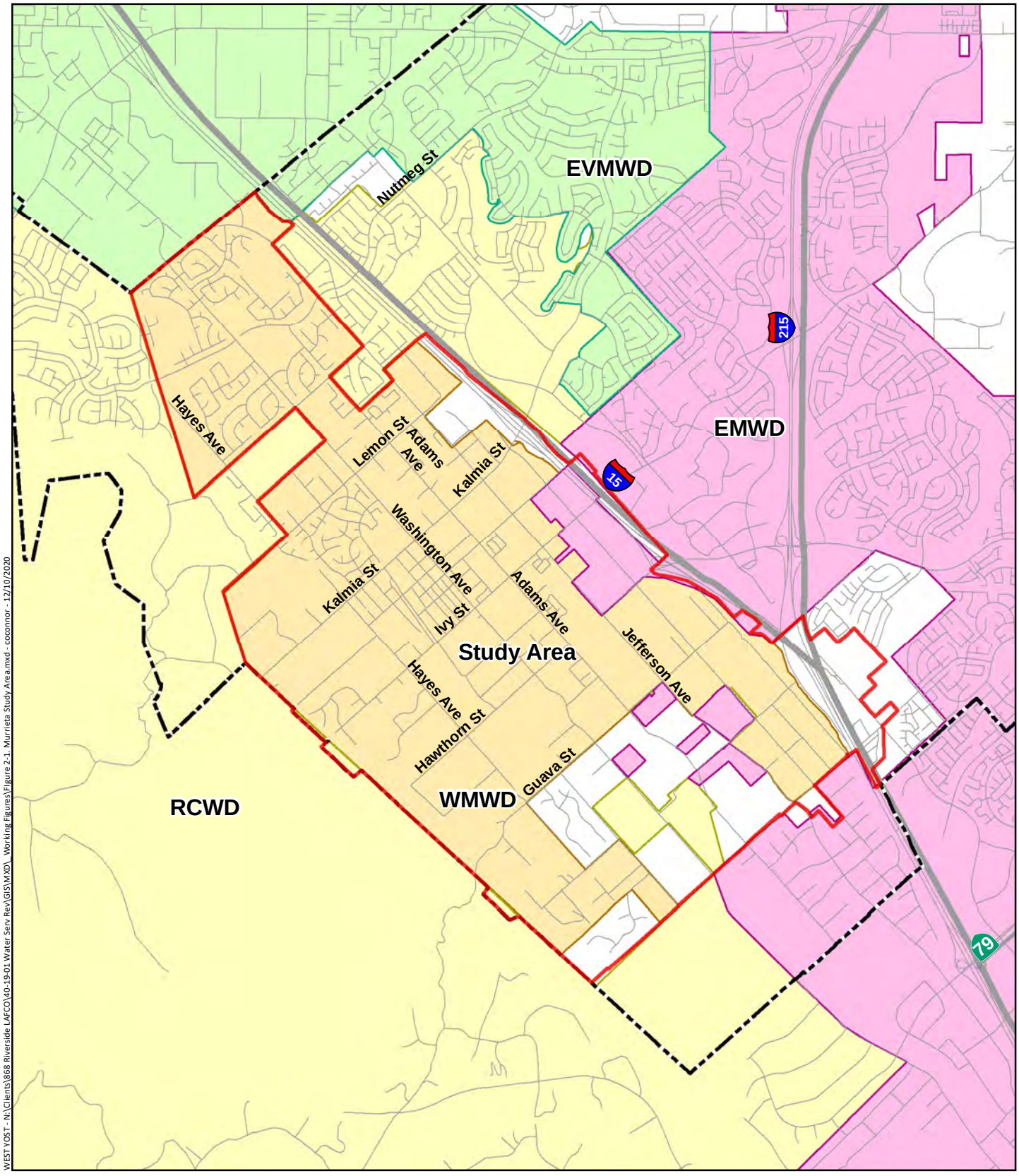
2.2 Western Municipal Water District

Figure 2-1 shows the Study Area and also the adjacent RCWD and EMWD Service Areas. This figure, created by the City of Murrieta and originally contained in the Request for Proposals for this project issued by LAFCO, shows the locations of the various water purveyors in the area.

Neighboring utilities are shown on Figure 2-1:

- **Study Area**: in orange
- **RCWD**: in yellow, to the southwest and the south of the Study Area
- **EMWD**: EMWD's retail water service area is shown in pink, to the east and northeast of the Study Area.
- **EVMWD**: in green, to the north and northeast of the Study Area. EVMWD was not assessed as a potential water service purveyor in this MSA.

As can be seen on Figure 2-1, there are several areas adjacent to the Study Area that are not part of any water district. These are colloquially referred to as "islands". The islands have no color on Figure 2-1.



WEST YOST - N:\Clients\868 Riverside LAFCO\40-19-01 Water Serv Rev\GIS\MXD_Working Figures\Figure 2-1. Murrieta Study Area.mxd - coconnor - 12/10/2020

Study Areas
City Boundary
Interstate Highway
State Highway
Local Roads

Water Districts

Eastern Municipal Water District
Elsinore Valley Municipal Water District
Murrieta Service Area (Western Municipal Water District)
Rancho California Water District

N

0 2,000 4,000
Scale in Feet

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Figure 2-1

Murrieta Study Area

Riverside LAFCO
Focused Water MSR
Murrieta Area

2.2.1 Summary of Water System Facilities

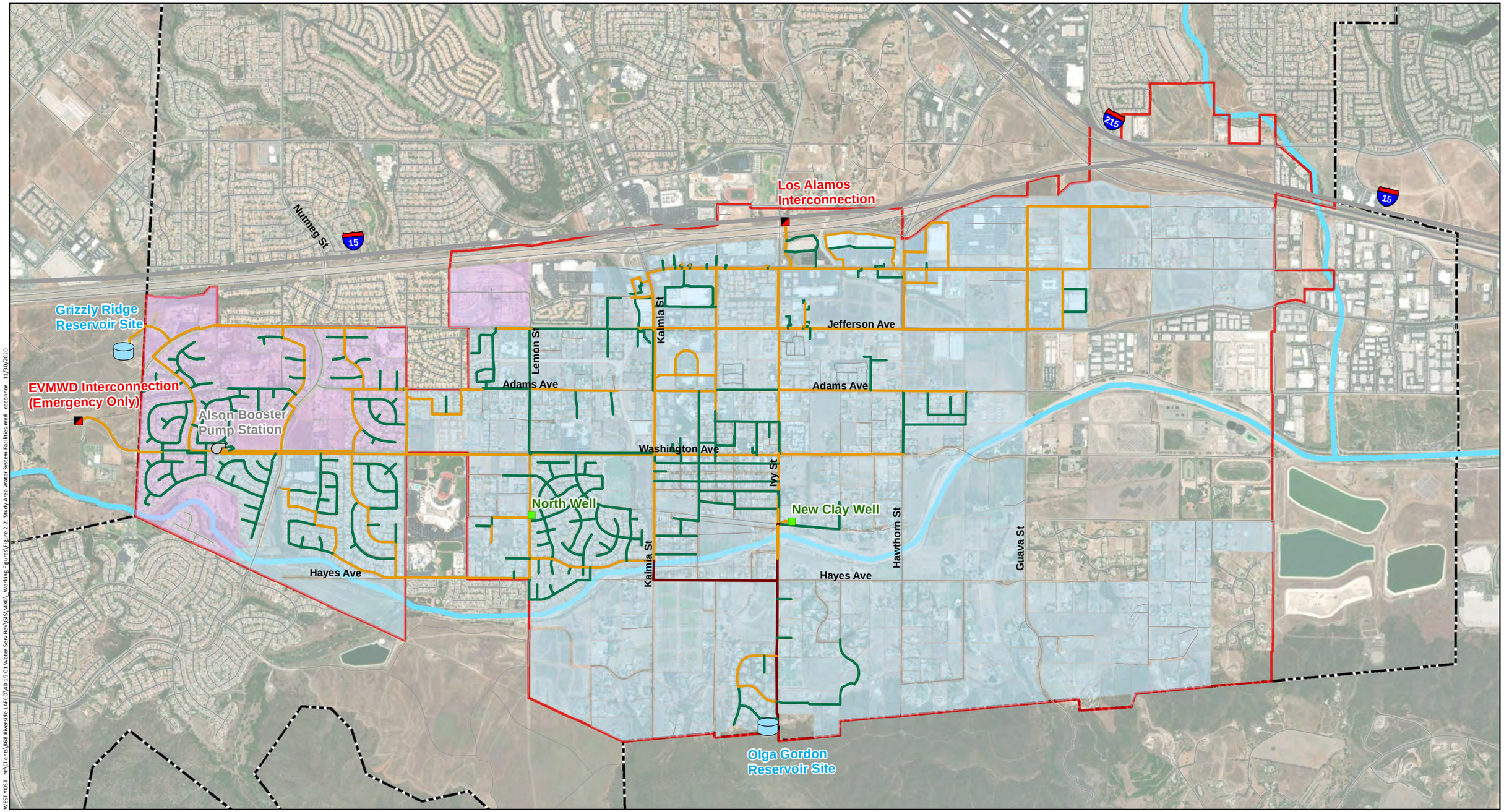
The Murrieta Area water system consists of 2,869 potable water connections served by over 52 miles of potable water pipelines, four potable water tanks, one booster station, and one pressure reducing valve (PRV) station. The existing system facilities can be found on Figure 2-2.

Due to elevation changes, the service area is split into two pressure zones: the 1280 Zone and the 1430 Zone. The 1280 Zone is the larger of the two zones, containing almost 42 miles of water pipelines and serving residential, commercial, and industrial connections. Two tanks, located at the Olga Gordon site on the southern edge of the system, store water for the zone. The two tanks both have a low water level of 1,250 feet, a high-water level of 1,282 feet, and a radius of 45 feet, giving them both a capacity of 1.5 million gallons (MG). The 1430 Zone serves the more elevated, northwest portion of the system. It contains almost 11 miles of water pipelines and exclusively serves residential connections. The zone currently has existing storage capable of holding 1.9 MG of potable water at the Grizzly Ridge Reservoir site.

The only source of water for Zone 1430 currently is from the lower 1280 Zone. Water must be pumped up through the existing Alson Booster Pump Station, located on Washington Ave just southeast of Alexandria Dr. The Alson Booster Pump Station currently houses three 60 HP pumps, each with a capacity to pump 800 gallons per minute (gpm). This means the stations total pumping capacity is 2,400 gpm and its firm pumping capacity is 1,600 gpm.

Only one well, New Clay Well, is currently active and producing water for the Murrieta Service Area. WMWD is currently working to bring a replacement for the North Well, a previously inactivated well, online in the near future. New Clay Well currently produces 450 gpm for the system and the North Well is expected to produce 700 gpm, making the total well production 1,150 gpm.

An intertie to EMWD where Los Alamos Rd crosses over the I-15, referred to as the "Los Alamos Interconnection," provides the rest of the supply to the service area under existing conditions. An emergency intertie connects the system to EVMWD in the 1430 Zone on Washington Ave near Palomar street. The capacity of the Los Alamos Interconnection is limited by infrastructure in the EMWD system to 5.0 cubic feet per second (cfs), or 2,250 gpm.



Study Area
County Boundary
City Boundary
Interstate Highway
State Highway
Local Roads
Murrieta Creek

Booster Pump Station
Existing Reservoir Site
Production Well
Interconnection Point
4 - 10 in
12 - 16 in
24 in

Pressure Zone
1280
1430

Notes:
1. Production Wells are labeled in green text.
2. Booster Pump Stations are leabeled in gray text.
3. Reservoirs are labeled in blue text.
4. Interconnections are labeled in red text.

0 1,000 2,000
Scale in Feet

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Figure 2-2

Study Area
Water System Facilities

Riverside LAFCO
Focused Water Municipal
Service Review Murrieta Area

2.2.2 MWD Annexation

Imported water supply from the Study Area is purchased from Metropolitan Water District (MWD) through EMWD, at the Los Alamos Interconnection Point. Service areas receiving MWD water must pay an MWD Annexation Charge. The 2020 MWD Annexation Charge is $6,151 per acre.

For most MWD customers, the Annexation Charge is paid in aggregate for the entire service area, regardless of connection status. That is, when a service area is annexed into the MWD service area, parcels with existing water service connections pay the MWD Annexation Charge, and undeveloped parcels without water service also pay the MWD Annexation Charge.

With WMWD, the situation is different. In December 1999, an agreement between MWD, EMWD, WMWD, and the Murrieta County Water District and MWD was executed. This agreement specified that the entirety of the Murrieta County Water District would be annexed into the MWD Service Area, but only the portion of the Murrieta County Water District that has paid the MWD Annexation Charge could receive water from MWD.

As a result, there are portions of the Study Area that have not yet paid the MWD Annexation Charge. In Figure 2-3, obtained from WMWD, portions of the Study Area that have not paid the MWD Annexation Charge are shown in yellow.

Section 11 of the 1999 Agreement states that the agreement shall be binding to successors, so for the purposes of this analysis, it is assumed that the 1999 Agreement would be assignable to either RCWD or EMWD. The need for some future development to pay the MWD Annexation Charges is the same under all Ownership Scenarios described in this report, and as a result, is not included in the quantitative financial analysis.

The 1999 agreement terminates in 2024. It is also assumed that regardless of the ownership scenario, the future owner will be able to extend the agreement. The current outstanding Annexation Charge balance is approximately $12M. If the agreement is not extended, it is possible that MWD would require the outstanding balance to be paid by the owner of the water system or de-annex parcels that haven't paid the Annexation Charge, regardless of which agency owned the water system.

The current number of service connections in the Study Area, summarized by meter size, can be seen in Table 2-1. The majority of the meters currently in the Study Area are ¾-inch meters that serve single family residential connections.

A large number of parcels in the Study Area are currently served by private wells. Therefore, land within the study area is classified as Developed-Served, if it currently has service from the distribution system, Developed-Unserved, if it currently developed but provided service by private well, or Vacant, if the land is undeveloped and available for development in the future.

Nutmeg St
15
Lemon St
Kalmia St
Jefferson Ave
Adams Ave
Adams Ave
Washington Ave
Ivy St
Hayes Ave
Kalmia St
Hayes Ave
Hawthorn St
Guava St
215
15

LOS ANGELES
SAN BERNARDINO
RIVERSIDE
ORANGE
SAN DIEGO

Study Area
County Boundary
City Boundary
Interstate Highway
State Highway
Local Roads
Murrieta Creek
No Data
Not Paid
Paid

0 1,000 2,000
Scale in Feet

fgSolutions
WEST YOST

Figure 2-3

MWD Annexation Fee Payment Map

Riverside LAFCO
Focused Water Municipal Service Review Murrieta Area

WEST YOST - N:\Clients\668 Riverside LAFCO\401-19-01 Water Serv Rev\GIS\MXD_Working Figures\Figure 2-3_MWD Annexation Fee Payment Map.mxd - coconnor - 11/30/2020

Table 2-1. Current Number of Water System Connections by Connection Type						
Meter Size	Single Family Residential	Multi Family Residential	Non-Residential	Irrigation	Fire Protection	Total
⅝"	347	2	25	3	105	482
¾"	1,939	6	10	3	10	1,968
1"	76		51	45		172
1.5"	1		31	45		77
2"	1	41	75	44		161
3"			4	1		5
4"		2	2			4
Total	2,364	51	198	141	115	2,869
Source: WMWD, 2/19/2020. Based on connection meter export at January 15, 2020.						

2.2.3 Rancho California Water District

Rancho California Water District provides service directly adjacent to the Murrieta Service Area to the south, west, and north. Large diameter transmission mains in the in the RCWD system traverse the Murrieta Service Area. The lowest pressure zone in the RCWD distribution system serves a hydraulic grade line (HGL) of 1,305 feet.

2.2.4 Eastern Municipal Water District

Eastern Municipal Water District serves parcels directly adjacent to the east of the Murrieta Service Area. EMWD's distribution system runs directly to the border of the Murrieta Service Area at the Los Alamos Interconnection, but does not traverse the service area. The EMWD pressure zone adjacent to the Murrieta Service Area serves an HGL of 1,384 feet.

3.0 AGENCY INFRASTRUCTURE POLICIES

The following policies and assumptions were implemented to evaluate the infrastructure requirements for service for each of the candidate agencies.

3.1 Water Supply Policies

As described above, the Study Area is currently served by the New Clay Well and the Los Alamos Interconnection with EMWD. WMWD is currently developing the North Well, which is a replacement for a well of the same name that is no longer operational. This replacement well is designed to recover the capacity lost from the original North Well. Historically, WMWD was able to supply 1,452 acre feet per year (AF/year) of water supply for the study area, with original North Well and the New Clay Well operating. Therefore, it was directed that 1,452 AF/year be supplied by the replacement North Well and the New Clay well for the purposes of this analysis. Any required water supply beyond this amount is to be supplied by the candidate agency in the manner they determine to be most appropriate.

The value of 1,452 AF/year is a volume of water supply that can be sustained over a typical year. The design capacity of the New Clay Well is 450 gpm, and the design capacity of the North Well is expected to be 700 gpm. The resulting well capacity for the study area 1,150 gpm, which would result in over 1,800 AF/year of supply if both wells were run constantly for a year. Because wells cannot be run constantly for a year, the more sustainable volume of 1,452 AF/year is used for water supply purposes. However, the well capacity of 1,150 gpm is used for infrastructure analysis.

3.2 Water Demand Policies

A general description of demand peaking as well as a discussion of the demand peaking policies used in this analysis are provided below. Policies concerning which parcels in the Study Area will be served in the future are provided as well.

3.2.1 Demand Peaking Description

Water system demands are generally developed from average values that that can be measured reliably over time, but water system facilities are generally sized for peak demands. Therefore, it is critical to be able to calculate representative and appropriate peak demand values from average values.

The peaking conditions of most concern for water facility sizing are Maximum Day Demands (MDD) plus fire flow and peak hour demand (PHD) on the maximum day. Average Day Demand (ADD) is the average annual water use divided by the number of days in the year. MDD is the highest demand day of the year, averaged over a 24-hour period. Peak Hour Demand (PHD) is the highest demand rate occurring over a 1-hour period during the MDD. Peak water use is typically expressed as a ratio, or peaking factor. The MDD peaking factor is calculated by dividing the maximum day water use by the average daily water use and the PHD peaking factor is calculated by dividing the peak hour water use by the maximum day water use. These peaking factors are then used, along with existing or future ADD values, to project maximum day and peak hour water use for existing or future conditions.

3.2.2 Demand Peaking Policies

In previous master planning and hydraulic analysis for the Study Area, WMWD has used a peaking factor of 2.7 to calculate MDD from ADD. EMWD varies the MDD/ADD peaking factor according to the size pressure zone being evaluated. EMWD's peak factor would be 2.5 for a similarly sized pressure zone. RCWD uses a consistent MDD/ADD peak factor of 2.0. For the purposes of this study, a peaking factor of 2.5 was used for the MDD/ADD ratio.

All of the candidate agencies use a peaking factor of 2.0 to develop PHD from MDD. A PHD/MDD ratio of 2.0 was used in this analysis.

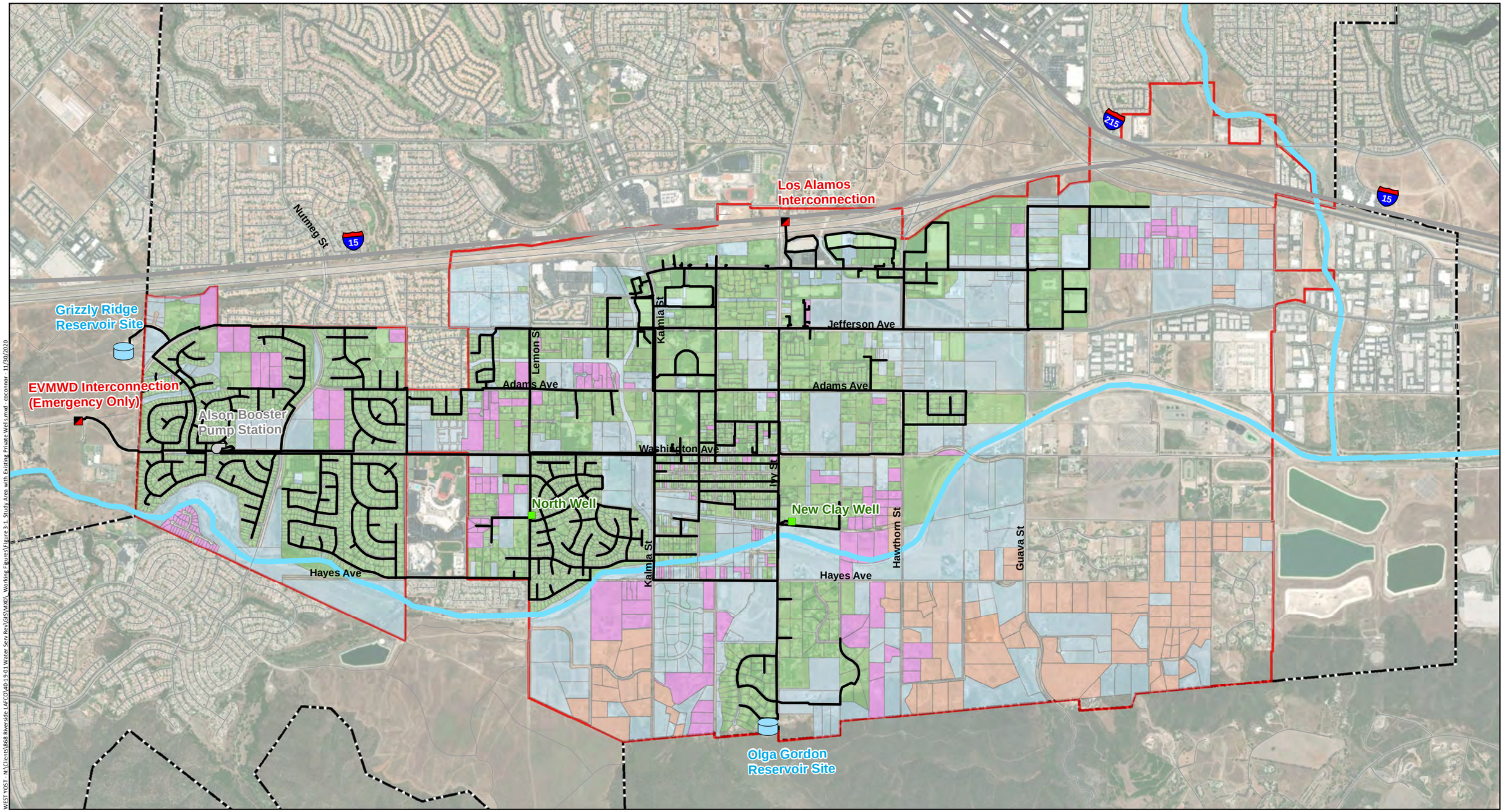
3.2.3 Build-Out Service Policies

In previous master planning efforts for the Study Area, WMWD assumed full build-out conditions for future hydraulic evaluations. This assumption indicates that both Vacant parcels and Developed-Unserved parcels (parcels currently served by private wells) will be connected to and served by the distribution system at some point in the future. This assumption was conservative and designed to make sure that infrastructure and supply evaluations account for all possible future connections no matter how unlikely their potential connection, and the assumption did not reflect any potential policy decisions concerning private wells.

For this evaluation, it was directed that future demands should include parcels that are reasonably likely to connect to the distribution system, not all possible parcels in the Study Area. Vacant parcels are considered likely to connect and are assumed to connect to the distribution system. Developed-Unserved parcels within 1,000 feet of an existing or future distribution system water main are considered likely to connect because the cost to connect in such a case is considered reasonable. Therefore, Developed-Unserved parcels within 1,000 feet of an existing or future distribution system water main are assumed to connect to the distribution system in the future. Developed-Unserved parcels farther than 1,000 feet from the distribution system are considered unlikely to connect to the distribution system (they are likely to remain on private well supply) and are assumed to remain unserved in the future. None of the assumptions described above have any impact on individual parcels or on the decisions of individual property owners concerning water service. The assumptions are generalized and intended only to project water demands to correctly identify future supply requirements and correctly size future infrastructure.

Figure 3-1 provides a map of the Study Area indicating the parcel status described above. In this map:

- Purple shaded areas are parcels with existing wells (Developed-Unserved) within 1,000 feet of a distribution system pipeline. As noted above, these parcels are assumed to connect to the system for the purposes of sizing facilities.
- Pink shaded areas are parcels with existing wells (Developed-Unserved) that are not within 1,000 feet of an existing pipe and are not assumed to connect to the public water system.
- Blue shaded areas are undeveloped parcels (Vacant) which are assumed to connect to the public water system when they develop.
- Green shaded areas are parcels with existing service from the public water system, where continued service is expected.



- Study Area
- County Boundary
- City Boundary
- Interstate Highway
- State Highway
- Local Roads
- Murrieta Creek
- Booster Pump Station
- Existing Reservoir Site
- Production Well
- Interconnection Point
- Existing Water Main
- Parcels with Private Wells Within 1,000 ft of Existing Pipe - Assumed Service in Future
- Parcels with Private Wells - Assumed No Service in Future
- Parcels with Existing Service - Continued Service in Future
- Undeveloped Parcels - Assumed Service in Future

Notes:
1. Production Wells are labeled in green text.
2. Booster Pump Stations are leabeled in gray text.
3. Reservoirs are labeled in blue text.
4. Interconnections are labeled in red text.

0 1,000 2,000
Scale in Feet

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Figure 3-1

Study Area with Existing Private Wells

Riverside LAFCO
Focused Water Municipal Service Review Murrieta Area

3.3 Infrastructure Performance Criteria

In order to evaluate the water system facilities required to serve existing and future demands, the following criteria were defined and approved by the Agencies:

3.3.1 Pumps

The ultimate pumping requirements used to analyze the build-out system are consistent with previous master plans. The pumping requirement states that the firm capacity of the pump station must be capable of meeting the MDD of the zone it is serving. Firm capacity of a pump station is defined as the total pumping capacity with the largest pump at the site out of service. Currently, the only pump station in the system is the WMWD Alson Booster Station that pumps water from the 1280 Zone into the 1430 Zone, which means the station must have a firm capacity to match the MDD of the 1430 Zone.

3.3.2 Storage

The ultimate storage requirements used in this analysis are consistent with previous master plans. Storage for each zone must be able to meet the sum of the multiple criteria listed below.

3.3.2.1 Equalization Storage

Pumping facilities in the system have been designed to meet build-out MDD as described below in Section 3.3.3. This means that anytime the demand in the system goes beyond MDD, the system storage must be able to provide the supply deficit. The equalization storage deemed necessary to account for these peak supply deficits was determined to be 25 percent of the MDD within each pressure zone.

3.3.2.2 Fire Flow Storage

System storage also must account for any fire flow through the system. The fire flow storage requirements, found in Table 3-1 below, were updated by the City of Murrieta Fire Department in April of 2014.

Table 3-1. Fire Flow Criteria

Property Classification	Flow and Time Requirement	Corresponding Volume Needed, MG
One- & two-family dwellings	1,500 gpm at 20 psi for 2 hours	0.18
Multi family dwellings	2,500 gpm at 20 psi for 2 hours	0.30
Commercial buildings/occupancies	3,000 gpm at 20 psi for 3 hours	0.54
Industrial buildings/occupancies	3,000 gpm at 20 psi for 4 hours	0.72
psi = pounds per square inch		

The 1280 Zone contains buildings in all the categories listed above, therefore the requirement that was used for the 1280 Zone was the "Industrial buildings/occupancies" requirement of 3,000 gpm at 20 psi for 4 hours which equates to 0.72 MG.

The 1430 Zone only contains residential connections, including a couple of parcels zoned for multi-family residential. Therefore the "multi family dwellings" requirement of 2,500 at 20 psi for 2 hours was used which equates to 0.30 MG.

3.3.2.3 Emergency Storage

Emergency storage capacity would be needed to sustain the water needs during periods of total or partial shutdown of the water supply facilities. One-half (50 percent) of the MDD is used to calculate the emergency storage of each pressure zone.

3.3.2.4 Total Storage

The total existing and build out storage required for each pressure zone is presented in Table 3-2.

Table 3-2. Storage Criteria, MG

Zone	Equalization Storage	Fire Flow Storage	Emergency Storage	Total Storage Required
Existing Conditions				
1280	0.97	0.72	1.94	3.64
1430	0.29	0.24	0.57	1.16
Buildout Conditions				
1280	1.97	0.72	3.93	6.62
1430	0.46	0.30	0.93	1.69
Total	2.43	1.02	4.86	8.31

3.3.3 Pipelines

The performance criteria used for pipelines is summarized below.

- Maximum velocity of 6 feet/second in transmission pipelines under replenishment conditions
- Maximum friction loss of 3.5 feet/1,000 feet of transmission line under replenishment conditions
- Maximum velocity of 7.5 feet/second in any water pipelines during PHD or MDD plus emergency fire flow conditions
- Transmission pipelines shall be no smaller than 12-in diameter
- Pressure during normal operation is to be maintained at 40 psi or above
- Residual pressure during fire flow is to be maintained at 20 psi or above

3.3.4 Fire Flow

Fire flow criterion for each land use was outlined in a document provided by the City of Murrieta Fire Department and summarized below in Table 3-3. The criteria for amount of flow needed at each point throughout the system is the same criteria that was used to calculate the amount of fire flow storage necessary, as described above. The system was analyzed using these criteria, which were developed in 2013. It should be noted that hydrants may have been constructed before 2013 with different criteria.

Table 3-3. Fire Flow Criteria, gpm

Property Classification	Flow Requirements
One- & Two-Family Dwellings	1,500
Multi family dwellings	2,500
Commercial buildings / occupancies	3,000
Industrial building / occupancies	3,000

4.0 SYSTEM DEMANDS

Existing and future system demands for the Study Area are described below. Metered water consumption data, compiled from water meter readings is presented, as is local groundwater production and imported water purchase data.

4.1 Existing

Existing demands are described below.

4.1.1 Current Metered Water Consumption

Table 4-1 shows current monthly consumption by WMWD Rate Tier, representing WMWD's estimate of water demands for Calendar Year 2019. WMWD has five rate tiers linked to its budget based rate structure. Tier 1 is the water use corresponding to WMWD's Indoor Budget, and Tier 1 water use is approximately 45 percent of the Study Area total. The remaining water use is primarily outdoor water use.

Table 4-2 shows currently monthly consumption by WMWD connection class and WMWD rate tier, 100 cubic feet per year (ccf/year). Nearly 75 percent of Study Area water use is residential, approximately 10 percent is non-residential, and approximately 15 percent is irrigation. Detailed consumption data is provided as part of the financial models included in Appendix B.

Table 4-1. Current Monthly Water Use by WMWD Rate Tier

Tier	Monthly Water Use, ccf												Total Annual Usage
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Tier 1 - Indoor Budget	28,000	30,000	28,000	36,000	38,000	50,000	50,000	40,000	40,000	38,000	35,000	42,000	455,000
Tier 2 - Outdoor Budget	19,000	20,000	17,000	30,000	48,000	50,000	68,000	58,000	50,000	36,000	30,000	25,000	451,000
Tier 3 - Inefficient	3,000	1,500	1,300	1,700	2,800	3,500	4,200	5,000	5,300	4,500	4,200	3,800	40,800
Tier 4 - Wasteful	1,500	1,200	1,000	800	1,200	1,400	1,700	2,100	2,300	2,200	2,100	2,000	19,500
Tier 5 - Unsustainable	3,500	2,000	1,800	1,900	2,400	2,900	2,200	4,000	3,500	3,800	4,400	5,000	37,400
Total	55,000	54,700	49,100	70,400	92,400	107,800	126,100	109,100	101,100	84,500	75,700	77,800	1,003,700

Source: WMWD, 2/19/2020. Based on customer meter export at January 15, 2020.

Table 4-2. Current Annual Water Use by WMWD Connection Class and WMWD Rate Tier, ccf/year						
Tier	Single Family Residential	Multi Family Residential	Non-Residential	Irrigation	Fire Protection	Total
Tier 1 - Indoor Budget	310,830	88,655	55,514	0	0	455,000
Tier 2 - Outdoor Budget	292,899	2,475	36,898	118,728	0	451,000
Tier 3 - Inefficient	13,424	1,924	5,514	19,938	0	40,800
Tier 4 - Wasteful	4,470	730	2,372	11,929	0	19,500
Tier 5 - Unsustainable	2,295	213	3,802	31,090	0	37,400
Total	623,918	93,996	104,100	181,686	0	1,003,700
Source: WMWD, 2/19/2020. Based on connection meter export at January 15, 2020.						

4.1.2 Current Water Demand

Water demand in this report refers to the sum of local groundwater production from WMWD wells plus imported regional water. WMWD estimates its water demand as the amount of metered consumption (shown above in Tables 4-1 and 4-2, plus 3.5 percent non-revenue water which is typically water lost through pipe leaks or water use that isn't metered.

The CY 2019 estimate water demand provided by WMWD is as follows:

- Total metered consumption: 2,304 AF/year
- Plus 3.5 percent non-revenue water: 84 AF/year
- Total demand: 2,388 AF/year

There are three sources of water for the Study Area

- North Well
- New Clay Well
- Imported Water, purchased from EMWD at the Los Alamos Interconnection

Currently, the North Well is out of service with repairs currently in construction. After the repairs are complete, WMWD anticipates local groundwater production would return to the historic amount 1,452 AF/year. WMWD's analysis was based on the production capacities of the North Well and the New Clay Well assuming the well pumps are operational no more than 90 percent of the time. Additionally, seasonal variations in water demands were recognized by WMWD. In some months, local groundwater could meet all projected Study Area demands without requiring imported water. In other months, and during the summer, imported water is necessary.

The Consultant Team was not asked to assess the local aquifer capacity to produce 1,452 AF/year and is relying on WMWD's prior assessment and production that sufficient aquifer capacity exists to produce 1,452 AF/year.

The projected demands of 2,388 acre-feet per year is approximately 15 percent higher than what was used in the infrastructure analysis (described in Sections 5 and 6 of this report) in the hydraulic analysis of the existing distribution system under existing demands.

The water demand used in the hydraulic analysis of the existing distribution system was obtained from a 2018 analysis prepared by Kennedy Jenks and does not reflect recent development in the Study Area. While it is lower than the current demands provided by WMWD, the difference in current demands is relevant to the projected buildout demands upon which the infrastructure analysis is based on.

4.2 Projected

Projected demands are described below.

4.2.1 Projected System Development

In 2018, Kennedy Jenks prepared an assessment of buildout demands in the Study Area. This assessment produced projected buildout demands that are approximately 80 percent higher than current demands.

In 2017, Kennedy Jenks also prepared a draft assessment of demand forecasts in the Study Area. This assessment showed development projections in five-year ranges through 2040. The projected growth rates in five-year ranges were not used for the infrastructure analysis, but they were used for the financial analysis. For the purposes of this FMSR, the projected system growth rates between 2020 and 2030 were used to generate the projected growth rates in water demand and water connections needed to complete the financial analysis.

The 2017 Kennedy Jenks analysis projects annual system growth in the Study Area of 1.62 percent between 2020 and 2025, and 1.63 percent between 2025 and 2030. Table 4-3 incorporates these projected growth rates and shows the projected number of water system connections through 2030.

As of January 2020, there were 2,867 water system connections, and the number of connections is projected to increase to 3,365 by FY 29/30. On average, approximately 50 new water system connections are projected each year.

Table 4-3. Projected Number of Water System Customers											
Meter Size	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
5/8"	482	490	498	506	514	522	530	538	546	554	563
3/4"	1,968	1,999	2,031	2,063	2,096	2,129	2,163	2,198	2,233	2,269	2,305
1"	172	175	178	181	184	187	190	193	196	199	202
1.5"	77	79	81	83	85	87	89	91	93	95	97
2"	161	164	167	170	173	176	179	182	185	188	191
3"	5	5	5	5	5	5	5	5	5	5	5
4"	2	2	2	2	2	2	2	2	2	2	2
Total	2,867	2,914	2,962	3,010	3,059	3,108	3,158	3,209	3,260	3,312	3,365

As part of this FMSR, the Consultant Team met with the City of Murrieta to review potential known development in the Study Area. The City identified the following examples of development in the Study Area:

- A 210 unit apartment building, construction in progress
- An assisted living facility, construction in progress
- An approved four story development
- Three developments with, combined, over 440 units that are either planned or in pre-application stages

The City also mentioned that as of February 2020, the vacancy rate in the Murrieta business park is 0.5 percent, indicative of pent up demand for development.

With the above information provided by the City, it appears that future development may exceed 50 connections per year, and that the financial analysis shown in Sections 7 and 8 of this is not overly dependent on development.

4.2.2 Projected System Demands

The infrastructure analysis described in Sections 5 and 6 of this FMSR uses the following average demands at buildout, with the projected demands obtained from the 2018 Kennedy Jenks analysis:

- Average day demand, current: 1,295 gpm (equal to 2,090 AF/year)
- Average day demand, buildout: 2,338 gpm (approximately 80 percent higher than current)

Table 4-4 shows the projected water demands through 2030. This table shows the total demand increasing at approximately 1.62 percent per year through 2030, and also shows that local groundwater production would be 1,452 AF/year after the North Well improvements are completed. All increases in water demands resulting from development would be accommodated from increased purchases of imported water

Table 4-4. Projected Sources of Water Supply, acre-feet per year											
Source	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
New Clay Well and North Well	363	1,452	1,452	1,452	1,452	1,452	1,452	1,452	1,452	1,452	1,452
Imported	2,025	936	974	1,014	1,054	1,094	1,136	1,178	1,221	1,264	1,308
Total	2,388	2,388	2,426	2,466	2,506	2,546	2,588	2,630	2,673	2,716	2,760

5.0 INFRASTRUCTURE REQUIREMENTS

West Yost performed analysis of system infrastructure needs currently, and at buildout. The scope of this FMSR did not include any separate effort to identify how to accommodate immediate development along the Jefferson Avenue corridor. The phasing of any area of development would be dependent on the specific owner/developer, their funding approach for infrastructure and the water agency ultimately recommended to serve the Murrieta Study Area. However, all areas of potential development are included in our analysis of the buildout condition.

West Yost was provided an existing InfoWater model for the Murrieta Service Area by WMWD that was last updated in 2014. This model was updated to the most current geographic information system (GIS) infrastructure data and the most recent demand developments as part of the Draft 2018 WMP Update. The updated model was used as the basis of the hydraulic analysis for the infrastructure within the Murrieta Service Area. Because it was necessary to assess the hydraulic impact of supplying the Murrieta Service Area through the EMWD and RCWD distribution systems, EMWD and RCWD also supplied the most recent versions of their distribution system hydraulic models for this analysis. These models were also in the InfoWater Software platform. The following sections describe the infrastructure requirements for:

- Western Municipal Water District
- Rancho California Water District
- Eastern Municipal Water District

5.1 Western Municipal Water District

For each of the candidate agency's potential Ownership Scenarios, specific infrastructure improvements are required to provide service while meeting the performance criteria described above. For each agency, these improvements are categorized by improvements required within the Study Area and improvements required outside of the Study Area to supply water to the Study Area. The improvements required for WMWD are described below. Detailed infrastructure evaluation results can be found in Appendix C.

5.1.1 Required Improvements within the Murrieta Service Area

Required improvements within the Murrieta Service Area are described below.

5.1.1.1 Pump Capacity Evaluation

The pumping requirements used to analyze the buildout system are defined above. The pumping requirement states that the firm capacity of the pumping station must be capable of meeting the MDD of the zone it is serving. Firm capacity of a pumping station is defined as the total pumping capacity with the largest pump at the site out of service. Currently, the only pump station in the system is the Alson Booster Pump Station that pumps water from the 1280 Zone into the 1430 Zone, which means the station must have a firm capacity to match the MDD of the 1430 Zone. The existing pump station contains a total of three 60 HP pumps each capable of pumping 800 gpm, giving it a firm capacity of 1,600 gpm, or 3.6 cubic feet per second (cfs). A

Variable Frequency Drive (VFD) has been recommended for the pump station to reduce the velocity in pipelines that serve the pump station.

The 1430 Zone has an existing MDD of 797 gpm, or 1.78 cfs which is below the firm capacity of the existing Alson Booster Pump Station. No upgrades to the booster station (with the exception of the VFD described above) are required for existing conditions. The 1430 Zone has a build-out MDD of 1,286 gpm, or 2.86 cfs which is below the firm capacity of the existing Alson Booster Pump Station. No upgrades to the booster station are required through build out.

5.1.1.2 Storage Capacity Evaluation

Table 5-1 below presents the existing storage capacity for both pressure zones along with the amount of storage required as described above.

Table 5-1. Existing Storage Summary

Zone	Equalization Storage, MG	Fire Flow Storage, MG	Emergency Storage, MG	Storage Required, MG	Existing Storage, MG	Additional Storage Required, MG	Additional Storage Required, ft^3
1280	0.97	0.30	1.94	3.22	3.00	0.22	28,778
1430	0.29	0.24	0.57	1.10	1.90	-	-
Total	1.26	0.54	2.52	4.32	4.90	0.22	28,778

ft^3 = cubic feet

Using the existing MDD to calculate the existing storage requirements, the 1280 Zone is currently short by 0.22 MG.

Table 5-2 below presents the existing storage capacity for both pressure zones along with the amount of storage required for build out conditions as described in Section 3.

Table 5-2. Build-Out Storage Summary

Zone	Equalization Storage, MG	Fire Flow Storage, MG	Emergency Storage, MG	Ultimate Storage Required, MG	Existing Storage, MG	Additional Storage Required, MG	Additional Storage Required, ft^3
1280	1.97	0.72	3.93	6.62	3.00	3.62	484,147
1430	0.46	0.30	0.93	1.69	1.90	-	-
Total	2.43	1.02	4.86	8.31	4.90	3.62	484,147

Using the projected built out demands to calculate the required storage, an additional 3.62 MG of storage will be needed in the 1280 zone. The existing Olga Gordon site, however, is built out and constrained, and does not have any room for construction of the new storage. A new site approximately 4,000 ft northwest and sharing the same elevation as the Olga Gordon site was identified with the help of WMWD staff using GIS elevation data received from the County of Riverside.

The new tank proposed to be constructed is a 4 MG steel tank with radius of 73 ft and a height of 32 ft. Around 2,100 ft of 24-inch diameter pipe and 2,100 ft of 21-inch diameter pipe will be required to connect the existing Olga Gordon tanks with the proposed tank. A junction will be made halfway between the tanks and an extra 1380 ft of 24-inch pipe is required to connect the junction to the existing system. Once both of the reservoir sites are connected to the existing system, 825 ft of existing 8-inch pipe will have to be upsized to 24-inches. The proposed alignment of the recommended storage and pipelines to connect that storage to the distribution system would be difficult to permit and construct. However, there are very few sites available that meet the topographic constraints necessary for storage in the 1280 Zone.

5.1.1.3 Pipeline Hydraulic Evaluation

The model was run with the existing system, existing PHD, and the status quo supply to determine if any deficiencies currently existed in the Murrieta Service Area distribution system. After running hydraulic analysis, it was found no hydraulic deficiencies exist in the current system. Under the build out hydraulic evaluation, the amount of flow required to be supplied through EMWD to the Murrieta Service Area increases from 4.65 cfs to 10.47 cfs under MDD conditions. EMWD has stated that a second interconnection near the Los Alamos interconnection on Murrieta Hot Springs Road will be constructed to supply this higher flow value. The hydraulic analysis indicates that pipeline improvements are required in the Murrieta Service Area distribution system to convey this flow because maximum velocity criteria are violated. The analysis indicates that 1,295 feet of 12-in pipeline requires improvement to 16-in pipeline.

5.1.1.4 Expansion of the Distribution System

Currently, only about 40 percent of the entire service area is being served water by WMWD. Most of the area not being served is at the southeast section of the service area and is split by Murrieta Creek, which runs northwest to southeast through the city. The unserved area north of the creek is currently Vacant free space. The unserved area south of Murrieta Creek has many parcels identified as Developed-Unserved with single family homes that have their own well supply for daily use. There are also vacant parcels that are assumed to require distribution system service in the future.

The distribution system grid required to serve the areas north and south of Murrieta Creek was developed and sized using the hydraulic model. All pipelines projected in the grid were sized to handle appropriate fire flow requirements when service is provided.

5.1.1.5 Fire Flow Hydraulic Evaluation

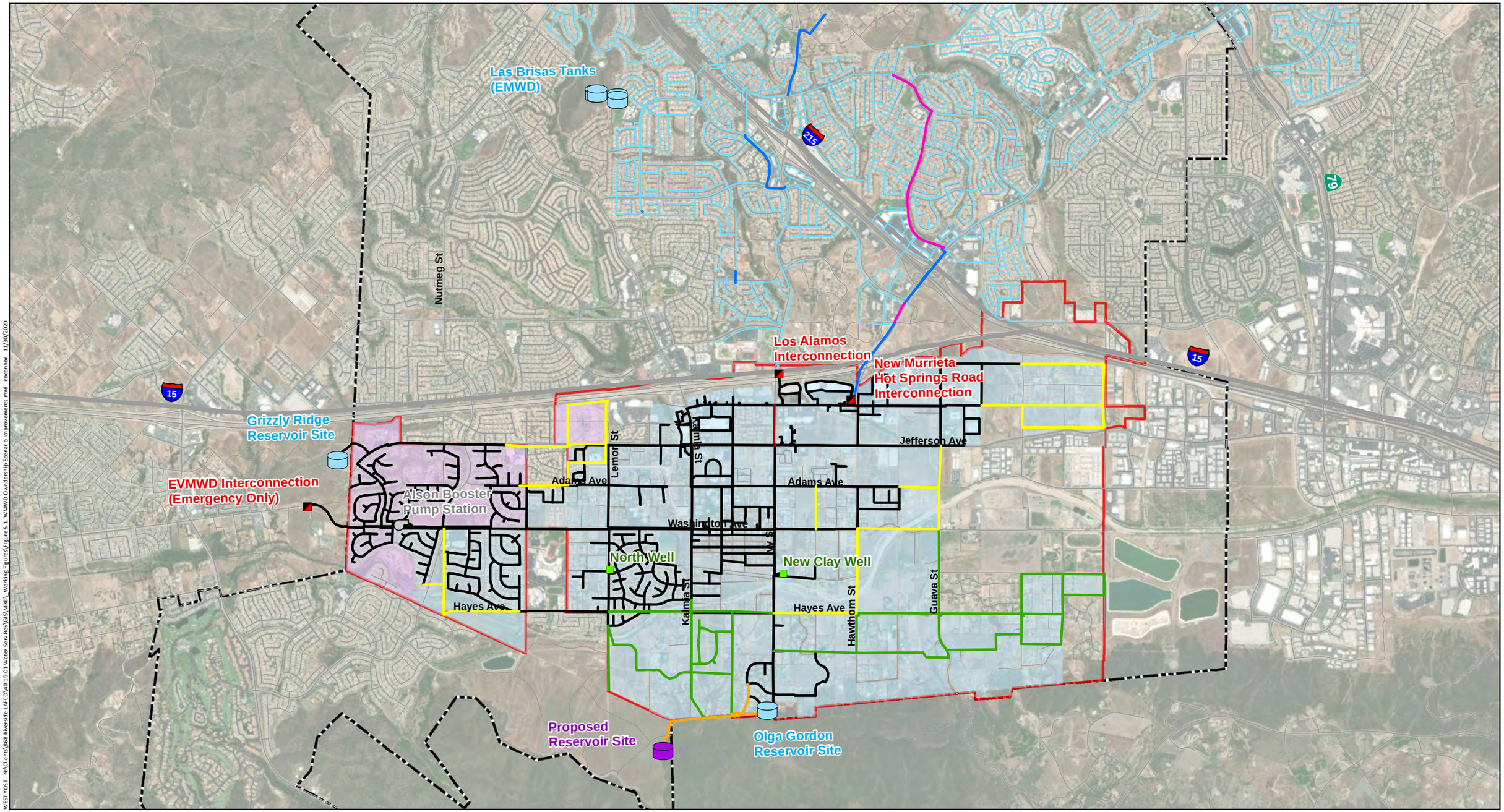
A fire flow analysis was run for the Murrieta Service Area distribution system. The intention of running a fire flow analysis is to determine the system's ability to provide a given amount of flow at any specific point in the system and compare that to the City of Murrieta's fire flow criteria for the land use at that point in the system. Every location in the built-out system capable of having a fire hydrant was tested to see if it met the fire flow criteria for the type of land it is serving. The amount of flow available at each of these locations is limited by the residual pressure in the rest of the system as well as the velocity in the pipelines supplying the flow. The model measures the amount of flow that the system is capable of producing while every other connection in the system maintains a minimum residual pressure of 20 psi and the velocity in the expansion pipes is below 7.5 fps.

The fire flow analysis identified specific infrastructure in the existing distribution system unequipped to handle current fire flow values. This infrastructure is primarily small diameter legacy pipelines that do not provide sufficient capacity and require upsizing as well as dead-end sections of pipeline that require more robust looping into the distribution system.

5.1.2 Required Offsite Improvements Outside the Murrieta Service Area

As described above, under the WMWD Ownership Scenario water supply that is not met by groundwater production is met through purchased water supplied through EMWD's distribution system. EMWD's distribution system is appropriately sized to provide a maximum flow to the Los Alamos Interconnection of 5.0 cfs. This capacity is sufficient to provide the maximum existing flow requirement of 4.65 cfs under existing MDD conditions. The future requirement is that 10.47 cfs be provided by EMWD's distribution system under MDD conditions. EMWD would provide the increased flow through a second interconnection on Murrieta Hot Springs Road. The second connection would provide greater resiliency at the higher flow rates.

EMWD's distribution system hydraulic model was used to evaluate the capacity requirements for providing 5.0 cfs of flow to the Los Alamos Interconnection and 5.47 cfs of flow to the proposed Murrieta Hot Springs Road Interconnection under future MDD conditions. Pipeline and tanks were evaluated as part of the analysis. Tanks were evaluated to make sure that storage was not drawn down during the supply of this flow. The analysis indicates that pipeline improvement projects identified in the EMWD 2015 Water Facility Master Plan will require implementation before the required flow can be supplied. In addition, newly identified projects specific to the Murrieta Service Area flow requirements will have to be implemented. In total, approximately 5,300 feet of 16-in pipeline require upgrading to 20-in pipeline, and another 2,400 feet of 16-in pipeline require improvement to 24-in. The improvements can be seen on Figure 5-1.



- Study Area
- County Boundary
- City Boundary
- Interstate Highway
- State Highway
- Local Roads

- Booster Pump Station
- Existing Reservoir Site
- Proposed Reservoir Site
- Production Well
- Interconnection Point

- EMWD Existing Pipeline
- EMWD CIP (Murrieta)
- EMWD CIP (Water Facilities Master Plan)
- Existing Water Main
- Expansion Pipe - North of Murrieta Creek
- Expansion Pipe - South of Murrieta Creek
- Required CIP
- Pipe to Proposed Storage

Pressure Zone
- 1280
- 1430

Notes:
1. Production Wells are labeled in green text.
2. Booster Pump Stations are leabeled in gray text.
3. Reservoirs are labeled in blue text.
4. Interconnections are labeled in red text.
5. Proposed facilities are labeled in purple text.

0 1,500 3,000
Scale in Feet

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Figure 5-1

WMWD Ownership Scenario Improvements

Riverside LAFCO
Focused Water Municipal Service Review Murrieta Area

5.1.3 WMWD Ownership Scenario Infrastructure Summary

In summary, the Murrieta Service Area is not contiguous with other WMWD service areas. Therefore, infrastructure storage projects in the Murrieta Service Area and pipeline improvements in the EMWD service area are required for WMWD to provide service in the future. Because it is currently providing service to the Murrieta Service Area, WMWD has a proven ability to respond to emergency infrastructure repair and service calls in the area.

5.2 Rancho California Water District

For each of the candidate agency's potential Ownership Scenarios, specific infrastructure improvements are required to provide service while meeting the performance criteria described above. For each agency, these improvements are categorized by improvements required within the Study Area and improvements required outside of the Study Area to supply water to the Study Area. The improvements required for RCWD are described below. Detailed infrastructure evaluation results can be found in Appendix C.

5.2.1 Required Improvements within the Murrieta Service Area

As described above, RCWD serves customers to the south, west, and north of the Murrieta Service Area, and has transmission mains that are within the service area. There are a variety of ways that the RCWD distribution system can be connected to the Murrieta Service Area distribution system. The RCWD pressure zone that neighbors the Murrieta Service Areas serves water at an HGL of 1,305 feet, compared to an HGL on 1,280 for the lower pressure zone in the Murrieta Service Area, so an interconnection between the Murrieta Service Area and the RCWD distribution system that includes a Pressure Reducing Valve was identified to provide service.

Several potential connection points were identified and tested. An interconnection between the two systems near the intersection of Adams Avenue and Kalmia Street was identified as the connection point that minimized the amount of infrastructure improvements required. There is a 30-in transmission main owned by RCWD in Adams Avenue. The evaluation results below all utilize this proposed interconnection.

5.2.1.1 Pump Capacity Evaluation

The pumping evaluation described above for the WMWD Ownership Scenario does not change for RCWD ownership. No improvements to the Alson Booster Pump Station are required.

5.2.1.2 Storage Capacity Evaluation

As described above, the Murrieta Service Area is short of storage in both existing and future conditions. RCWD requires 63.75 percent of MDD demands for operational and emergency storage, plus sufficient storage for fire flow. Currently, the RCWD 1,305 pressure zone has storage requirements of 12.14 MG compared to 22.71 MG of actual storage. There is ample storage in the RCWD 1,305 pressure zone to provide the required storage in the Murrieta Service Area. The storage requirements in the RCWD 1,305 pressure zone are projected to grow to 25.3 MG by build out. RCWD plans a 4.81 MG reservoir in this pressure zone that will provide sufficient future storage for both RCWD and Murrieta Service Area demands. Therefore,

storage specific to the Murrieta Service Area will not require construction for the RCWD Ownership Scenario.

5.2.1.3 Pipeline Hydraulic Evaluation

The model was run with the existing system, existing PHD, and the Adam/Kalmia supply to determine if any deficiencies currently existed in the Murrieta Service Area distribution system. After running hydraulic analysis, it was found no hydraulic deficiencies exist in the current system. Under the build out hydraulic evaluation, the amount of flow required to be supplied through the RCWD distribution system to the Murrieta Service Area would require improvements in the Murrieta Service Area. The hydraulic analysis indicates that pipeline improvements are required in the Murrieta Service Area distribution system to convey this flow because maximum velocity criteria are violated. The analysis indicates that approximately 4,000 feet of 8-inch and 12-inch pipeline requires improvement to 16-inch pipeline.

5.2.1.4 Expansion of the Distribution System

The expansion of the service area under the RCWD Ownership Scenario is identical to that under the WMWD Ownership Scenario. Currently, only about 40 percent of the entire service area is being served water by the Murrieta Service Area. Most of the area not being served is at the southeast section of the service area and is split by Murrieta Creek, which runs northwest to southeast through the city. The unserved area north of the creek is currently Vacant free space. The unserved area south of Murrieta Creek has many parcels identified as Developed-Unserved with single family homes that have their own well supply for daily use. There are also vacant parcels that are assumed to require distribution system service in the future.

The distribution system grid required to serve the areas north and south of Murrieta Creek was developed and sized using the hydraulic model. All pipelines projected in the grid were sized to handle appropriate fire flow requirements when service is provided.

5.2.1.5 Fire Flow Hydraulic Evaluation

The fire flow hydraulic evaluation for the RCWD Ownership Scenario does not change from that provided above for the WMWD Ownership Scenario. A fire flow analysis was run for the Murrieta Service Area distribution system. The intention of running a fire flow analysis is to determine the system's ability to provide a given amount of flow at any specific point in the system and compare that to the City of Murrieta's fire flow criteria for the land use at that point in the system. Every location in the built-out system capable of having a fire hydrant was tested to see if it met the fire flow criteria for the type of land it is serving. The amount of flow available at each of these locations is limited by the residual pressure in the rest of the system as well as the velocity in the pipelines supplying the flow. The model measures the amount of flow that the system is capable of producing while every other connection in the system maintains a minimum residual pressure of 20 psi and the velocity in the expansion pipes is below 7.5 fps.

The fire flow analysis identified specific infrastructure in the existing distribution system unequipped to handle current fire flow values. This infrastructure is primarily small diameter legacy pipelines that do not provide sufficient capacity and require upsizing as well as dead-end sections of pipeline that require more robust looping into the distribution system.

5.2.2 Required Offsite Improvements Outside the Murrieta Service Area

RCWD's InfoWater hydraulic model was used to assess the hydraulic impact of supplying flow to the Murrieta Service Area. The evaluation was performed by placing the MDD of the Murrieta Service Area into the RCWD model as a point load, applying the diurnal pattern for the service area taken from the Murrieta Service Area hydraulic model, and running existing and future MDD scenarios. For these scenarios, it was assumed that the flow for the Murrieta service area would be provided by RCWD's WR26 and WR28 connections from WMWD.

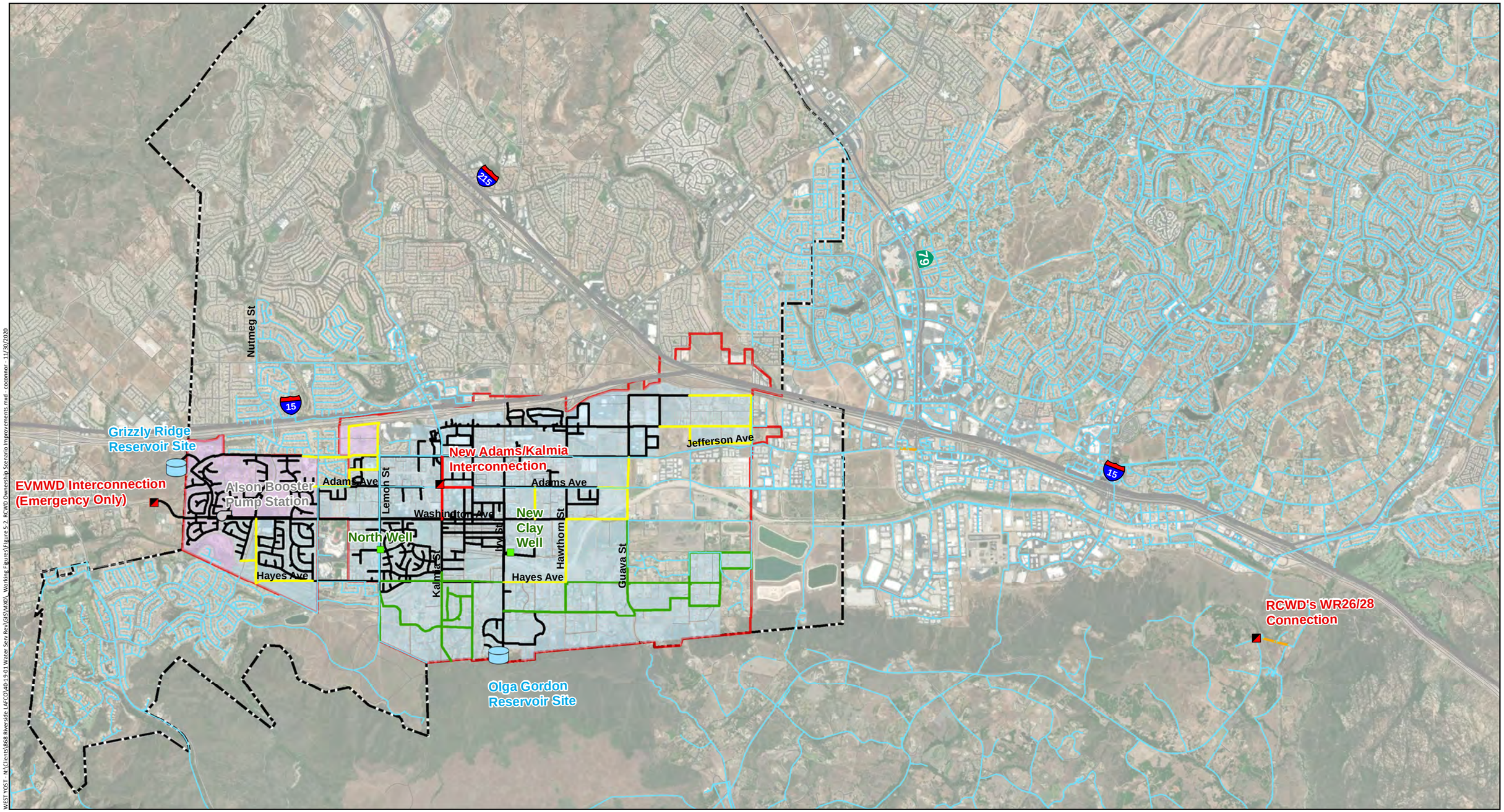
The hydraulic results indicate that minor pipeline deficiencies in the area of the WR26 and WR28 connections and in Jefferson Avenue outside of the Murrieta Service Area are present in the distribution system for RCWD's 1,305 pressure zone both with and without the Murrieta Service Area connection. The deficiencies are not significantly impacted by the service connection. Improvements to RCWD's distribution system are not required for service. The improvements required for the RCWD ownership scenario can be found on Figure 5-2.

5.2.3 RCWD Ownership Scenario Infrastructure Summary

In summary, the Murrieta Service Area is in close proximity to areas currently provided service by RCWD, and there is RCWD transmission infrastructure that currently extends under the service area. The result of this proximity is that the Murrieta Service Area can be integrated into RCWD's 1,305 pressure zone, which has sufficient storage and pipeline capacity to provide service without extensive improvements. Furthermore, although the following elements were not quantitatively defined through hydraulic modeling, it follows logically that the RCWD transmission and storage infrastructure in the 1,305 pressure zone provides the following to the Murrieta Service Area:

- Reservoir storage provides emergency resiliency
- Local groundwater wells provide local water supply resiliency
- Multiple MWD turnouts from multiple pipelines and multiple wholesaler agencies provide imported water supply resiliency
- Potential availability of recycled water, as RCWD provides to other customers in the 1,305 pressure zone, provides water supply resiliency
- Existing transmission pipelines in the Murrieta Service Area provide potential to service specific future customers without extensive infrastructure improvements

RCWD provides emergency infrastructure and service calls to its service area in close proximity to the Murrieta Service Area, and it is assumed that it would be able to provide such service to the Murrieta Service Area.



- Study Area
- County Boundary
- City Boundary
- Interstate Highway
- State Highway
- Local Roads
- Booster Pump Station
- Existing Reservoir Site
- Production Well
- Interconnection Point
- Recommended CIP for RCWD Supply
- RCWD Pipeline
- RCWD Pipeline with Capacity Constraint (With and Without Murrieta Service)
- Existing Water Main
- Expansion Pipe - North of Murrieta Creek
- Expansion Pipe - South of Murrieta Creek

Pressure Zone
- 1280
- 1430

Notes:
1. Production Wells are labeled in green text.
2. Booster Pump Stations are leabeled in gray text.
3. Reservoirs are labeled in blue text.
4. Interconnections are labeled in red text.

0 2,000 4,000
Scale in Feet

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Figure 5-2

RCWD Ownership Scenario Improvements

Riverside LAFCO
Focused Water Municipal Service Review Murrieta Area

5.3 Eastern Municipal Water District

For each of the candidate agency's potential Ownership Scenarios, specific infrastructure improvements are required to provide service while meeting the performance criteria described above. For each agency, these improvements are categorized by improvements required within the Study Area and improvements required outside of the Study Area to supply water to the Study Area. The improvements required for EMWD are described below. Detailed infrastructure evaluation results can be found in Appendix C.

Because EMWD currently supplies water through contract with WMWD at the Los Alamos Interconnection, the EMWD Ownership Scenario provides water to the Murrieta Service Area in similar fashion to the WMWD Ownership Scenario. The analysis below includes the existing interconnection at Los Alamos Road and the future proposed connection at Murrieta Hot Springs Road.

5.3.1 Required Improvements within the Murrieta Service Area

Required improvements within the Murrieta Service Area are described below.

5.3.1.1 Pump Capacity Evaluation

The pumping evaluation described above for the WMWD Ownership Scenario does not change for EMWD ownership. No improvements to the Alson Booster Pump Station are required.

5.3.1.2 Storage Capacity Evaluation

As described above, the Murrieta Service Area is short of storage in both existing and future conditions. The EMWD 1,384 pressure zone contains enough storage to offset the slight deficit under existing conditions. Under build-out conditions, the 1,384 pressure zone is short of storage. EMWD is planning to move the Hunter Tank to a more operationally suitable location and increase the capacity of the tank to provide storage at build-out for this pressure zone. EMWD's current Capital Improvement Program (CIP) identifies 3.0 MG of storage to serve EMWD's build out demands in this zone. Increasing the size of this proposed tank from 3.0 MG to 4.1 MG will provide the required build out storage, including the demands from the Murrieta Service Area.

5.3.1.3 Pipeline Hydraulic Evaluation

The analysis for the EMWD Ownership Scenario does not differ from that for the WMWD scenario. The model was run with the existing system, existing PHD, and the EMWD supply to determine if any deficiencies currently existed in the Murrieta Service Area distribution system. After running hydraulic analysis, it was found no hydraulic deficiencies exist in the current system. Under the build out hydraulic evaluation, the amount of flow required to be supplied through EMWD to the Murrieta Service Area increases from 4.65 cfs to 10.47 cfs under MDD conditions. EMWD has stated that a second interconnection near the Los Alamos interconnection on Murrieta Hot Springs Road will be constructed to supply this higher flow value. The hydraulic analysis indicates that pipeline improvements are required in the Murrieta Service Area

distribution system to convey this flow because maximum velocity criteria are violated. The analysis indicates that 1,295 feet of 12-in pipeline requires improvement to 16-in pipeline.

5.3.1.4 Expansion of the Distribution System

The analysis for the EMWD Ownership Scenario does not differ from that for the WMWD scenario. Currently, only about 40 percent of the entire service area is being served water by WMWD. Most of the area not being served is at the southeast section of the service area and is split by Murrieta Creek, which runs northwest to southeast through the city. The unserved area north of the creek is currently Vacant free space. The unserved area south of Murrieta Creek has many parcels identified as Developed-Unserved with single family homes that have their own well supply for daily use. There are also vacant parcels that are assumed to require distribution system service in the future.

The distribution system grid required to serve the areas north and south of Murrieta Creek was developed and sized using the hydraulic model. All pipelines projected in the grid were sized to handle appropriate fire flow requirements when service is provided.

5.3.1.5 Fire Flow Hydraulic Evaluation

The analysis for the EMWD Ownership Scenario does not differ from that for the WMWD scenario. A fire flow analysis was run for the Murrieta Service Area distribution system. The intention of running a fire flow analysis is to determine the system's ability to provide a given amount of flow at any specific point in the system and compare that to the City of Murrieta's fire flow criteria for the land use at that point in the system. Every location in the built-out system capable of having a fire hydrant was tested to see if it met the fire flow criteria for the type of land it is serving. The amount of flow available at each of these locations is limited by the residual pressure in the rest of the system as well as the velocity in the pipelines supplying the flow. The model measures the amount of flow that the system is capable of producing while every other connection in the system maintains a minimum residual pressure of 20 psi and the velocity in the expansion pipes is below 7.5 fps.

The fire flow analysis identified specific infrastructure in the existing distribution system unequipped to handle current fire flow values. This infrastructure is primarily small diameter legacy pipelines that do not provide sufficient capacity and require upsizing as well as dead-end sections of pipeline that require more robust looping into the distribution system.

5.3.2 Required Offsite Improvements Outside the Murrieta Service Area

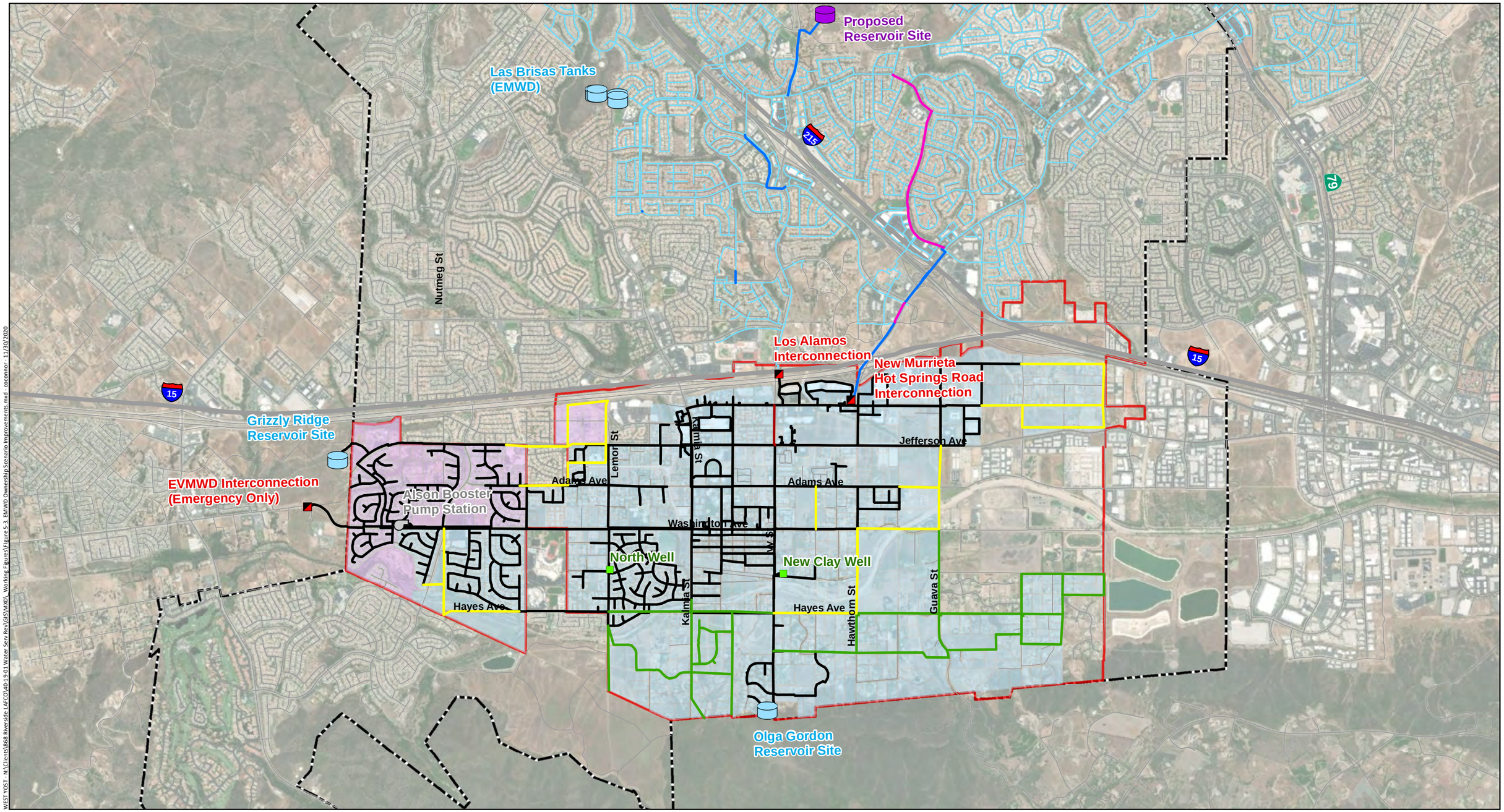
Identically to the WMWD Ownership Scenario described above, under the EMWD Ownership Scenario water supply that is not met by groundwater production is met through purchased water supplied through EMWD's distribution system. EMWD's distribution system is appropriately sized to provide a maximum flow to the Los Alamos Interconnection of 5.0 cfs. This capacity is sufficient to provide the maximum existing flow requirement of 4.65 cfs under existing MDD conditions. The future requirement is that 10.47 cfs be provided by EMWD's distribution system under MDD conditions. EMWD would provide the increased flow through a second interconnection on Murrieta Hot Springs Road. The second connection would provide greater resiliency at the higher flow rates.

EMWD's distribution system hydraulic model was used to evaluate the capacity requirements for providing 5.0 cfs of flow to the Los Alamos Interconnection and 5.47 cfs of flow to the proposed Murrieta Hot Springs Road Interconnection under future MDD conditions. Pipeline and tanks were evaluated as part of the analysis. Tanks were evaluated to make sure that storage was not drawn down during the supply of this flow. The analysis indicates that pipeline improvement projects identified in the EMWD 2015 Water Facility Master Plan will require implementation before the required flow can be supplied. In addition, newly identified projects specific to the Murrieta Service Area flow requirements will have to be implemented. In total, approximately 5,300 feet of 16-inch pipeline require upgrading to 20-in pipeline, and another 2,400 feet of 16-inch pipeline require improvement to 24-inch. The improvements required for the EMWD ownership scenario can be found on Figure 5-3.

5.3.3 EMWD Ownership Scenario Infrastructure Summary

In summary, the Murrieta Service Area borders an area currently served by EMWD, and EMWD currently provides water to the Murrieta Service through the Los Alamos interconnection. The Murrieta Service Area can be integrated into EMWD's 1,384 pressure zone and be served under existing conditions with no improvements to EMWD infrastructure. Future demands will require improvements to EMWD pipelines. The storage provided in the 1,384 pressure zone eliminates the need for a storage improvement in the Murrieta Service Area and increases the emergency resiliency of the Murrieta Service Area.

EMWD provides emergency infrastructure and service calls to its service area in close proximity to the Murrieta Service Area, and it is assumed that it would be able to provide such service to the Murrieta Service Area.



- Study Area
- County Boundary
- City Boundary
- Interstate Highway
- State Highway
- Local Roads
- Booster Pump Station
- Existing Reservoir Site
- Propsoed Reservoir Site
- Production Well
- Interconnection Point
- EMWD Existing Pipeline
- EMWD CIP (Murrieta)
- EMWD CIP (Water Facilities Master Plan)
- Existing Water Main
- Expansion Pipe - North of Murrieta Creek
- Expansion Pipe - South of Murrieta Creek
- Required CIP

Pressure Zone
- 1280
- 1430

Notes:
1. Production Wells are labeled in green text.
2. Booster Pump Stations are leabeled in gray text.
3. Reservoirs are labeled in blue text.
4. Interconnections are labeled in red text.
5. Proposed facilities are labeled in purple text.

0 1,500 3,000
Scale in Feet

RIVERSIDE LAFCO
fgSolutions
WEST YOST

Figure 5-3

EMWD Ownership Scenario Improvements

Riverside LAFCO
Focused Water Municipal Service Review Murrieta Area

6.0 COST ESTIMATES

West Yost developed opinion of the probable construction cost for the planning and design of the recommended infrastructure identified in the sections above. The opinion of probable construction cost was developed based on a combination of data supplied by manufacturers, published industry standard cost data and curves, construction costs for similar facilities built by other public agencies, and construction costs previously estimated by West Yost for similar facilities with similar construction cost indexes.

Additionally, the costs presented in this document are for construction only and do not include uncertainties in estimation or unexpected construction costs (e.g., variations in final quantities) or specific cost estimates for engineering, legal costs, environmental review, soils investigation, surveying, construction management, and inspections and/or contract administration. Some of these additional cost items are referred to as contingency costs or mark-ups, and are further described below.

The opinion of probable construction cost has been adjusted to reflect January 2020 dollars based on an Engineering News Record (ENR) Construction Cost Index (CCI) of 11,392 (20-Cities Average). These construction costs are to be used for conceptual cost estimates only, and should be updated regularly. Construction costs are not intended to represent the lowest prices in the industry for each type of construction; rather they are representative of average or typical construction costs. These planning-level construction costs have been prepared for guidance in evaluating various facility improvement options, and are intended for budgetary purposes only, within the context of this planning effort.

The cost estimates prepared for this document are in accordance with the guidelines of the Association for the Advancement of Cost Engineering (AACE) International for a Class 5 Estimate, suitable for long-range capital planning, with an accuracy range of -50 percent to +100 percent. Construction costs were developed based on bids from other water system design projects and from standard cost estimating guides.

6.1 Description of Unit Costs

Unit costs are broken down by type of infrastructure in the sections below.

6.1.1 Pipeline Unit Costs

Table 6-1 presents unit base construction costs for potable water pipelines 8 through 24-inches in diameter. These unit costs are for pipeline construction in developed areas and are representative of pipeline construction conducted under common or normal conditions, which would be significantly higher under special or difficult conditions.

The unit base construction costs presented below generally include pipeline materials, trenching, placing and jointing pipe, valves, fittings, hydrants, service connections, placing imported pipe bedding, native backfill material, and asphalt pavement replacement, if required. However, the costs presented in Table 6-1 do not include the cost of boring and jacking pipe.

Table 6-1. Unit Base Construction Costs for Pipelines	
Pipeline Diameter, inches	Unit Base Construction Cost, $/linear foot
8	187
10	225
12	247
14	275
16	302
20	330
24	352
30	401

6.1.2 Tank Unit Costs

Table 6-2 summarizes the construction costs for water storage reservoirs for the size range of 0.1 to 6.0 MG. These costs generally include the installation of the storage tank, site piping, earthwork, paving, instrumentation, and all related sitework. Costs do not include land acquisition. It should be noted that these costs are representative of construction conducted under normal excavation and foundation conditions, and would be significantly higher for special or difficult foundation requirements. Costs also assume relatively minor earthwork and grading to level the tank site and does not include significant grading or excavation to clear a site for a tank. Cost assumptions are for above grade welded steel tanks.

Table 6-2. Base Construction Costs for Welded Steel Water Storage Reservoirs	
Capacity, MG	Estimated Base Construction Cost, million dollars
0.1	1.4
0.5	1.9
1.0	2.4
2.0	3.2
3.0	4.0
4.0	4.7
5.0	5.4
6.0	6.2

6.1.3 Contingency Costs and Mark-ups

Contingency costs or mark-ups must be reviewed on a case-by-case basis because they will vary considerably with each construction project. However, to assist District staff with budgeting for recommended water system facility improvements, the following percentages were developed.

- **Estimating Contingencies (30 percent)**: The construction costs presented above are representative of the construction of wastewater collection system facilities under normal construction conditions and schedules; consequently, it is appropriate to allow for estimating and construction uncertainties unavoidably associated with the conceptual planning of projects. Factors such as unexpected construction conditions, the need for unforeseen mechanical items, and variations in design and final quantities are only a few of the items that can increase project costs.
- **Design and Construction Period Services (30 percent)**: Design period services associated with new facilities include preliminary investigations and reports, right-of-way acquisition, foundation explorations, preparation of drawings and specifications for construction, surveying and staking, sampling of testing material, and start-up services. Design period services also include permitting and regulatory compliance, as well as District administration, legal, and associated activities. Construction period services cover items such as contract management and inspection during construction.

The total markup, including contingencies and professional services, is compounded, and amounts to 69 percent of the estimated construction cost. However, it must be noted that for smaller or more complicated projects, the design cost may increase by 10 to 20 percent of the estimated construction cost.

6.2 Conceptual Project Costs

The following lists the costs evaluated for each district; detailed cost estimates are shown in Tables 6-3 through 6-18.

6.2.1 Western Municipal Water District

The following is a list of costs evaluated for WMWD:

- Pipelines Associated with Storage, Table 6-3
- Expansion CIP North of Murrieta Creek, Table 6-4
- Expansion CIP South of Murrieta Creek, Table 6-5
- Hydraulic Improvements, Table 6-6
- Fire Flow Improvements, Table 6-7
- Supply Improvements Through EMWD, Table 6-8

6.2.2 Rancho California Water District

The following is a list of costs evaluated for RCWD, addressing storage needs through payment of RCWD connection fee:

- Hydraulic Improvement, Table 6-9
- Expansion CIP North of Murrieta Creek, Table 6-10
- Expansion CIP South of Murrieta Creek, Table 6-11
- Supply Improvements through RCWD, Table 6-12

6.2.3 Eastern Municipal Water District

The following is a list of costs evaluated for EMWD:

- Storage (Hunter Tank), Table 6-13
- Hydraulic Improvements, Table 6-14
- Expansion CIP North of Murrieta Creek, Table 6-15
- Expansion CIP South of Murrieta Creek, Table 6-16
- Fire Flow Improvements, Table 6-17
- Supply Improvements Through EMWD, Table 6-18

Table 6-3. WMWD Storage CIP (Future)		
Diameter, inches	Length, feet	Cost, $
Proposed Pipe		
20	2105.83	741,000
24	4284.45	1,719,000
	Construction Subtotal	$2,460,000
	Contingency and Soft Cost Subtotal	$1,697,000
	Total	$4,157,000
Tank		
3 MG Steel Tank		4,928,060
	Construction Subtotal	$4,928,060
	Contingency and Soft Cost Subtotal	$3,399,940
	Total	$8,328,000

Table 6-4. WMWD Expansion CIP North of Murrieta Creek (Future)		
Diameter, inches	Length, feet	Cost, $
Proposed Pipe		
8	6071.3	1,135,000
12	36359.2	8,995,000
	Construction Subtotal	$10,130,000
	Contingency and Soft Cost Subtotal	$6,990,000
	Total	$17,120,000

Table 6-5. WMWD Expansion CIP South of Murrieta Creek (Future)		
Diameter, inches	Length, feet	Cost, $
Upsize Pipe		
8	29672.77	5,546,000
12	26346.56	6,518,000
	Construction Subtotal	$12,064,000
	Contingency and Soft Cost Subtotal	$8,324,000
	Total	$20,388,000

Table 6-6. WMWD Hydraulic Improvement CIP (Future)		
Diameter, inches	Length, feet	Cost, $
Proposed Pipe		
16	1294.68	391,000
	Construction Subtotal	$391,000
	Contingency and Soft Cost Subtotal	$270,000
	Total	$661,000
VFD at Alson Booster Pump Station		130,000
	Construction Subtotal	$130,000
	Contingency and Soft Cost Subtotal	$85,000
	Total	$215,000
New Connection and PRV Station		350,000
	Construction Subtotal	$350,000
	Contingency and Soft Cost Subtotal	$242,000
	Total	$592,000

Table 6-7. WMWD Fire Flow Improvement CIP (Existing)		
Diameter, inches	Length, feet	Cost, $
Proposed/Upsize Pipe		
8	5988.66	1,119,380
10	848.61	190,937
12	6534.55	1,616,579
	Construction Subtotal	$2,927,000
	Contingency and Soft Cost Subtotal	$2,020,000
	Total	$4,947,000

Table 6-8. Supply Improvements Through EMWD (Future)		
Diameter, inches	Length, feet	Cost, $
Proposed/Upsize Pipe		
20	5273	2,114,473
24	2371	1,107,257
	Construction Subtotal	$3,222,000
	Contingency and Soft Cost Subtotal	$2,223,000
	Total	$5,445,000

Table 6-9. RCWD Hydraulic Improvement CIP (Future)		
Diameter, inches	Length, feet	Cost, $
Proposed Pipe		
16	3990.59	1,207,000
	Construction Subtotal	$1,207,000
	Contingency and Soft Cost Subtotal	$833,000
	Total	$2,040,000
VFD at Alson Booster Pump Station		130,000
	Construction Subtotal	$130,000
	Contingency and Soft Cost Subtotal	$85,000
	Total	$215,000

Table 6-10. RCWD Expansion CIP North of Murrieta Creek (Future)		
Diameter, inches	Length, feet	Cost, $
Proposed Pipe		
8	6071.3	1,135,000
12	36359.2	8,995,000
	Construction Subtotal	$10,130,000
	Contingency and Soft Cost Subtotal	$6,990,000
	Total	$17,120,000

Table 6-11. RCWD Expansion CIP South of Murrieta Creek (Future)		
Diameter, inches	Length, feet	Cost, $
Upsize Pipe		
8	29672.77	5,546,000
12	26346.56	6,518,000
	Construction Subtotal	$12,064,000
	Contingency and Soft Cost Subtotal	$8,324,000
	Total	$20,388,000

Table 6-12. Supply Improvements Through RCWD (Future)		
Diameter, inches	Length, feet	Cost, $
Proposed/Upsize Pipe		
30	0	0
	Construction Subtotal	$0
	Contingency and Soft Cost Subtotal	$0
	Total	$0

Table 6-13. EMWD Storage CIP (Future)		
Diameter, inches	Length, feet	Cost, $
Hunter Tank (EMWD + Murrieta)		
4.1 MG Steel Tank		4,800,000
	Construction Subtotal	$4,800,000
	Contingency and Soft Cost Subtotal	$3,312,000
	Total	$8,112,000

Table 6-14. EMWD Hydraulic Improvement CIP (Future)		
Diameter, inches	Length, feet	Cost, $
Proposed Pipe		
16	1294.68	391,000
	Construction Subtotal	$391,000
	Contingency and Soft Cost Subtotal	$270,000
	Total	$661,000
VFD at Alson Booster Pump Station		130,000
	Construction Subtotal	$130,000
	Contingency and Soft Cost Subtotal	$85,000
	Total	$215,000
New Connection and PRV Station		350,000
	Construction Subtotal	$350,000
	Contingency and Soft Cost Subtotal	$242,000
	Total	$592,000

Table 6-15. EMWD Expansion CIP North of Murrieta Creek (Future)		
Diameter, inches	Length, feet	Cost, $
Proposed Pipe		
8	6071.3	1,135,000
12	36359.2	8,995,000
	Construction Subtotal	$10,130,000
	Contingency and Soft Cost Subtotal	$6,990,000
	Total	$17,120,000

Table 6-16. EMWD Expansion CIP South of Murrieta Creek (Future)		
Diameter, inches	Length, feet	Cost, $
Upsize Pipe		
8	29672.77	5,546,000
12	26346.56	6,518,000
	Construction Subtotal	$12,064,000
	Contingency and Soft Cost Subtotal	$8,324,000
	Total	$20,388,000

Table 6-17. EMWD Fire Flow Improvement CIP (Existing)		
Diameter, inches	Length, feet	Cost, $
Proposed/Upsize Pipe		
8	5988.66	1,119,380
10	848.61	190,937
12	6534.55	1,616,579
	Construction Subtotal	$2,927,000
	Contingency and Soft Cost Subtotal	$2,020,000
	Total	$4,947,000

Table 6-18. Supply Improvements Through EMWD (Future)		
Diameter, inches	Length, feet	Cost, $
Proposed/Upsize Pipe		
20	5273	2,114,473
24	2371	1,107,257
	Construction Subtotal	$3,222,000
	Contingency and Soft Cost Subtotal	$2,223,000
	Total	$5,445,000

7.0 FINANCIAL ASSESSMENT METHODOLOGY AND POLICIES

The financial assessment for this FMSR is intended to show the effect on three distinct groups in the Study Area:

- Rate payers
- Residents currently on private wells
- Development community

This section defines the Ownership Scenarios, provides an overview of the process of developing the financial analysis, and shows the financial policy direction provided by utility staff.

7.1 Overview

To do this, a financial model was prepared for each Ownership Scenario. The financial model contains a year by year projection of revenues and expenses for the Study Area. Three "ownership scenarios" were created:

- WMWD Ownership Scenario. The financial model for the WMWD Ownership Scenario was prepared as if WMWD would continue to own and operate the water system.
- RCWD Ownership Scenario. The financial model for the RCWD Ownership Scenario was prepared as if RCWD would become the owner of the water system on July 1, 2020.
- EMWD Ownership Scenario. The financial model for the EMWD Ownership Scenario was prepared as if EMWD would become the owner of the water system on July 1, 2020.

The financial models developed for each Ownership Scenario are included in Appendix B, specifically Table B-3 for the WMWD Ownership Scenario, Table B-4 for the EMWD Ownership Scenario, and Table B-5 for the RCWD Ownership Scenario. The models project what the various expenses are over the next 10 years to operate and maintain the water system, including building the capital improvements described in Sections 5 and 6 of this report. The financial analysis considers whether debt would be issued to pay for capital improvements, estimates future costs for water supply, and shows how growth would pay for growth.

The financial models also show where the money comes from to pay these costs. The majority of utility revenues are from water rates. Smaller amounts of revenues are from connection fees (one time charges that development pays before connecting to the water system), and standby fees.

The following list shows key steps in completing the financial analysis:

1. Public Kick-off Meetings, held in April 2019 and July 2019
2. Data request, sent by the Consultant team to LAFCO and the three utilities
3. Development of initial assumptions to start the financial analysis. These are parameters such as inflation rates, system growth rates (that is, how many new connections to the water system each year), and the projected cost of purchasing water from the Metropolitan Water District.
4. Asked agencies for policy direction, in May 2019
5. After receipt of policy direction, develop the financial models for each Ownership Alternative
6. After receipt of final draft capital improvement costs (see Section 6 of this report), develop draft financial analysis
7. Distribute preliminary draft results to Agencies
8. Review with Agencies, in January 2020
9. Revise analysis as needed: incorporate Agency review comments; incorporate more current input data, receive revised policy direction from agencies, in February and March 2020
10. Distribute final draft results to Agencies and draft report, in April 2020
11. Review final draft results with Agencies, in April 2020
12. *Future: present final draft results at community meeting*

7.2 Agency Financial Policies

Agency financial policies are described in detail in the sections below.

7.2.1 Introduction

One of the most important steps in the development of the financial analysis is obtaining policy direction from the three utilities. The utility that will be the owner of the water system in the Study Area will decide how they want to manage it. To create a financial analysis that represents how each utility would manage the utility, the Consultant team needed to ask the utilities for policy direction.

An important distinction must be made between "policy direction" and "policy decisions", acknowledging that utility policies are made by the respective Boards of Directors of each utility, and no such Board actions have been made regarding this Study Area.

- Policy Direction: provided by utility management, and is their best estimate of what their Board would decide.
- Policy Decision: made by a Board of Directors.

In this FMSR, the Consultant team relied on Policy Direction obtained from utility staff. The process for obtaining Policy Direction was:

1. May 2019: completed list of policy questions separately for each agency
2. June 2019: agencies responded, Consultant team reviewed responses
3. Remainder of project: policy direction used to guide financial analysis; some revision and clarification of policy direction was provided by agencies to Consultant team as the project progressed

Key Policy Directions are shown in Table 7-1. These policies are described further in the paragraphs after Table 7-1.

Table 7-1. Financial Policy Direction

	WMWD	RCWD	EMWD
Financially Blended or Financially Distinct	Distinct	Distinct	Blended
Initial Water Rate Structure	Current WMWD Rate Structure	Current RCWD Santa Rosa Division Rate Structure	Current WMWD Rate Structure With 20% Reduction in Monthly Service Charge
Low-Income Discount	Yes. Up to $150/year	No	No, though qualified low-income/medical payment plans are available
Standby Charge Applied	Yes. $21/acre	Yes. $69.92/acre	Yes $14/acre
Ad Valorem Tax Applied?	No	Possibly. If not, then apply revenue-neutral water rate surcharge	No
Methods of Funding $37M CIP Expansion Projects	Developers, ADs, and CFDs. CFDs can't be financed through WMWD	Developers, ADs, and CFDs	Developers, ADs, and CFDs
Connection Fee Charged?	Existing WMWD Fee. $7,050 for ¾" Meter	Existing Santa Rosa Division Fee. $2,537 for a ¾" meter	Existing EMWD Fee. $5,501 for ¾" Meter
For Customers with Existing Wells, Is Connection to Public Water System Mandatory?	No	No	No
For Voluntary Connections, Can Irrigation Water Remain on Private Well?	Yes	No	Yes

AD = Assessment District
CFD = Community Facilities District

7.2.2 Financially Distinct or Financially Blended

This policy direction is possibly the single most significant policy direction, with the terms Financially Distinct and Financially Blended defined as follows:

> *Financially Distinct: all costs to provide water service in the Study Area must come from revenues generated within the Study Area. From an accounting point of view, the Study Area is a separate entity from all other parts of the agency's operations.*
>
> *Financially Blended: from an accounting point of view, the Study Area will be merged with another part of the agency's operations. Revenues from the Study Area would be combined with other revenues of the agency. The costs of providing water service to the Study Area would be combined with other costs of the agency.*

Under the WMWD Ownership Scenario, the Study Area would continue to be financially distinct. RCWD noted that initially, the Study Area would be financially distinct, and RCWD would complete a cost of service study to assess whether the Study Area could be financially integrated into its Santa Rosa Division. Under the EMWD Ownership Scenario, the Study Area would be financially blended with the remainder of EMWD's retail water service area.

7.2.3 Initial Water Rate Structure

This question was asked to understand the water rate structure that each agency would apply upon acquisition of the water system. The policy direction was different for each Ownership Scenario.

- **WMWD Ownership Scenario**: WMWD would continue to use its current water rate structure, with water rate increases as needed to continue to provide water service.
- **RCWD Ownership Scenario**: RCWD would use the water rate schedule currently applied to its Santa Rosa Division.
- **EMWD Ownership Scenario**: EMWD would apply WMWD's current water rate structure for the Study Area, except EMWD would reduce the WMWD's Fixed System Charge by 20 percent. For most Study Area connections with a ¾-inch water meter, the CY 2020 Fixed System Charge under the EMWD Ownership Scenario would be $35.51 instead of WMWD's $44.39.

7.2.4 Low-Income Discount

Some utilities offer a discount for qualifying customers that do not meet minimum income thresholds. For the purposes of this analysis, each agency's current policies are assumed to be applied in the Study Area, should they be the future water purveyor.

- **WMWD Ownership Scenario**: WMWD would retain its current policy of providing assistance for customers that also qualify for their electric or natural gas utility's California Alternate Rates for Energy (CARE) program. WMWD provides up to $150 per year in bill payment assistance.

- **RCWD Ownership Scenario**: RCWD does not offer a low-income discount.
- **EMWD**: EMWD does not offer a low-income discount, but does offer payment plans for qualified low-income customers with documented specific medical conditions.

7.2.5 Standby Charge

Each agency has a Standby Charge, which is an annual charge to all parcels in their respective service areas, including those that are not connected to the water system. Each agency indicated it would continue to charge a Standby Charge to property owners in the Study Area. The amounts of the Standby Charge are expected to vary.

- **WMWD Ownership Scenario**: WMWD would continue its current Standby Charge of $21 per acre, with a minimum charge of $21/parcel for parcels smaller than one acre.
- **RCWD Ownership Scenario**: RCWD would apply its current Santa Rosa Division Standby Charge of $69.92 per acre[1], with a minimum charge of $69.92/parcel for parcels smaller than one acre.
- **EMWD Ownership Scenario**: EMWD staff indicated that EMWD would apply a $14 per acre Standby Charge, with a minimum charge of $14 per parcel for parcels smaller than one acre.

7.2.6 Ad Valorem Tax

Another important policy direction is consideration of an Ad Valorem Tax. An Ad Valorem Tax is a tax based on the assessed value of an item.

A legal opinion on whether an Ad Valorem Tax could be applied in the Study Area is outside the scope of this FMSR and is not included. Further, the FMSR also does not identify the process, if any, for applying an Ad Valorem Tax in the Study Area.

The Consultant Team asked each agency whether they would apply an Ad Valorem Tax to the Study Area if they were the future water purveyor.

- **WMWD Ownership Scenario**: WMWD would not apply an Ad Valorem Tax.
- **RCWD Ownership Scenario**: RCWD staff provided policy direction to assume that, if possible, the current Ad Valorem Tax in RCWD's Santa Rosa Division would be applied. The current tax rate is $0.50 per year per $100 assessed value of land. An Ad Valorem Tax would be applied throughout the Study Area.

  RCWD indicates that the Ad Valorem Tax revenues are used for capital improvements, including paying debt service.

[1] A Standby Fee of $69.92 per acre per year is assumed for this FMSR (and $69.92/year for parcels smaller than one acre). RCWD's Standby Fee for its Santa Rosa Division can be found in full on RCWD's website, and lists some circumstances where the Standby Fee differs from $69.92/acre.

If an Ad Valorem Tax is not possible, or the RCWD Board of Directors chooses not to apply it, RCWD would instead apply a Water Rate Surcharge. The Water Rate Surcharge would be applicable only to water system connections, and the Water Rate Surcharge would not be applicable to connections that are not connected to the water system. The Water Rate Surcharge would be calculated so that the surcharge would collect the same amount of money, systemwide, that the Ad Valorem Tax would collect if it were applied only to water system connections.

- **EMWD Ownership Scenario**: EMWD would not apply an Ad Valorem Tax.

7.2.7 Assessment Districts and Community Facilities Districts

As noted in Section 6 of this report, there are two sets of water main extensions that have a combined total cost of approximately $37 million. These improvements, shown in Figures 5-1, 5-2, and 5-3 above, are the same for each Ownership Scenario.

For the purposes of presentation in this report, the water main extensions are consolidated into two projects: water main extensions north of the Murrieta River and water main extensions south of the Murrieta River. Given that the majority of the near-term projected development is north of the Murrieta River, it is anticipated that the pipe extensions north of the Murrieta River would be built first.

The actual schedule and timing for completion of these pipe extensions would depend on the specific timing and location of proposed development as it occurs. It is possible that the pipe extensions would be built as a series of smaller projects instead of two larger projects.

Four primary funding methods for these improvements were identified through the course of the project.

1. Funded by the utility, and the cost included in each utility's connection fee.
2. Funded by Community Facility Districts, which are a form of an Assessment District where the assessment is not based on the value of the property. These are also commonly called Mello-Roos Districts.
3. Funded by Assessment Districts, where the assessment is based on the value of the property.
4. Directly funded by developers.

Table 7-2 shows the potential funding methods and how they are applicable to each Ownership Scenario. This table shows that developer funding and Assessment District(s) are possible under all Ownership Scenarios. All agencies will allow Community Facilities Districts, though WMWD will not allow a CFD to be financed through WMWD. RCWD and EMWD have indicated they can accommodate this funding mechanism.

Table 7-2. $37 Million Pipe Extension Funding Alternatives			
Potential Funding Method	Ownership Scenario		
	WMWD	RCWD	EMWD
Funded by Utility, Cost Incorporated into Connection Fee	No	No	No
Community Facility District Financed Through Utility	No	Possibly	Yes
Allows Community Facility District	Yes	Yes	Yes
Allows Assessment District	Yes	Yes	Yes
Funded Directly by Developers	Yes	Yes	Yes

Four primary funding methods for these improvements were identified through the course of the project.

Each agency was asked about potential funding methods for these improvements, and the results are shown in Table 7-2.

- **WMWD Ownership Scenario**: The improvements could be directly funded by developers, through an Assessment District, or through a Community Facilities District. However, a Community Facilities District could not be funded through WMWD. In 1997, WMWD adopted Resolution No. 2008, which states "The District will not finance through proceedings pursuant to the Mello-Roos Community Facilities Act of 1982".
- **RCWD Ownership Scenario**: The improvements could be funded directly by developers, or under conditions specified by RCWD, funded using Assessment Districts or Community Facilities Districts. It is beyond the scope of this FMSR to identify the specific conditions under which RCWD would allow Assessment Districts or Community Facilities Districts.
- **EMWD Ownership Scenario**: The improvements could be funded directly by developers, or under conditions specified by EMWD, funded using Assessment Districts or Community Facilities Districts. It is beyond the scope of this FMSR to identify the specific conditions under which EMWD would allow Assessment Districts or Community Facility Districts.

7.2.8 Connection Fees

A connection fee is a one-time charge payable by new development prior to connection to the water system. Each agency has a connection fee, and each agency uses a different term to describe the connection fee. Throughout this report, the term connection fee refers to each agency's similar charge, regardless of the term used by each agency. Each agency's policy follows:

- **WMWD Ownership Scenario**: WMWD uses the term "connection fee." The current connection fee for a ¾-inch water meter is $7,050, and for a 2-inch water meter, the current connection fee is $37,599. WMWD typically updates its connection fee each year for inflation, and WMWD expects to update its connection fee in 2020 or 2021 as its Water Master Plan for the Study Area is completed.

- **RCWD Ownership Scenario**: RCWD uses the term "Capacity Charge." RCWD's FY 19/20 Capacity Charge was $2,537 for a ¾-inch meter and $13,445 for a 2-inch meter. RCWD typically adjusts its Capacity Charges each year for inflation.
- **EMWD Ownership Scenario**: EMWD uses the term "Financial Participation Charge". EMWD's current Financial Participation Charge is $5,501 for a ¾-inch meter. The Financial Participation Charge for a 2-inch meter depends on the type of 2-inch meter and ranges from $44,008 to $73,328. EMWD typically updates its Financial Participation Charge each year for inflation. EMWD notes that, for the example customer with a 2-inch meter (described in Section 8 below), the most likely 2-inch meter Financial Participation Charge would be $44,008 and it is likely that a 1.5-inch meter would be applicable. The Financial Participation Charge for a 1.5-inch meter is $27,505.

7.2.9 Mandatory Connection to Water System for Customers with Existing Private Wells

The Consultant team asked each agency if residents with existing private wells would be required to connect to the public water system.

- All three Ownership Scenarios: Policy direction given from utility staff is that no mandatory connections would be required. Anyone with a private well could voluntarily connect to the water system.

7.2.10 Voluntary Private Well Connections: Irrigation Use Remaining on Private Wells

For residents with existing private wells who choose to connect to the public water system, is it possible to connect only the indoor water use and have outdoor irrigation use remain on the private well? The Consultant team asked each agency.

- **WMWD Ownership Scenario:** If a resident chooses to connect to the public water system, the irrigation use could remain on the private well at the discretion of the resident. However, the resident must follow WMWD's requirements to make sure that the well system and the public water system are physically separated to prevent contamination of the public water system.
- **RCWD Ownership Scenario:** If a resident chooses to connect to the public water system, the entire water use on the property must be connected, including irrigation use.
- **EMWD Ownership Scenario:** If a resident chooses to connect to the public water system, the irrigation use could remain on the private well at the discretion of the resident. However, the resident must follow EMWD's requirements to make sure that the well system and the public water system are physically separated to prevent contamination of the public water system.

7.3 Methods of Prioritization

Table 7-3 describes the parameters that are the key outputs of the financial analysis, and the paragraphs below describe them in additional detail. Some of the key outputs are policies, and the remainder describe financial impacts.

The outputs are also described as to whether they describe the financial impact to

- Rate payers
- Residents currently on private wells
- Development community

Table 7-3. Key Parameters

Key Financial Analysis Parameters	Part of the Financial Impact to:		
	Rate Payers	Residents on Private Wells	Development Community
Key Policies			
Financially Distinct or Financially Integrated?	X		
Ad Valorem Tax?	X	X	X
How are $37M of Pipe Extensions Funded?			X
Low Income Discount?	X		
For Voluntary Connections of Private Wells, Option to Leave Irrigation Use on Private Wells?		X	
Projected Total Cost to Ratepayers			
Example Single-Family Residence	X		
Example Commercial Connection	X		
Residents with Private Wells			
Mandatory Connection of Private Wells?		X	
Standby Charge, $/Acre	X	X	X
Connection Fee Comparison			
Single Family Residential		If Connected	X
2" Meter		If Connected	X

8.0 FINANCIAL ASSESSMENT OF THE THREE OWNERSHIP SCENARIOS

This section describes the financial analysis in detail, and includes results for all three Ownership Scenarios. The results for each Ownership Scenario are presented individually in Sections 8.2, 8.3, and 8.4. Section 8.5 shows a side by side comparison of selected parameters for the three Ownership Scenarios.

8.1 Methodology and Key Assumptions

As described above in Section 7.1, three financial models were prepared: one for each Ownership Scenario. The financial models have several elements in common:

- 10-year projection period, starting July 1, 2020 and ending June 30, 2030.
- Identifying how each utility would structure the financial tracking of revenues and expenses: utilities typically create "Funds" which house certain types of revenues and expenses. As examples, most utilities have an Operating Fund, into which water rate revenues are put, and from which operation and maintenance expenses are paid. Many utilities have a separate fund for connection fees, where the fund's revenues are connection fees and the funds expenses are development-related capital projects funded by connection fees. Each utility would do this differently, as discussed in Sections 8.2, 8.3, and 8.4 below.
- Projections of water rate revenues, using the applicable rate structure, current number of connections and current water use, projected development, and projected increases in water rate revenues.
- Projections of other types of revenues, including connection fees, standby charges, interest income, and (if applicable) ad valorem tax revenue.
- Projections of operation and maintenance expenses. This includes projecting the cost to purchase imported water and produce local groundwater, and the remaining costs to operate and maintain the water system.
- Identification of which capital costs are related to development, and which capital costs are related to providing service to the existing customer base.
- Identification of which capital costs would be funded on a pay-as-you-go basis, and which capital costs would be debt funded.
- Projected beginning and ending year reserve balances in each utility fund.
- Projected water rates, assuming that the water rate revenue increases are distributed equally among all connections.

The following are assumptions common to the three Ownership Scenarios.

- Inflation assumptions
  - Annual inflation of 2.5 percent per year
  - Personnel (wages and benefits) inflation of 2.5 percent per year
- Current connection and water use data
  - Number of connections by meter size and connection class per WMWD as of 1/15/2020, provided on 2/19/2020.
  - Metered water consumption: by month, by connection class, and by WMWD rate tier. Source: WMWD 2/19/2020. See Appendix B, Table B-2, lines 103 and 131.
  - Projected growth rate through 2030: calculated from data in Kennedy Jenks 2017 Draft WMWD Murrieta Retail Demand Projections. See Table B-2, line 154.
  - Meter equivalent calculations done separately for each agency using respective agency meter equivalent ratios. Meter equivalents include fire service connections.
- Projected future water demands and water source production
  - FY 19/20 water supply, local plus imported: 2,304 acre-feet per year (source: WMWD, based on estimate for FY 18/19).
  - Local groundwater production capped at 1,452 acre-feet per year after the North Well Improvements are complete. This based on an analysis done by WMWD, incorporating the pumping capacities of WMWD's two existing wells at 90 percent run time, and seasonal variations in water demand.
  - Metropolitan Water District imported water costs thru FY 29/30 ($/acre-foot) are used, based on the proposed revised MWD 10-Year Financial Forecast released by MWD in early 2020.
- Projected capital improvement spending
  - Based on capital improvements shown in Sections 5 and 6 for each respective Ownership Scenario.
  - Escalated for inflation at 2.5 percent per year.
- Calculation of total costs to ratepayers
  - Example single-family residence: ¾-inch water meter using 18 ccf/month, where 8 of the 18 ccf/month is indoor water use. 18 ccf/month is the value used by WMWD in monthly water bill comparisons and is assumed to approximate an average water use by single-family residences in the Study Area. Where applicable, the land value of the property is $80,000.
  - Example commercial connection: 2-inch water meter using 125 ccf/month. 125 ccf/month is the average water use for commercial connections in the Study Area with a 2-inch water meter. Where applicable, the land value of the property is $200,000, and for purposes of Standby Charge calculations, the parcel is one acre in size.

8.2 WMWD Ownership Scenario

Components of the WMWD Ownership Scenario are described below.

8.2.1 Overview

WMWD tracks revenues and expenditures for the Study Area in a series of four funds:

- Fund 230: Operating Fund. Most revenues are deposited into this Fund, including water rate revenues. Most expenses are paid from this fund, including all all operation and maintenance (O&M) expenses.
- Fund 231: Connection Fee Fund. Connection fee revenues are deposited into this Fund. Capital expenses that support development are paid from this Fund.
- Fund 233: Distribution Fund. This Fund is not actively used by WMWD.
- Fund 235: Asset Replacement Fund. Revenues for this fund are primarily a transfer from Fund 230. Asset replacement projects are paid for from this Fund.

Table 8-1 shows the number of current and projected number of future Study Area connections by water meter size.

Table 8-2 shows the current WMWD rate structure. WMWD has a monthly Fixed System Charge that depends on water meter size. For the majority of water system connections that have a ¾-inch water meter, the Fixed System Charge is $44.39 per month. WMWD typically adjusts water rates on January 1 of each year.

Table 8-1. Projected Number of Water System Customers											
Meter Size	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
5/8"	482	490	498	506	514	522	530	538	546	554	563
3/4"	1,968	1,999	2,031	2,063	2,096	2,129	2,163	2,198	2,233	2,269	2,305
1"	172	175	178	181	184	187	190	193	196	199	202
1.5"	77	79	81	83	85	87	89	91	93	95	97
2"	161	164	167	170	173	176	179	182	185	188	191
3"	5	5	5	5	5	5	5	5	5	5	5
4"	2	2	2	2	2	2	2	2	2	2	2
Total	2,867	2,914	2,962	3,010	3,059	3,108	3,158	3,209	3,260	3,312	3,365

Table 8-2. Calendar Year 2020 WMWD Rate Structure	
Fixed Charges Depending on Water Meter Size	Fixed System Charge, $/month
⅝" Meter	$32.00
¾" Meter	$44.39
1" Meter	$68.56
1.5" Meter	$129.28
2" Meter	$154.50
3" Meter	$384.49
4" Meter	$744.16
Variable Charges	$/CCF
Commodity Charges	
Tier 1 - Indoor Budget	$2.006
Tier 2 - Outdoor Budget	$4.286
Tier 3 - Inefficient	$5.118
Tier 4 - Wasteful	$5.558
Tier 5 - Unsustainable	$6.438
Pumping Charge, Power Zone 8 - Grizzly Ridge	$0.234

WMWD has a budget-based water rate structure, and WMWD's Commodity Charges are also shown in Table 8-2 for each of the five tiers.

The residential budget-based water rate tiers are:

- **Tier 1, Efficient Indoor Use, also referred to as the Indoor Budget**: The Indoor Budget is based on 60 gallons of water use per person per day. The default household size is 3 for single-family residences and 2 for apartments and condominiums.
- **Tier 2, Efficient Outdoor Use, also referred to as the Outdoor Budget**: The Outdoor Budget is described in more detail on WMWD's website, and is based on four factors: daily localized weather data, irrigated area, a landscape factor, and the number of days in the billing period. The landscape factor measures the specific amount of irrigation water required by each type of plant in the yard. An 80 percent factor is applied for customers connected prior to January 1, 2012 and a 70 percent factor is applied to customers installing a water meter after January 1, 2012. The sum of the Indoor Budget and the Outdoor Budget is called the Total Water Budget.
- **Tier 3, Inefficient Use**: Water use exceeding the Total Water Budget by up to 25 percent of the Total Water Budget.
- **Tier 4, Wasteful Use**: Water use exceeding the Total Water Budget by between 25 and 50 percent of the Total Water Budget.
- **Tier 5, Unsustainable Use**: Water use exceeding the Total Water Budget by more than 50 percent of the Total Water Budget.

The commercial budget-based water rate tiers are:

- **Tier 1, Efficient Indoor Use, also referred to as the Indoor Budget**: The Indoor Budget is determined each month and is based on 43 percent of that month's average water use during past years.
- **Tier 2, Efficient Outdoor Use, also referred to as the Outdoor Budget**: The Outdoor Budget is determined each month and is based on the remaining 57 percent of that month's average water use during the past three years. The sum of the Indoor Budget and the Outdoor Budget is called the Total Water Budget.
- **Tier 3, Inefficient Use**: Water use exceeding the Total Water Budget by up to 25 percent of the Total Water Budget.
- **Tier 4, Wasteful Use**: Water use exceeding the Total Water Budget by between 25 and 50 percent of the Total Water Budget.
- **Tier 5, Unsustainable Use**: Water use exceeding the Total Water Budget by more than 50 percent of the Total Water Budget.

Table 8-3 shows the current connection fees. A connection fee is a one-time charge payable by new development prior to connecting to the water system. They are typically updated each January 1.

Table 8-3 Calendar Year 2020 WMWD Connection Fees

Water Meter Size	CY 2020 Connection Fee
⅝"	$7,050
¾"	$7,050
1"	$11,750
1.5"	$23,499
2"	$37,599

8.2.2 Projected Revenues

Projected revenues categorized by revenue type are provided below.

8.2.2.1 Water Rates

Water rate revenues under WMWD's Calendar Year 2020 rates were calculated by FG Solutions based on WMWD's calendar year 2020 water rate schedule, along with connection and water use data provided by WMWD.

Future water rate revenue increases were estimated by FG Solutions based on providing sufficient revenues to fund projected water system expenses through FY 29/30 and meet WMWD's minimum reserve criteria in WMWD's Operating Fund (Fund 230) and Asset Replacement Fund (Fund 235). The projected increases in water rate revenues are shown in Table 8-4 and reserves are discussed in Section 8.2.4 below.

Table 8-4. Projected Water Rate Revenue, WMWD Ownership Scenario

Fiscal Year	% Increase in Water Rate Revenues[a]	Projected Water Rate Revenues		
		At CY 2020 Rates[b]	From Future Rate Increases[c]	Total
FY 20/21	3.3%	$5,539,097	$91,395	$5,630,492
FY 21/22	3.3%	$5,628,784	$281,690	$5,910,474
FY 22/23	3.3%	$5,719,924	$484,453	$6,204,377
FY 23/24	3.3%	$5,812,539	$700,358	$6,512,897
FY 24/25	3.3%	$5,906,653	$930,104	$6,836,757
FY 25/26	3.3%	$6,002,834	$1,174,536	$7,177,370
FY 26/27	3.3%	$6,100,580	$1,434,372	$7,534,952
FY 27/28	3.3%	$6,199,919	$1,710,430	$7,910,349
FY 28/29	0.0%	$6,300,875	$1,868,776	$8,169,651
FY 29/30	0.0%	$6,403,474	$1,899,207	$8,302,681

(a) Rate increases presumed effective on January 1 of each year.
(b) Increase in rate revenues at WMWD's Calendar Year 2020 Rates are from system growth.
(c) See Appendix B, Table B-3 for more detail.

8.2.2.2 Other Revenues

Other revenues are from connection fee, Standby Charges, interest income, and other miscellaneous sources of revenue such as rents/leases, and delinquent penalties. Table 8-5 shows the projected average annual revenue from each revenue source over the 10-year financial planning period. Water rate revenues are projected to represent over 88 percent of total water system revenues. The next largest source of revenues are from connection fees.

Table 8-5. Average Annual Revenues, WMWD Ownership Scenario

Type of Revenue	Projected Average Annual Revenue		
	Amount	Percentage	Note
Water Rates	$7,019,000	88.8%	1, 2
Connection Fees	$563,427	7.1%	2
Standby Charges	$138,978	1.8%	2, 3
Interest Income	$143,875	1.5%	2
Delinquent Penalties	$53,045	0.7%	2
Other	$6,244	0.1%	2
Total	$7,924,568	100.0%	

Notes:
(1) See Table 8-4.
(2) See Appendix B, Table B-3 for more detail. Totals may not add up due to rounding.
(3) Also referred to as Water Availability Charges by WMWD.

Figure 8-1 shows projected annual revenues graphically, also showing that water rate revenues constitute the majority of water system revenues.

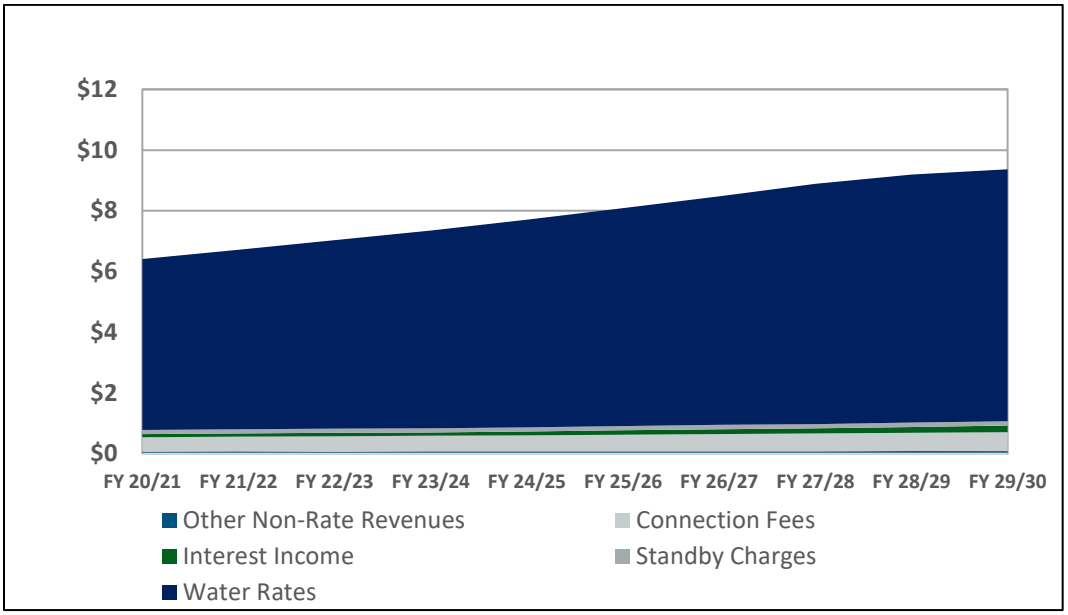


Figure 8-1. Projected Revenues: WMWD Scenario, $M

8.2.3 Projected Expenses

8.2.3.1 Source of Supply

Table 8-6 shows projected source of supply unit costs. WMWD purchases its water from EMWD at the Los Alamos interconnection point, and the projected cost per acre foot is shown below. The projected cost is based on EMWD's current cost, projected increases in MWD Tier 1 costs, and projected increases in EMWD's costs to deliver MWD water to the Los Alamos Interconnection. Also shown in Table 8-6 are WMWD's costs (excluding labor) to produce and treat local groundwater.

Projected source of supply expenses through FY 29/30 are calculated using the unit costs shown above and the projected volumes of purchased and locally produced groundwater shown in Table 8-6 above. Projected source of supply expenses are shown below in Table 8-7 along with all other O&M expenses.

8.2.3.2 Other Operation and Maintenance

Table 8-7 shows projected O&M expenses, which includes the source of supply expenses as well as other components of O&M expenses. Currently, purchased water expenses and transmission & distribution system expenses (which are primarily labor and equipment expenses) are the largest components of O&M expenses. The G&A Allocation is a payment from the Operating Fund to the WMWD General Fund to cover centralized costs such as administration, human resources, payroll, accounting, legal, and Board of Directors services.

Table 8-6. Projected Source of Supply Unit Costs, $/acre-foot

Description	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
MWD Tier 1 Treated Water[(a)]	1,078	1,131	1,183	1,237	1,270	1,306	1,336	1,370	1,403	1,442	1,486
Projected EMWD Los Alamos Rate [(b)]	1,350	1,409	1,469	1,532	1,573	1,618	1,656	1,699	1,741	1,789	1,843
Source of Supply [(c)]	224	229	235	241	247	253	259	266	273	279	286
Treatment [(c)]	90	92	94	96	99	101	104	106	109	112	115

(a) MWD Tier 1 Treated rate from WMWD 2/19/2020 per proposed MWD Updated 10-Year Financial Forecast. MWD costs are on a calendar year basis. The MWD cost in the FY 19/20 column is for calendar year 2020.
(b) This is the cost that EMWD charges WMWD for purchased water for the Study Area. Cost estimates were provided by WMWD on 2/19/2020.
(c) Source: WMWD, 2/19/2020, based on FY 18/19 actual expenses adjusted by rate of General Inflation for future years

Table 8-7. Projected O&M Expenses, WMWD Ownership Scenario, $										
	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
Water Pumping	279,316	286,298	293,456	300,792	308,312	316,020	323,920	332,018	340,319	348,827
Transmission & Distribution	1,345,278	1,378,910	1,413,382	1,448,717	1,484,935	1,522,058	1,560,110	1,599,112	1,639,090	1,680,067
Customer Accounts	194,822	202,926	211,367	220,159	229,317	238,878	248,836	259,211	270,017	281,274
G&A Allocation	667,864	684,561	701,675	719,217	737,197	755,627	774,518	793,881	813,728	834,071
Other Operating Expenses	126,790	129,960	133,209	136,539	139,953	143,452	147,038	150,714	154,482	158,344
Purchased Water	1,318,210	1,431,664	1,553,099	1,657,486	1,769,890	1,880,495	2,000,664	2,124,645	2,261,783	2,411,685
Source of Supply	332,973	341,297	349,829	358,575	367,539	376,728	386,146	395,800	405,695	415,837
Treatment	133,284	136,616	140,031	143,532	147,120	150,798	154,568	158,432	162,393	166,453
Water Use Efficiency	51,199	52,479	53,791	55,135	56,514	57,927	59,375	60,859	62,381	63,940
Other Non-Operating Expense	3,403	3,488	3,575	3,665	3,756	3,850	3,946	4,045	4,146	4,250
Total	$4,453,138	$4,648,199	$4,853,415	$5,043,818	$5,244,534	$5,445,832	$5,659,122	$5,878,718	$6,114,034	$6,364,748

In general, all O&M expenses are escalated for inflation at a rate of 2.5 percent per year, except purchased water costs which are linked to MWD Tier 1 costs. Connection account expenses are also increased by the rate of system growth.

8.2.3.3 Repair and Replacement

WMWD is anticipating $500,000 each year for infrastructure repair and replacement expenses, in addition to capital expenses described in Sections 5 and 6.

8.2.3.4 Capital Project Funding

Table 8-8 shows the how the capital projects shown in Sections 5 and 6 would be funded. The majority of the projected approximately $62 million in capital investment is related to development. Some of this (approximately $12.4 million) would be funded by WMWD and the cost incorporated into its connection fee.

Approximately $12 million is related to improving service to existing connections, including construction of additional storage and related pipelines to connect the storage to the water system. Approximately $5 million of the capital investment is to replace legacy small diameter pipelines.

Table 8-8. Projected Capital Improvement Funding, WMWD Ownership Scenario

Project	Estimated Cost, 2020 $ (Note 1)	$ to Existing Connections	$ to Future Development		Note
			Funded by WMWD	Funded by Developers	
Storage	8,328,000	4,610,842	3,717,158		2
Pipelines Associated with Storage	4,157,000	2,301,546	1,855,454		2
Expansion CIP North of Murrieta Creek	17,120,000			17,120,000	3,4
Expansion CIP South of Murrieta Creek	20,388,000			20,388,000	3,4
WMWD Hydraulic Improvements	1,468,000		1,468,000		3,5
Supply Improvements Through EMWD	5,379,000		5,379,000		3,5
Legacy (Small Diameter) Improvements	4,947,000	4,947,000			6
New Well No. 3	0	0	0		2
Total	$61,787,000	$11,859,388	$12,419,612	$37,508,000	

Notes:
(1) Costs were developed by West Yost for this analysis and are shown in Sections 5 and 6 of the report.
(2) Project benefits both existing connections and future development. Cost division between existing connections and future development is based on the ratio of existing meter equivalents to buildout meter equivalents.
(3) Project benefits future development only and would not be done if there was no future development.
(4) WMWD's existing policy is to not participate finance through proceedings pursuant to the Mello-Roos Community Facilities Act of 1982. See Table 7.2 for possible funding alternatives.
(5) For facilities of this magnitude, WMWD would fund the project, and incorporate the cost in its connection fee. Connection fee revenues, over time, would pay for the project.
(6) These legacy (small diameter) improvements are needed to support existing development.

8.2.3.5 Debt Service

WMWD is currently making debt service payments on two loans.

- A 2010 Revenue Bond with annual debt service payments of approximately $67,000 and an outstanding principal balance of $998,460.
- A $2 million interfund loan from the WMWD's General Fund to the Murrieta Water System to partially fund the construction of the North Well. The annual debt service payment is $108,743, and the outstanding principal balance is $2,000,000.

For the purposes of this analysis, all but one of the of the WMWD funded improvements shown in Table 8-8 would be debt financed. Anticipated debt issuance terms are levelized principal and interest payments over a 30-year term at an interest rate of 4 percent. For each project, the debt proceeds equal the estimated cost of the project plus 10 percent to cover costs of issuance and a capitalized bond reserve. Table B-3 in Appendix B shows more detailed debt service calculations.

The WMWD Hydraulic Improvements would be funded on a pay as you go basis, because the project cost (at approximately $1.5 million) is comparatively small.

Figure 8-2 shows total projected water system expenses funded by WMWD each year through FY 29/30.

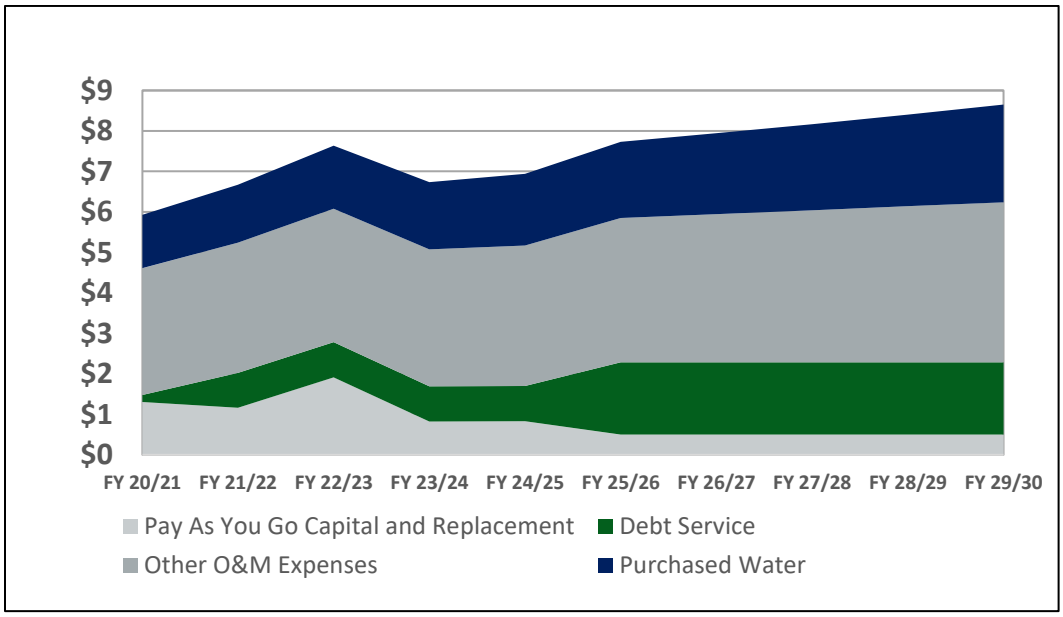


Figure 8-2. Projected Expenses: WMWD Scenario, $M

8.2.4 Projected Utility Reserves

WMWD maintains a reserve balance in each of its four funds. As of July 1, 2020, the projected reserve balance in each fund is (rounded to the nearest $100,000):

- Operating Fund (Fund 230): $2.5 million
- Connection Fee Fund (Fund 231): -$0.8 million
- Distribution Fund (Fund 233): $0.3 million
- Asset Replacement Fund (Fund 235): $2.4 million

There is currently a negative balance in the Connection Fee Fund, which implies a de facto loan from the Operating Fund to the Connection Fee Fund.

WMWD maintains the following fiscal policies related to reserve balances:

- **Operating Fund (Fund 230)**: target balance of between three and six months of operating expenses
- **Connection Fee Fund (Fund 231)**: no policy established
- **Distribution Fund (Fund 233)**: no policy established
- **Asset Replacement Fund (Fund 235)**: WMWD staff provided a target reserve balance of between $6,355,923 and $14,235,000

Figure 8-3 shows the projected ending year reserve balance under the WMWD Ownership Scenario. It represents the combined reserve balance in the four WMWD funds. Also shown in Figure 8-3 are the minimum reserve balances according to WMWD's reserve policies. The projected revenue impacts described above were developed to meet the reserve criteria at the end of the 10-year planning period.

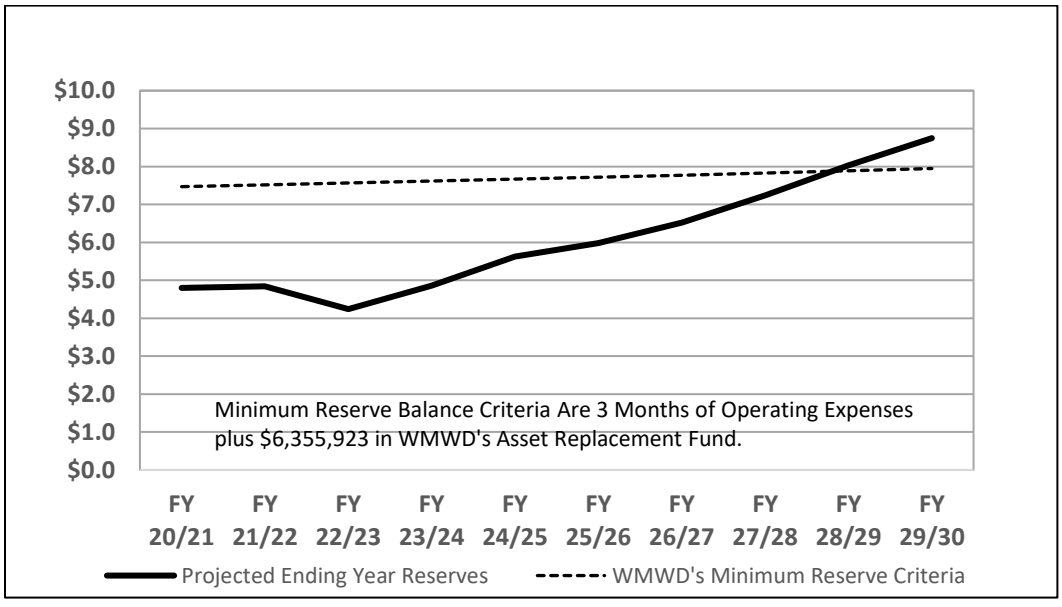


Figure 8-3. Projected Ending Year Reserve Balance: WMWD Scenario, $M

8.2.5 Projected Total Cost of Water

The projected total cost of water is the sum of the water bill and the standby charge. It is shown for two example connections in Figures 8-2 and 8-3.

Example Single Family Residential Connection

- ¾-inch water meter
- Monthly water use of 18 ccf, with 8 ccf/month in Tier 1 and 10 ccf/month in Tier 2

Example Commercial Connection

- 2-inch water meter
- Monthly water use of 125 ccf
- 1 acre parcel

The graphs below show the effect of the projected annual 3.3 percent revenue increases through FY 27/28. As described above, in this analysis, the projected annual revenue increases are applied across the board percentage increases to all connections. No changes in WMWD's rate structure are contemplated in this analysis other than applying across the board percentage increases. If WMWD remains the system owner, it may choose to adjust rate structures to reflect WMWD policies or future cost of service analyses, and the total cost of water would be different from what is shown in Figures 8-4 and 8-5.

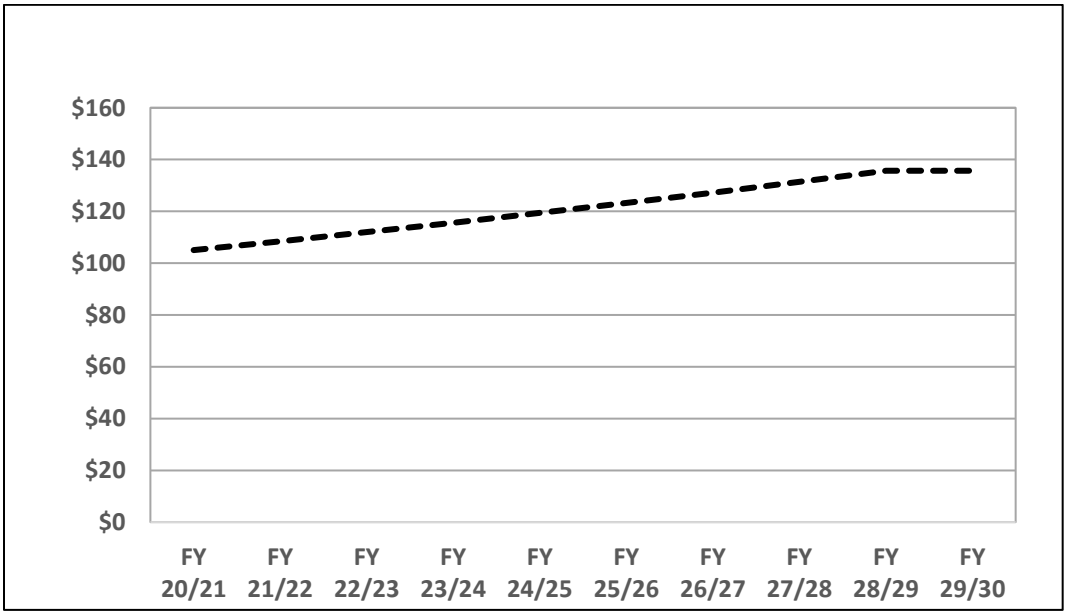


Figure 8-4. Projected Total Water Cost: WMWD Scenario (Single-Family Residence, ¾-inch Meter, 18 CCF/month, Power Zone 7)

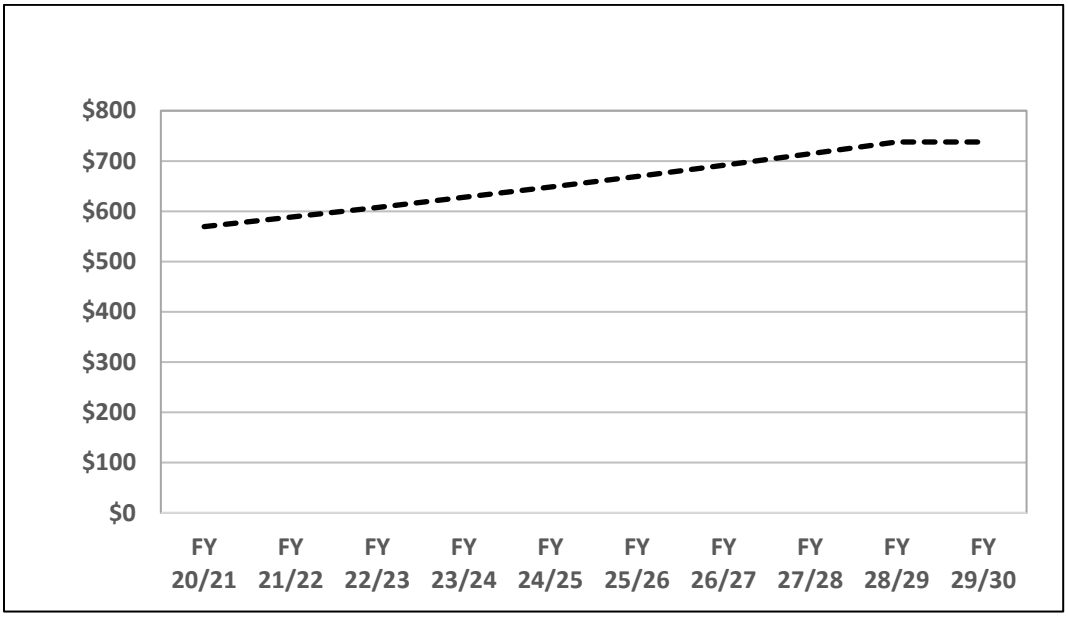


Figure 8-5. Projected Total Water Cost: WMWD Scenario (Commercial, 2-inch Meter, 125 CCF/month, Power Zone 7, 1 acre)

8.3 RCWD Ownership Scenario

Details of the RCWD Ownership Scenario are described below.

8.3.1 Overview

If Rancho California Water District acquires the Study Area, from a financial perspective, it would operate the utility in a financially distinct manner. Policy direction from RCWD staff was that RCWD would do a cost of service study after acquisition to identify whether the Study Area operation, if integrated into RCWD's Santa Rosa Division, would result in any subsidies. If material subsidies were not identified, RCWD would consider an integrated operation, where the Study Area would become part of RCWD's Santa Rosa Division.

Like the WMWD Ownership Scenario described in Section 8.2, the financial projections for the RCWD Ownership Scenario cover a 10-year projection period ending in FY 29/30. Separate revenue and expense projections are made corresponding to RCWD's policy directions, and these revenue and expense projections are shown below and in Appendix B, Table B-4.

For the purposes of this analysis, the initial rate structure applied to the Study Area under the RCWD Ownership Scenario is RCWD's rate structure for its Santa Rosa Division. Table 8-9 shows RCWD's Santa Rosa Division FY 19/20 Rate Structure.

Table 8-9. FY 19/20 RCWD Santa Rosa Division Rate Schedule

Monthly Service Charge Depending on Water Meter Size	$/month
⅝" Meter[a]	$29.51
¾" Meter	$44.04
1" Meter	$66.49
1.5" Meter	$117.50
2" Meter	$180.79
3" Meter	$532.49
4" Meter	$1,047.78
6" Meter	$1,669.23
8" Meter or Larger	$2,358.21
Commodity Charge[b]	**$/CCF**
Residential, Multi Family & Landscape	
Tier 1	$1.286
Tier 2	$2.255
Tier 3	$3.235
Tier 4	$7.597
Commercial, Industrial, Ag, Domestic, and Other	
Tier 1	$2.044
Tier 2	$3.235
Tier 3	$7.597

(a) RCWD does not have ⅝" meters and does not have a Monthly Service Charge for ⅝" meters. Under the RCWD Ownership Scenario for connections with ⅝" meters in the Study Area, RCWD would apply its ¾" Monthly Service Charge, adjusted for the meter equivalent ratio between ⅝" meters and ¾" meters.
(b) RCWD has energy charges for portions of its Santa Rosa Division that are not shown in this table. RCWD's energy charges are not expected to be applicable for the majority of the Study Area.

RCWD's rate structure is similar to WMWD's. There is a Monthly Service Charge that depends on water meter size. RCWD doesn't have ⅝-inch water meters in the Santa Rosa Division, so there is no Monthly Service Charge established for a ⅝-inch water meter. Per RCWD staff, RCWD would calculate a Monthly Service Charge for ⅝-inch water meters using RCWD's meter equivalent ratios, and the rate shown in Table 8-9 reflects this calculation.

RCWD also has a budget-based water rate structure, with four tiers for single-family residences, multi-family residences, and landscape connections. A three tier budget-based rate structure is established for all other connections.

Table 8-10 compares RCWD's and WMWD's rate structures. For residential connections, the volume of water consumed in Tiers 1 and 2 will be approximately equal under RCWD's and WMWD's rate structures. For RCWD's Outdoor Water Budget (where the Tier 2 rate is applied), RCWD uses an Evapotranspiration Adjustment Factor (ETAF, equivalent to WMWD's Landscape Factor) of 75 percent for the first 30,000 square feet of irrigable area, and a 60 percent ETAF for irrigable area above 30,000 square feet.

For residential connections exceeding their water budget, RCWD's Tier 3 covers the same water use as the combination of WMWD's Tier 3 and Tier 4. In terms of water use, RCWD's Tier 4 is analogous to WMWD's Tier 5.

For commercial, industrial, and institutional connections, RCWD's Tier 1 use is approximately the combination of WMWD's Tier 1 and Tier 2 use, and RCWD's Tier 2 use is approximately the combination of WMWD's Tier 3 and Tier 4 use.

Table 8-10. Comparison of WMWD and RCWD Rate Structures

Tier	WMWD Residential	RCWD Residential	WMWD CII	RCWD CII
Tier 1	100% IWB	100% IWB	90% TWB	100% AWB
Tier 2	100% OWB	100% OWB	10% TWB	50% AWB
Tier 3	25% TWB	50% TWB	25% TWB	Above Tier 2
Tier 4	25% TWB	Above Tier 3	25% TWB	
Tier 5	Above Tier 4		Above Tier 4	
	Residential		CII (Commercial, Industrial, Institutional)	
	RCWD Tier 1 Use = WMWD Tier 1 Use		RCWD Tier 1 Use = WMWD Tier 1 + Tier 2 Use	
	RCWD Tier 2 Use = WMWD Tier 2 Use		RCWD Tier 2 Use = WMWD Tier 3 + Tier 4 Use	
	RCWD Tier 3 Use = WMWD Tier 3 + Tier 4 Use		RCWD Tier 3 Use = WMWD Tier 5 Use	
	RCWD Tier 4 Use = WMWD Tier 4 Use			
	CII = Commercial, Industrial, Institutional IWB = Indoor Water Budget OWB = Outdoor Water Budget TWB = Total Water Budget AWB = Annual Water Budget			

Table 8-11 shows the current capacity charges for RCWD's Santa Rosa Division. The capacity charge for a new ¾-inch water meter is $2,537 and for a new 1-inch meter, the capacity charge is $4,313. RCWD's capacity charges are lower than WMWD's connection fees.

Table 8-11. FY 19/20 RCWD Santa Rosa Division Capacity Charges

Water Meter Size	FY 19/20 Capacity Charge
⅝" Meter	$1,700
¾" Meter	$2,537
1" Meter	$4,313
1.5" Meter	$8,372
2" Meter	$13,445
2" Turbine Meter	$25,367
3" Meter	$42,363
4" Meter	$84,471
6" Meter	$135,204
8" Meter or Larger	$191,518

8.3.2 Projected Revenues

Projected revenues by revenue type are detailed below.

8.3.2.1 Water Rates

Water rate revenues under RCWD's FY 19/20 Santa Rosa Division rates were calculated by FG Solutions based on the rate schedule shown above in Table 8-9, along with connection and water use data provided by WMWD. The connection and water use data under the RCWD Ownership Scenario are the same as under the WMWD Ownership Scenario (and shown in Section 8.2).

Future water rate revenue increases were estimated by FG Solutions based on providing sufficient revenues to fund projected water system expenses through FY 29/30 and meet RCWD's minimum reserve criteria. The projected increases in water rate revenues are shown in Table 8-12 and reserves are discussed in Section 8.3.4 below.

Table 8-12. Projected Water Rate Revenue, RCWD Ownership Scenario

Fiscal Year	% Increase in Water Rate Revenues[a]	Projected Water Rate Revenues		
		At FY 19/20 Rates[b]	Rate Increases[c]	Total
FY 20/21	2.0%	$3,978,531	$79,571	$4,058,102
FY 21/22	2.0%	$4,042,950	$163,335	$4,206,285
FY 22/23	2.0%	$4,108,412	$251,468	$4,359,880
FY 23/24	2.0%	$4,174,934	$344,149	$4,519,083
FY 24/25	2.0%	$4,242,533	$441,567	$4,684,100
FY 25/26	2.0%	$4,311,616	$543,963	$4,855,579
FY 26/27	2.0%	$4,381,824	$651,515	$5,033,339
FY 27/28	2.0%	$4,453,175	$764,430	$5,217,605
FY 28/29	0.0%	$4,525,688	$776,878	$5,302,566
FY 29/30	0.0%	$4,599,382	$789,527	$5,388,909

(a) Rate increases presumed effective on July 1 of each year.
(b) Increase in rate revenues at RCWD's FY 19/20 Rates are from system growth.
(c) See Appendix B, Table B-4 for more detail.

8.3.2.2 Ad Valorem Taxes

RCWD currently charges an Ad Valorem tax to connections in its Santa Rosa Division. The current Ad Valorem tax rate is $0.50 per year per $100 of assessed land value. RCWD staff reports that Ad Valorem tax revenues are typically used for capital expenses, including paying debt service. RCWD's policy direction for this FMSR is that if possible, RCWD would apply an Ad Valorem tax to the Study Area as well.

FG Solutions obtained parcel data from the City of Murrieta, which contains land value for every parcel in the Study Area. With detailed calculations in Appendix B, Table B-4, the estimated annual Ad Valorem tax revenues in the Study Area for parcels currently served by WMWD is approximately $2,040,000. If RCWD applies the Ad Valorem tax to the Study Area, then parcels not currently receiving water service from WMWD, EMWD, or RCWD in the Study Area would also pay the Ad Valorem tax. However, the revenue from these parcels was not included in this financial analysis.

In future years, the revenue from the Ad Valorem tax is assumed to increase by the rate of land inflation, assumed to be 2.5 percent per year. The Ad Valorem rate of $0.50 per $100 of assessed land value is not expected to change.

8.3.2.3 Water Rate Surcharge

If RCWD is not able to apply an Ad Valorem tax, or chooses not to, RCWD indicated (as policy direction from staff) that RCWD would apply a revenue-neutral water rate surcharge to recover the same amount of revenue as the Ad Valorem tax would have collected.

Initially, the water rate surcharge is intended to collect approximately $2,040,000 per year, equivalent to the projected revenue from the Ad Valorem tax. This represents approximately 51.26 percent increase to the Monthly Service Charges and Commodity Charges shown in Table 8-9. In future years, the amount of revenue from the Water Rate Surcharge would increase by 2.5 percent per year, to maintain consistency with the concept of collecting the same amount of revenue that the Ad Valorem tax would have.

8.3.2.4 Other Revenues

Besides revenues from water rates, the Ad Valorem tax, and/or the water rate surcharge, there are additional smaller sources of utility revenue. Table 8-13 shows the projected annual revenue from each revenue source over the 10-year financial planning period. Water rate revenues and either the Ad Valorem tax or the water rate surcharge would combine for over 90 percent of total water system revenues. Smaller amounts of revenue are anticipated from Standby Charges, Capacity Charges, interest income, delinquent penalties, and other miscellaneous sources.

Table 8-13. Average Annual Revenues, RCWD Ownership Scenario

Type of Revenue	Projected Average Annual Revenue		
	Amount	Percentage	Note
Water Rates	$4,762,545	60.5%	1, 2
Ad Valorem Tax or Water Rate Surcharge	$2,342,011	29.7%	2
Capacity Charges	$194,761	2.5%	2
Standby Charges	$462,731	5.9%	2
Interest Income	$53,499	0.7%	2
Delinquent Penalties	$53,045	0.7%	2
Other	$4,244	0.1%	2
Total	$7,872,836	100.0%	

Notes:
(1) See Table 8-12.
(2) See Appendix B, Table B-4 for more detail. Totals may not add up due to rounding.

Figure 8-6 shows projected Study Area revenues for each year through FY 29/30 under the RCWD Ownership Scenario. This graph shows the relative importance of water rate revenues and the Ad Valorem Tax/Water Rate Surcharge.

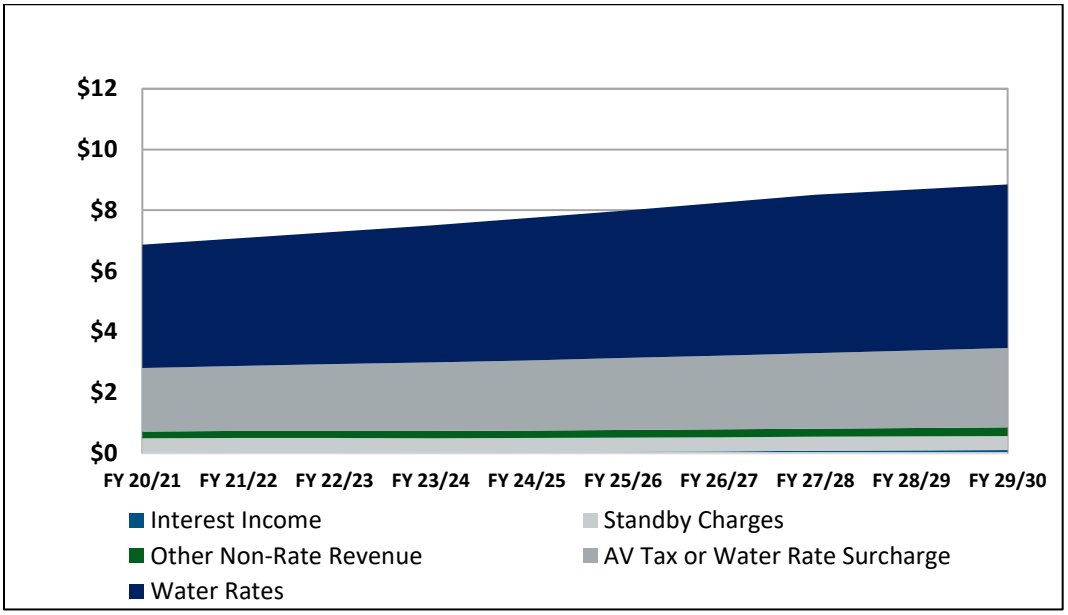


Figure 8-6. Projected Revenues: RCWD Scenario, $M

8.3.3 Projected Expenses

Projected expenses by type are described below.

8.3.3.1 Source of Supply

Under the RCWD Ownership Scenario, RCWD would provide imported water without it being delivered at the Los Alamos interconnection point from EMWD. For the purposes of this analysis, the unit cost per acre foot of imported water would be equal to the MWD Tier 1 Treated Rate plus 10 percent. The 10 percent factor is to cover MWD's Capacity Charges and Ready to Serve Charges. Projected source of supply expenses are shown below in Table 8-14 along with other O&M expenses.

8.3.3.2 Other Operation and Maintenance

Table 8-14 shows projected O&M expenses, which includes the source of supply expenses as well as other components of O&M expenses. Many of the projected O&M expenses shown in this RCWD Ownership Scenario are projected to be the same as under the WMWD Ownership Scenario. The exceptions are purchased water, because RCWD would supply imported water in a different manner and with a different cost structure than WMWD.

In general, all O&M expenses are escalated for inflation at a rate of 2.5 percent per year, except purchased water costs which are linked to MWD Tier 1 costs. Connection account expenses are also increased by the rate of system growth.

Table 8.14. Projected O&M Expenses, RCWD Ownership Scenario										
	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
Water Pumping	279,316	286,298	293,456	300,792	308,312	316,020	323,920	332,018	340,319	348,827
Transmission & Distribution	1,345,278	1,378,910	1,413,382	1,448,717	1,484,935	1,522,058	1,560,110	1,599,112	1,639,090	1,680,067
Customer Accounts	194,822	202,926	211,367	220,159	229,317	238,878	248,836	259,211	270,017	281,274
G&A Allocation	667,864	684,561	701,675	719,217	737,197	755,627	774,518	793,881	813,728	834,071
Other Operating Expenses	126,790	129,960	133,209	136,539	139,953	143,452	147,038	150,714	154,482	158,344
Purchased Water	1,136,889	1,240,134	1,349,234	1,452,788	1,550,253	1,650,218	1,752,904	1,861,616	1,978,049	2,106,981
Source of Supply	332,973	341,297	349,829	358,575	367,539	376,728	386,146	395,800	405,695	415,837
Treatment	133,284	136,616	140,031	143,532	147,120	150,798	154,568	158,432	162,393	166,453
Water Use Efficiency	51,199	53,328	55,547	57,857	60,264	62,776	65,394	68,120	70,960	73,918
Other Non-Operating Expenses	3,403	3,488	3,575	3,665	3,756	3,850	3,946	4,045	4,146	4,250
Total	$4,271,818	$4,457,518	$4,651,306	$4,841,842	$5,028,647	$5,220,406	$5,417,381	$5,622,949	$5,838,879	$6,070,023

8.3.3.3 Repair and Replacement

RCWD is anticipating $500,000 each year for infrastructure repair and replacement expenses within the Study Area, in addition to capital expenses described in Sections 5 and 6. RCWD is also anticipating that the Study Area would contribute $540,00 per year toward repair and replacement of RCWD facilities that will provide water source, storage, and transmission services to the Study Area.

8.3.3.4 Capital Project Funding

Table 8-15 shows how the capital projects shown in Sections 5 and 6 would be funded. The majority of the projected approximately $54 million in capital investment is related to development. Some of this (approximately $2.3 million) would be funded by RCWD and the cost incorporated into its connection fee.

Approximately $14.6 million is related to improving service to existing connection, the majority of which is buying into RCWD's existing facilities located in its Santa Rosa Division. These existing facilities in the Santa Rosa Division that would benefit existing Study Area customers, including storage and transmission facilities. As with the WMWD Ownership Scenario, approximately $5 million of the capital investment is to replace legacy small diameter pipelines.

8.3.3.5 Debt Service

For the purposes of this analysis, RCWD would issue debt to pay for all of the RCWD-funded improvements in Table 8-15.

Table 8-15. Projected Capital Improvement Funding, RCWD Ownership Scenario

Project	Estimated Cost, 2020 $	Benefits Existing Customers, RCWD Funded	Benefits Future Development	
			Funded by RCWD	Funded by Developers ID, or CFD
Buy-In to RCWD for Existing Customers	9,659,628	9,659,628		
Expansion CIP North of Murrieta Creek	17,120,000			17,120,000
Expansion CIP South of Murrieta Creek	20,388,000			20,388,000
RCWD Hydraulic Improvements	2,255,000		2,255,000	
Legacy (Small Diameter) Improvements	4,947,000	4,947,000		
Total	$54,369,628	$14,606,628	$2,255,000	$37,508,000

Notes:

(1) RCWD anticipates requiring existing Murrieta Study Area customers to buy into RCWD facilities, including storage facilities, distribution facilities, and accessing MWD connections. This buy-in eliminates the need to separately build additional reservoir storage.

(2) Project benefits future development only and would not be done if there was no future development.

(3) Under some circumstances, RCWD would accept an Assessment District or related type of financing for these improvements. For this analysis, these improvements would be funded either directly by developers or through an Assessment District. They would not be funded directly by RCWD.

(4) For facilities of this magnitude, RCWD would fund the project, and incorporate the cost in its Capacity Charge. Capacity Charge revenues, over time, would pay for the project.

Anticipated debt issuance terms are levelized principal and interest payments over a 30-year term at an interest rate of 4 percent. For each project, the debt proceeds equal the estimated cost of the project plus 10 percent to cover costs of issuance and a capitalized bond reserve. Table B-4 in Appendix B shows more detailed debt service calculations.

RCWD would not pay debt service on the existing WMWD debt described in Section 8.2.3. Instead, as described below, some of the existing reserves associated with the Study Area (described in Section 8.2.4 above) would be retained by WMWD to retire WMWD's existing debt.

Figure 8-7 shows projected RCWD-funded Study Area expenses under the RCWD Ownership Scenario.

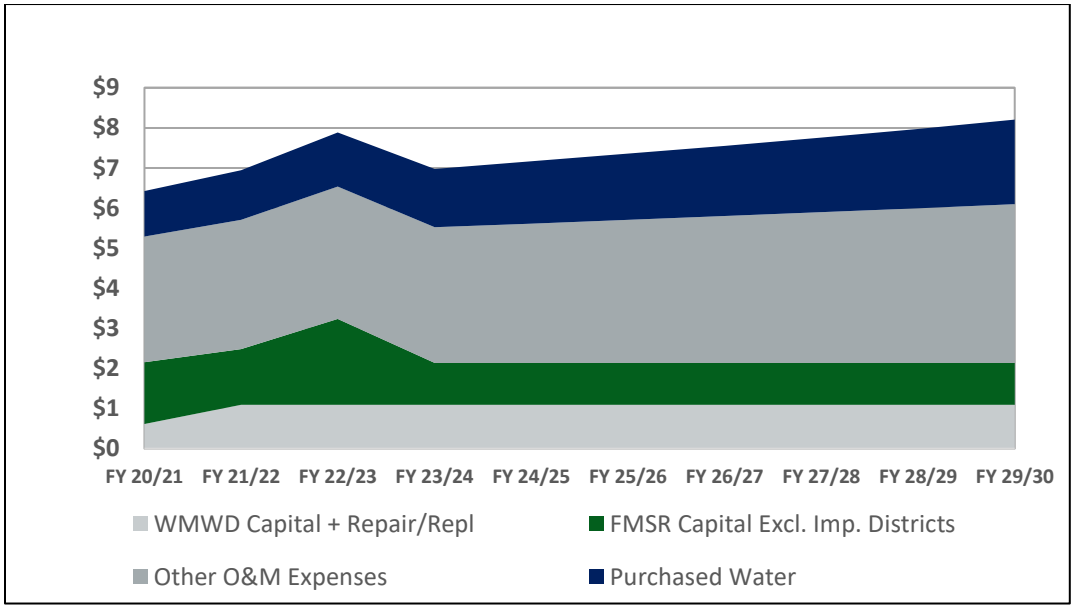


Figure 8-7. Projected Expenses: RCWD Scenario, $M

8.3.4 Projected Utility Reserves

Upon acquisition of the water system, WMWD would transfer its reserves associated with the Study Area to RCWD, less an amount needed to repay the existing two WMWD debt issuances described in Section 8.2.3. The estimated reserve amount transferred is approximately $1.3 million, with calculations shown in Table B-4 of Appendix B.

RCWD's policy direction is that it would apply its reserve criteria applicable to its Santa Rosa Division to the Study Area, acknowledging that reserves in the Study Area would accumulate over the 10-year planning period to meet reserve criteria. The reserve criteria are:

- Working capital reserve: within five years, accumulate four months' worth of the Study Area operating budget
- Drought reserve: within 10 years, accumulate 30 percent of the cost of local supply volume at MWD's Tier 1 untreated rate effective at the end of the fiscal year.

- Rate stabilization fund reserve: within 10 years, accumulate three months of Operating Budget within ten years.
- Risk management reserve: within 10 years, accumulate $750,000 plus 1 percent of current gross plant value.

RCWD also has a water replenishment reserve, which would not be applicable to the Study Area.

Figure 8-8 shows the projected reserves associated with the Study Area under the RCWD Ownership Scenario, indicating that the cumulative reserves meet the RCWD criteria by the end of the 10-year planning period.

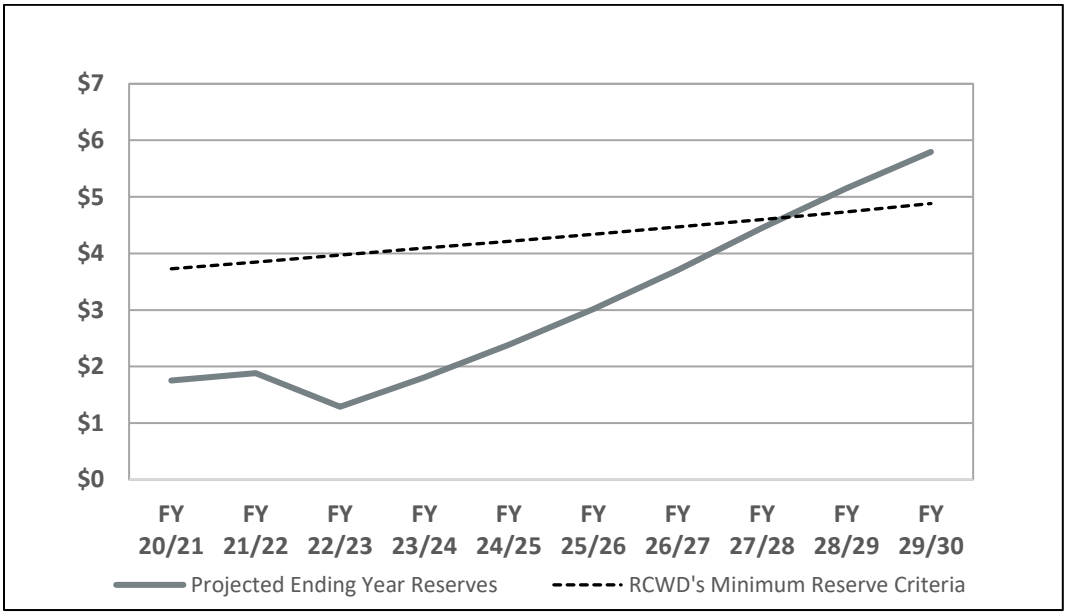


Figure 8-8. Projected Ending Year Reserve Balance: RCWD Scenario, $M

8.3.5 Projected Total Cost of Water

The projected total cost of water is the sum of the water bill, the standby charge, and either the Ad Valorem Tax or the water rate surcharge. It is shown for two example connection in Figures 8-9 and 8-10.

Example Single Family Residential Connection

- ¾-inch water meter
- Monthly water use of 18 ccf, with 8 ccf/month in Tier 1 and 10 ccf/month in Tier 2
- Assessed land value of $80,000

Example Commercial Connection

- 2-inch water meter
- Monthly water use of 125 ccf
- 1 acre parcel
- Assessed land value of $200,000

In Figures 8-9 and 8-10, separate total cost projections are shown for (a) the scenario where RCWD applies an Ad Valorem Tax, and (b) the scenario where RCWD applies a water rate surcharge. For the examples shown, the total cost is higher under an Ad Valorem Tax, but that would not be the case for all connections. Connections with high land value relative to water use would see a higher total cost with an Ad Valorem Tax, and connections with high water use relative to land value would see a higher total cost with a water rate surcharge.

The graphs below show the effect of the projected annual 2.0 percent water rate revenue increases through FY 27/28. As described above, in this analysis, the projected annual revenue increases are applied across the board percentage increases to all connections. No changes in RCWD's rate structure are contemplated in this analysis other than applying across the board percentage increases. If RCWD acquires the water system, it may choose to adjust rate structures to reflect RCWD policies or future cost of service analyses, and the total cost of water would be different from what is shown in Figures 8-9 and 8-10.

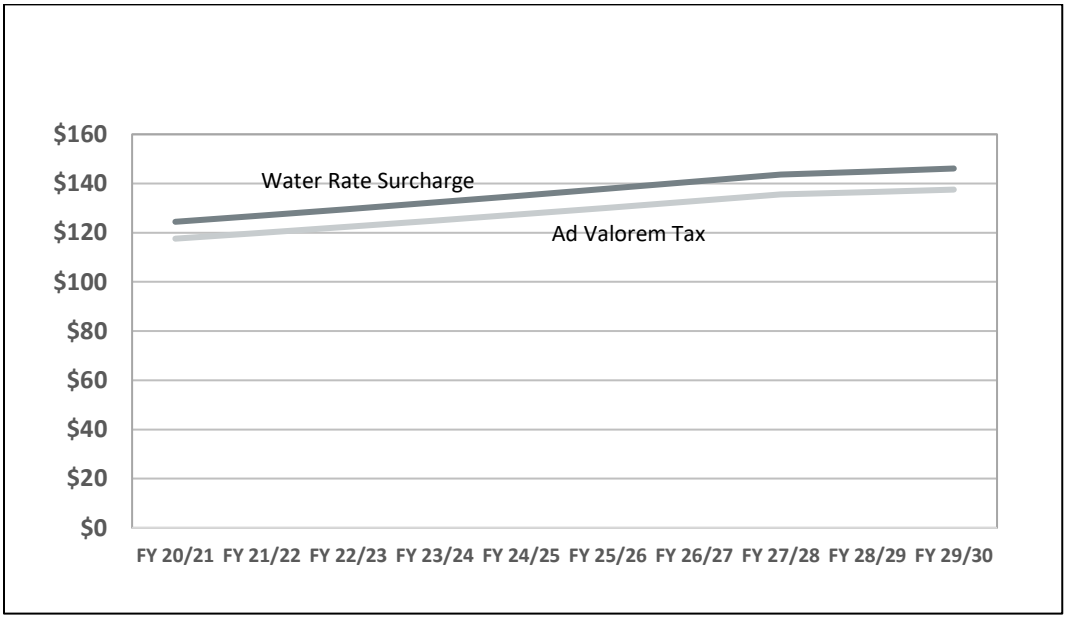


Figure 8-9. Projected Monthly Total Cost (Water Bill + AV Tax/Surcharge + Standby): RCWD Scenario (SFR, ¾-inch Meter, 18 CCF/month, $80K Land Value)

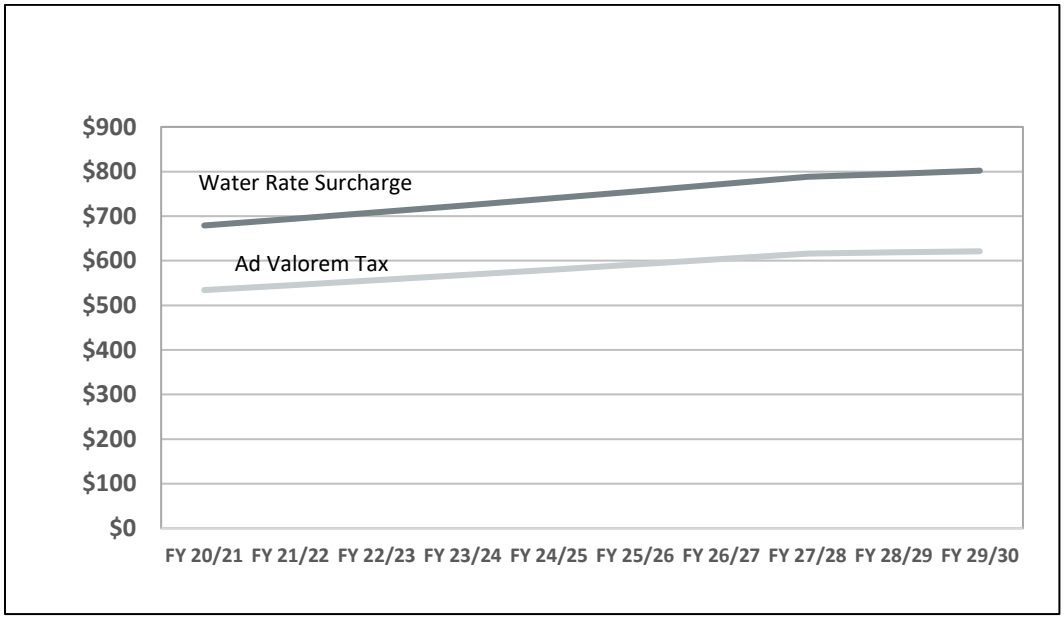


Figure 8-10. Projected Monthly Total Cost (Water Bill + AV Tax/Surcharge + Standby): RCWD Scenario (Commercial, 2-inch Meter, 125 CCF/month, $200K Land Value, 1 acre)

8.4 EMWD Ownership Scenario

The components of the EMWD Ownership Scenario are described below.

8.4.1 Overview

If Eastern Municipal Water District acquires the Study Area, from a financial and operational perspective, it would operate the utility in a financially integrated manner. EMWD has proposed a methodology to assess revenues and expenditures in the Study Area, and to fund the capital projects identified in Sections 5 and 6.

Key aspects of this methodology are:

Revenues

1. Upon acquisition of the system, EMWD would retain WMWD's existing rate structure, rate tier definitions, and water budget methodology for the Study Area with one adjustment.
    a. EMWD would reduce WMWD's Fixed System Charge by 20 percent. For the majority of Study Area connections with a ¾-inch water meter, this would reduce water bills by $8.88 per month.
    b. In this FMSR, the water rates that EMWD would apply in the Study Area are referred to as "Adjusted WMWD Rates"
2. EMWD would track revenues from its application of the Adjusted WMWD Rates.
3. EMWD would also track what revenues would have been, if EMWD charged its water rates that all other EMWD connections are charged.

4. The Adjusted WMWD Rates collect more revenue than EMWD's rates.
5. The amount of revenue that would have been collected from EMWD's rates is used to pay O&M and rate-funded capital expenses (see below)
6. The difference in revenue from the Adjusted WMWD Rates and what would have been collected from EMWD's rates will be used to pay down the "Acquisition Balance" (see below for a discussion of the Acquisition Balance).
7. After the Acquisition Balance is paid off, EMWD would apply its then-current water rates (the same rate schedule it charges other connections) to the Study Area. For most connections, water bills would decrease at this future time.

O&M Expenses

1. Since the Study Area is financially integrated with the remainder of EMWD's Service Area, a separate projection of expenses for the Study Area is not relevant and was not developed for this analysis.
2. Instead, the Study Area's share of the total EMWD water system expenses is calculated proportional to water demand.
3. EMWD provided EMWD's water system expenses, to enable a calculation of expenses per acre-foot of metered water demand.
4. The Study Area's share of EMWD's water system expenses is estimated on an annual basis by multiplying the projected Study Area water demand times the per acre-foot cost of EMWD's water system expenses.

Capital Expenses

1. Capital expenses are divided into three categories:
   a. Those benefitting existing connections which are required to bring the Study Area up to operational parity with the remainder of EMWD's service area.
   b. Those needed to accommodate future development that are funded by EMWD and paid for using EMWD's Facility Participation Charge revenues
   c. Those needed to accommodate future development that are not funded by EMWD, and are funded by development.

Acquisition Balance

1. The Acquisition Balance is the amount of funds needed to bring the Study Area water system into operational and financial parity with the remainder of the EMWD water system. It is discussed below in more detail.

As described above, EMWD would initially apply Adjusted WMWD Rates to the Study Area. WMWD rates are shown above in Table 8-2, and EMWD would reduce the WMWD's Fixed System Charge by 20 percent.

After the Acquisition Balance is paid off, EMWD would transition the Study Area to then-current EMWD rates. EMWD's has adopted rates for CY 2020 and CY 2021, which are shown in Table 8-16. EMWD has two fixed charges: a Daily Service Charge and a Monthly Fixed Charge for Water Supply and Reliability. Both of the fixed charges depend on water meter size.

EMWD has a four tier budget-based rate structure, also shown in Table 8-16.

Table 8-16. Calendar Year 2020 and Calendar Year 2021 EMWD Rate Schedule

Fixed Charges	Daily Service Charge $/month		Monthly Fixed Charge for Water Supply and Reliability	
	CY 2020	CY 2021	CY 2020	CY 2021
⅝" Meter	$13.38	$13.99	$3.95	$4.26
¾" Meter	$13.38	$13.99	$3.95	$4.26
1" Meter	$18.25	$19.16	$5.93	$6.39
1.5" Meter	$50.19	$52.62	$19.75	$21.30
2" Meter	$78.17	$81.52	$31.60	$34.08
3" Meter	$152.08	$159.08	$63.20	$68.16
4" Meter	$235.12	$245.77	$98.75	$106.50

	Commodity Charges, $/CCF	
	CY 2020	CY 2021
Residential		
Tier 1	$1.10	$1.13
Tier 2	$3.53	$3.63
Tier 3: Excessive Use	$5.84	$6.01
Tier 4: Wasteful Use	$11.94	$12.30
Non-Residential		
Tier 1	$3.66	$3.77
Tier 2	$7.43	$7.65
Tier 3: Excessive Use	$12.38	$12.75

Table 8-17 compares EMWD's and WMWD's rate structures. EMWD has a four-tier rate structure for residential connections. EMWD calculates separate Indoor Water Budgets and Outdoor Water Budgets. The Outdoor Water Budget is based on landscaped area, the weather, and the following Evapotranspiration Adjustment Factors.

- Homes connected prior to December 31, 2010 receive 80 percent of ET
- Homes connected between January 1, 2011 and May 31, 2015 receive 70 percent of ET
- Homes connected on or after June 1, 2015 receive 50 percent of ET

Table 8-17. Comparison of WMWD and EMWD Budget-Based Rate Structure Tiers

Tier	WMWD Residential	EMWD Residential	WMWD Non-Residential	EMWD Non-Residential
Tier 1	100% IWB	0 - 20% TWB	90% TWB	100% TWB
Tier 2	100% OWB	20 - 100% TWB	10% TWB	101-150% TWB
Tier 3	25% TWB	101-150% TWB	25% TWB	Above Tier 2
Tier 4	25% TWB	Above Tier 3	25% TWB	
Tier 5	Above Tier 4	164	Above Tier 4	
	Residential		Non-Residential	
	EMWD Tier 1 Use ~ WMWD Tier 1 Use		EMWD Tier 1 Use = WMWD Tier 1 + Tier 2 Use	
	EMWD Tier 2 Use ~ WMWD Tier 2 Use		EMWD Tier 2 Use = WMWD Tier 3 + Tier 4 Use	
	EMWD Tier 3 Use = WMWD Tier 3 + Tier 4 Use		EMWD Tier 3 Use = WMWD Tier 5 Use	
	EMWD Tier 4 Use = WMWD Tier 4 Use			
	IWB = Indoor Water Budget OWB = Outdoor Water Budget TWB = Total Water Budget			

This FMSR is based on the assumption that the Study Area will be grandfathered into an ETAF that predates connection in 2010, as many of the single-family residences in the Study Area existed prior to 2010.

The way that EMWD allocates water between Tier 1 and Tier 2 is different from WMWD or RCWD.

- RCWD and WMWD have separate calculations for Indoor Water Budgets and Outdoor Water Budgets. All the Indoor Water Budget is sold at the Tier 1 rate and all of the Outdoor Water Budget is sold at the Tier 2 rate.
- EMWD calculates separate Indoor Water Budget and Outdoor Water Budgets, and then adds them together to generate the Total Water Budget.
- 20 percent of the Total Water Budget is sold at the Tier 1 water rate, and 80 percent of the Total Water Budget is sold at the Tier 2 water rate.

It is possible, for many Study Area residential connections, that more of their water use will be sold at Tier 2 rates under the EMWD Ownership Scenario than under the RCWD and WMWD Ownership Scenarios. For the EMWD Ownership Scenario, the total water cost calculation shown later in this Section is based on 18 ccf per month water consumption, with 3.4 ccf/month occurring in Tier 1. 3.4 ccf/month is 20 percent of 18 ccf/month. This is a reasonable assumption for the EMWD Ownership Scenario if the Total Water Budget is 18 ccf/month. It is not within the scope of this FMSR for the Consultant Team to evaluate the typical Total Water Budget for the Study Area connections to test this assumption.

Table 8-18 shows CY 2020 EMWD Financial Participation Charges. The FPC for most new connections would be $5,501.

Table 8-18. CY 2020 EMWD Financial Participation Charges

Meter Size	CY 2020 Financial Participation Charge
⅝" Meter	$5,501
¾" Meter	$5,501
1" Meter	$5,501
1.5" Meter	$27,505
2" Meter	$44,008 - $73,328
3" Meter	$146,711.67 - $183,348.33
4" Meter	$293,368.33 - $366,751.67
6" Meter	$586,792

Note:

If a range of Financial Participation Charges is shown, then the charge depends on the type of meter installed. The charges for ⅝" and ¾" meters shown are for residential customers, and assume a fire sprinkler is installed. Charges for residential customers without fire sprinklers are not shown in this table.

EMWD notes that the closest 2-inch water meter Financial Participation Charge for the example commercial customer described above is $44,008, and for this example commercial customer, a 1.5-inch meter might be applied.

8.4.2 Projected Revenues

Projected revenues by revenue type are described below.

8.4.2.1 Water Rate Revenues

Projected water rate revenues under the EMWD Ownership Scenario are shown in Table 8-19. The table shows total rate revenues under the Adjusted WMWD Rates as (1) annual revenue increases become effective, and (2) as the system transitions to use of then-current EMWD rates after the acquisition balance is paid off.

Table 8-19. Projected Water Rate Revenues, EMWD Ownership Scenario

Fiscal Year	Projected Water Rate Revenues	Applicable Rate Schedule
FY 20/21	$5,264,354	Adjusted WMWD Rates
FY 21/22	$5,552,652	Adjusted WMWD Rates
FY 22/23	$5,856,854	Adjusted WMWD Rates
FY 23/24	$6,177,717	Adjusted WMWD Rates
FY 24/25	$6,516,283	Adjusted WMWD Rates
FY 25/26	$6,874,068	Adjusted WMWD Rates
FY 26/27	$7,251,490	Adjusted WMWD Rates
FY 27/28	$7,649,779	Adjusted WMWD Rates
FY 28/29	$7,649,779	Adjusted WMWD Rates
FY 29/30	$7,649,779	Adjusted WMWD Rates

Notes:
(1) Rate increases presumed effective on July 1 of each year.
(2) Increase in rate revenues at RCWD's FY 19/20 Rates are from system growth.
(3) See Appendix B, Table B-5 for more detail.

Through at least the ten-year planning period the Adjusted WMWD Rate Schedule would be applicable. Future increases in the Adjusted WMWD Rates were estimated by FG Solutions based on providing sufficient revenues to fund projected water system expenses through FY 29/30 and completely pay down the Acquisition Balance (described below). Annual 3.8 percent increases from the Adjusted WMWD Rates in CY 2020 are projected.

To project how fast the Acquisition Balance is paid off, FG Solutions assumed that EMWD's retail rates would increase by 2.5 percent each year.

After the Acquisition Balance is paid off, EMWD would transition the Study Area to its then-current retail rate structure. This is expected to happen within approximately 12 years. Additional details of monthly water bill calculations are in Appendix B, Table B-5. For many single-family residential connections, the water rate would go down as rates are transitioned from the Adjusted WMWD Rates to EMWD Rates. It is possible that some commercial connections might see rate increases when rates are transitioned from the Adjusted WMWD Rates to EMWD Rates.

8.4.2.2 Other Revenues

Other revenues are from Financial Participation Charges, Standby Charges, interest income, and other miscellaneous sources of revenue such as rents/leases, and delinquent penalties. Table 8-20 shows the projected average annual revenue from each revenue source over the 10-year financial planning period. Water rate revenues are projected to represent nearly 90 percent of total water system revenues. The next largest source of revenues is from Financial Participation Charges.

Table 8-20. Projected Average Annual Revenues, EMWD Ownership Scenario

Type of Revenue	Projected Average Annual Revenue		
	Amount	Percentage	Note
Water Rates	6,487,761	89.3%	1
Financial Participation Charges	549,196	7.6%	1
Standby Charges	92,652	1.3%	1
Interest Income	78,881	1.1%	1
Delinquent Penalties	53,045	0.7%	1
Other	4,244	0.1%	1
Total	$7,265,778	100.0%	

Notes:
(1) See Appendix B, Table B-5 for more detail. Totals may not add up due to rounding.

Figure 8-11 shows projected revenues under the EMWD Ownership Scenario. Not shown in Figure 8-11 are revenues from Financial Participation Charges. This is because of EMWD intends to integrate the Study Area with the rest of EMWD's retail system, and Financial Participation Charges revenues from the Study Area would be deposited in EMWD's Financial Participation Charge fund serving its entire system.

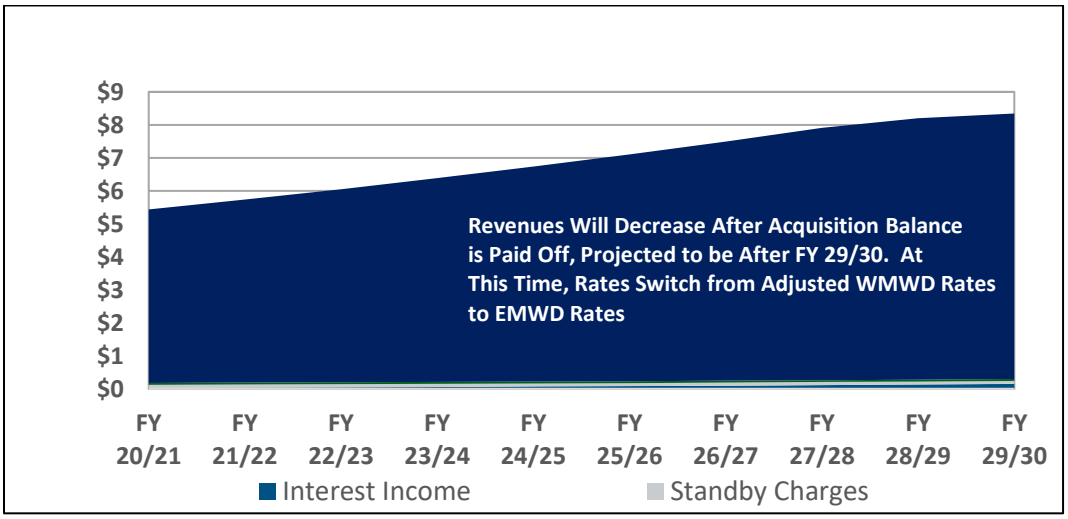


Figure 8-11. Projected Revenues: EMWD Scenario, $M

8.4.3 Projected Expenses

Projected expenses by type are provided below.

8.4.3.1 Study Area Share of EMWD Expenses

Table 8-21 shows how much EMWD estimates it will spend in FY 20/21 providing water service to its retail connections, on a per-acre foot basis. This unit cost, estimated at $1,850 AF of metered water consumption, includes O&M, repair/replacement capital, debt service, and post employment benefits.

Table 8-21. Estimated FY 20/21 EMWD Per Acre-Foot Cost of Water Service

Category	EMWD System-Wide Estimated FY 20/21 Cost
Purchased Water	78,021,000
Groundwater Replenishment O&M	724,417
Operations & Maintenance	20,335,266
Energy	7,729,356
Allocated Support Costs	24,850,322
General and Admin Allocation	5,054,221
Capital/Repair & Replacement	13,239,287
Debt Service	4,047,495
Post Employment Benefits	7,182,927
Total	$161,184,291
EMWD Acre-Feet Per Year Demand	88,100
Unit Cost, $/Acre-Foot Demand	$1,830

Table 8-22 shows the calculation of the projected FY 20/21 Study Area share of EMWD's water system cost.

Table 8-22. Projected Study Area Share of EMWD Water System Cost

FY 20/21 Unit Cost, $/Acre-Foot Demand	$1,830
Projected FY 20/21 Study Area Demand, AF	2,388
Projected FY 20/21 Study Area Share of EMWD Water System Cost	4,368,533

8.4.3.2 Capital Project Funding

Table 8-23 shows how the capital projects shown in Sections 5 and 6 would be funded. The majority of the projected approximately $53 million in capital investment is related to development. Approximately $7.2 million would be included in the Acquisition Balance, and an additional approximately $8.7 million would be funded by EMWD and paid for using Financial Participation Charge revenues.

Table 8-23. Projected Capital Improvement Funding, EMWD Ownership Scenario

Project	Estimated Cost, 2020 $	$ to Future Development			
		Acquisition Balance	Financial Participation Charges	Funded by Developers or Imp. District	Note
Storage (Hunter Tank)	4,056,000	2,245,626	1,810,374		1, 2, 3, 4
Expansion CIP North of Murrieta Creek	17,120,000			17,120,000	5
Expansion CIP South of Murrieta Creek	20,388,000			20,388,000	5
EMWD Hydraulic Improvements	1,468,000		1,468,000		3
Supply Improvements Through EMWD	5,379,000		5,379,000		3
Legacy (Small Diameter) Improvements	4,947,000	4,947,000			6
Total	$53,358,000	$7,192,626	$8,657,374	$37,508,000	0

Notes:

(1) The proposed improvement to the Hunter Tank would benefit existing Study Area connections, future development in the for the portion of the Hunter Tank that benefits the Study Area and excludes the portion that benefits the current EMWD retail service area.
(2) Project benefits both existing connections and future development. Cost division between existing connections and future development is based on the ratio of existing meter equivalents to buildout meter equivalents.
(3) The portion of the project cost that benefits existing connections would be included in the Acquisition Balance
(4) For facilities of this magnitude, EMWD would fund the project, and incorporate the cost in its Financial Participation Charge. Financial Participation Charge revenues, over time, would pay for the project.
(5) Under some circumstances, EMWD would accept an Assessment District or related type of financing for these improvements. For this analysis, these improvements would be funded either directly by developers or through an Assessment District(s). They would not be funded directly by EMWD.
(6) These improvements are needed to support existing development.

8.4.3.3 Preliminary Acquisition Balance Calculation

Table 8-24 shows the preliminary calculation of the Acquisition Balance. The majority of the Acquisition Balance is related to capital improvements that benefit existing connections, shown in Table 8-22. The WMWD-identified capital improvements for the tank mixing system, GIS system, and reservoir recoating are also included. Further, $620 per Meter Equivalent is assessed to buy in to existing EMWD facilities that would be used to supply water to the Study Area.

Table 8-24. Preliminary Acquisition Balance Calculation

Component of Acquisition Balance	Amount	Note
Capital Costs to Achieve Conditional and Operational Parity		
Identified in FMSR	$7,192,626	1
Identified by WMWD	$1,950,000	2
Prospective PERS Pension & OPEB Costs for Transferred Employees; Severance	$0	3
Replacement and Refurbishment Reserve	$0	4
Buy-In to Imported Water Turnouts, Distribution, and Treatment	$2,827,820	5
Total	$11,970,446	

Notes:

(1) See Table 8-22
(2) Includes GIS Mapping, Tank Mixing System, and Reservoir Recoating
(3) Not applicable, per EMWD. EMWD does not anticipate transfer of any existing WMWD staff under the EMWD Ownership Scenario.
(4) This is a charge that EMWD would normally assess, but is electing not to require because of the transfer of reserves associated with the Study Area from WMWD.
(5) $620 per meter equivalent.

Figure 8-12 shows total expenses under the EMWD Ownership Scenario. This figure shows the Study Area share of EMWD expenses, and the paydown of the Acquisition Balance.

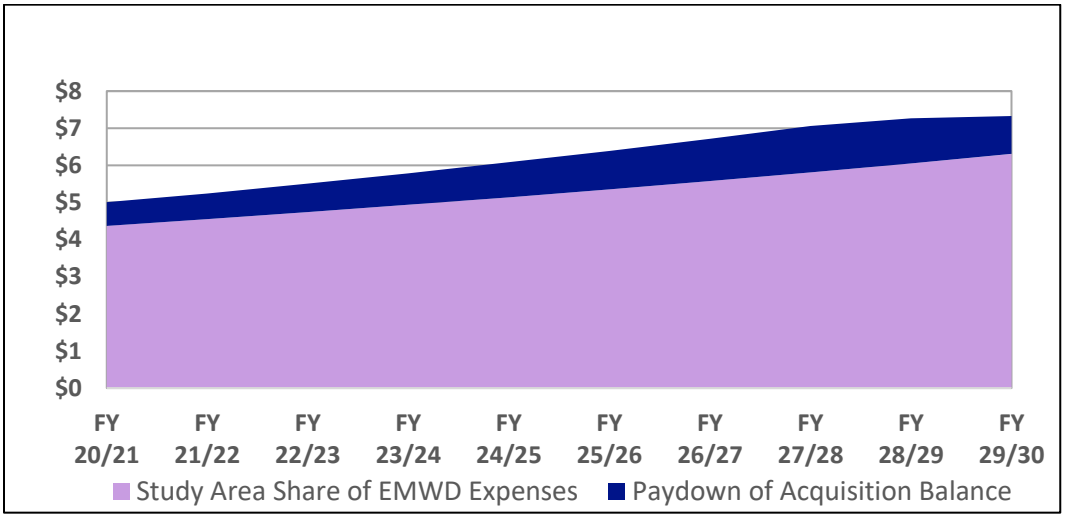


Figure 8-12. Projected Expenses: EMWD Scenario, $M

8.4.4 Projected Study Area Contribution to EMWD Reserves

Figure 8-13 shows the cumulative projected amount that the Study Area would contribute to EMWD's water system reserves. Because of the financially integrated nature of the EMWD Ownership Scenario, there would not be a separate reserve fund for the Study Area.

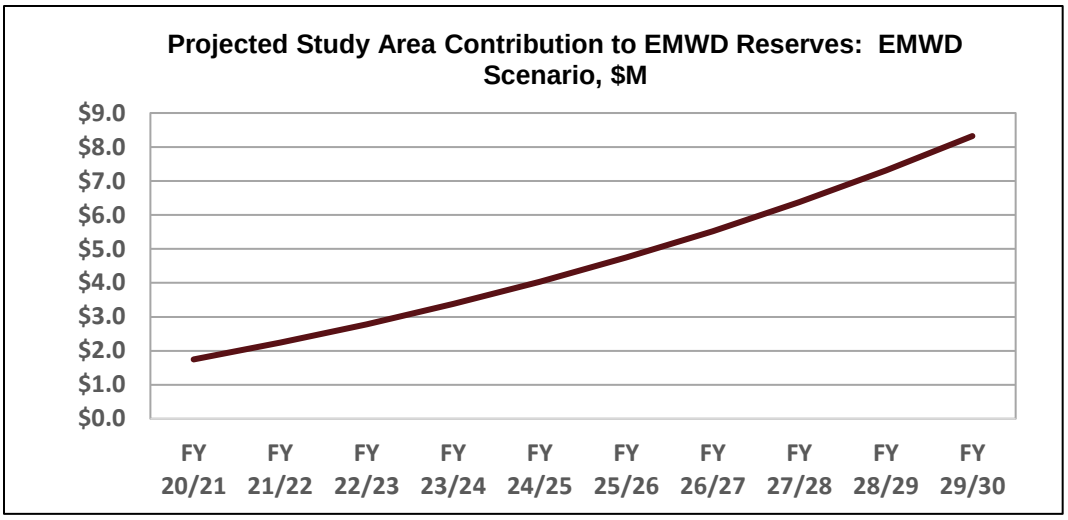


Figure 8-13. Projected Study Area Contribution to EMWD Reserves: EMWD Scenario, $M

8.4.5 Projected Total Cost of Water

The projected total cost of water is the sum of the water bill and the standby charge. It is shown for two example connections in Figures 8-14 and 8-15.

8.4.5.1 Example Single Family Residential Connection

- ¾-inch water meter
- Monthly water use of 18 ccf, with 8 ccf/month in Tier 1 and 10 ccf/month in Tier 2

8.4.5.2 Example Commercial Connection

- 2-inch water meter
- Monthly water use of 125 ccf
- 1 acre parcel

The graphs below show the effect of the projected annual 3.8 percent water rate revenue increases for the Adjusted WMWD Rates through FY 27/28.

As described above, in this analysis, the projected annual revenue increases are applied across the board percentage increases to all connections. No changes in the Adjusted WMWD Rate Structure or EMWD's rate structure are contemplated in this analysis other than applying across the board percentage increases. If EMWD acquires the water system, it may choose to adjust rate

structures to reflect EMWD policies or future cost of service analyses, and the total cost of water would be different from what is shown in Figures 8-14 and 8-15.

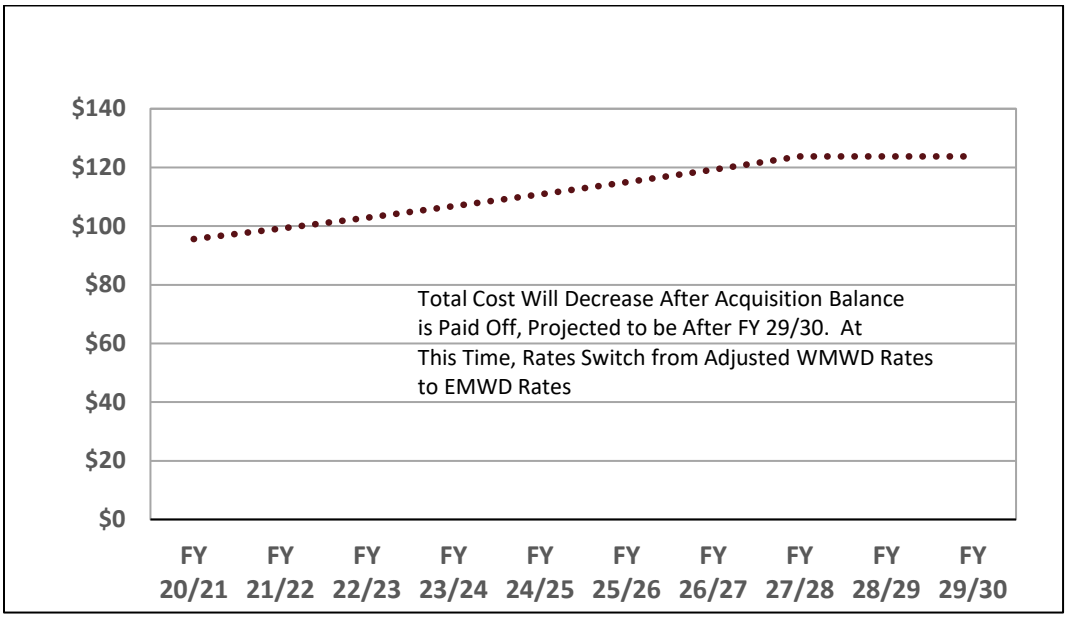


Figure 8-14. Projected Monthly Total Water Cost: EMWD Scenario (Single-Family Residence, ¾-inch Meter, 18 CCF/month)

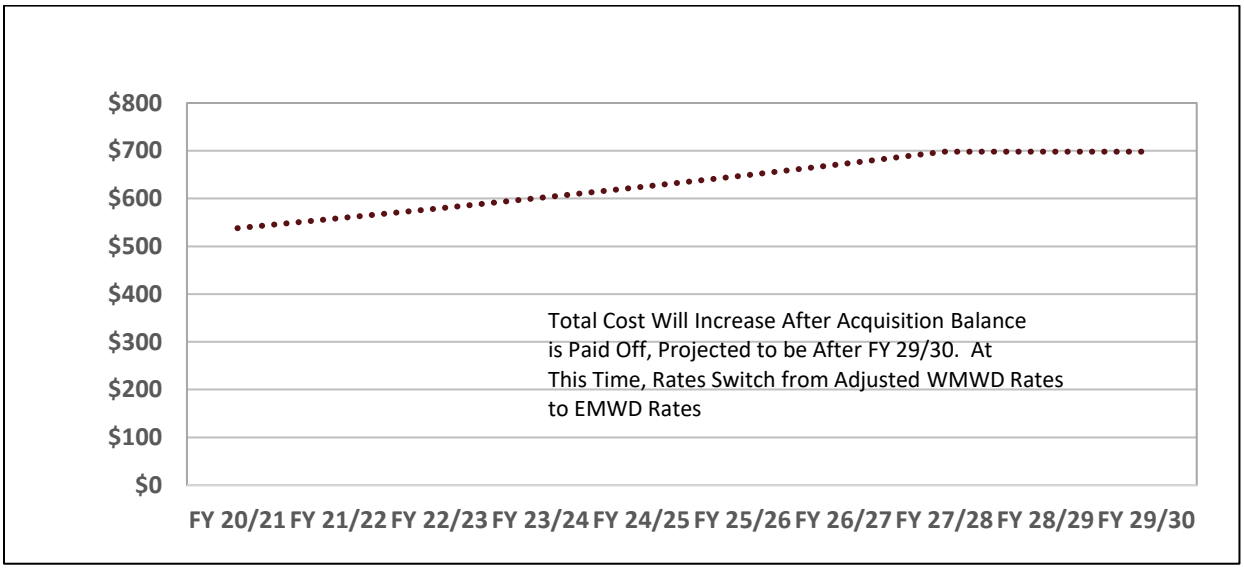


Figure 8-15. Projected Monthly Total Water Cost: EMWD Scenario (Commercial, 2-inch Meter, 125 CCF/month, $200K Land Value)

8.5 Side by Side Comparisons

Side by side comparisons for the total cost to existing connections and the total impact to development are provided below.

8.5.1 Total Cost to Existing Connections

Figure 8-16 shows the total cost of water for the single-family residential example, for all three Ownership Scenarios.

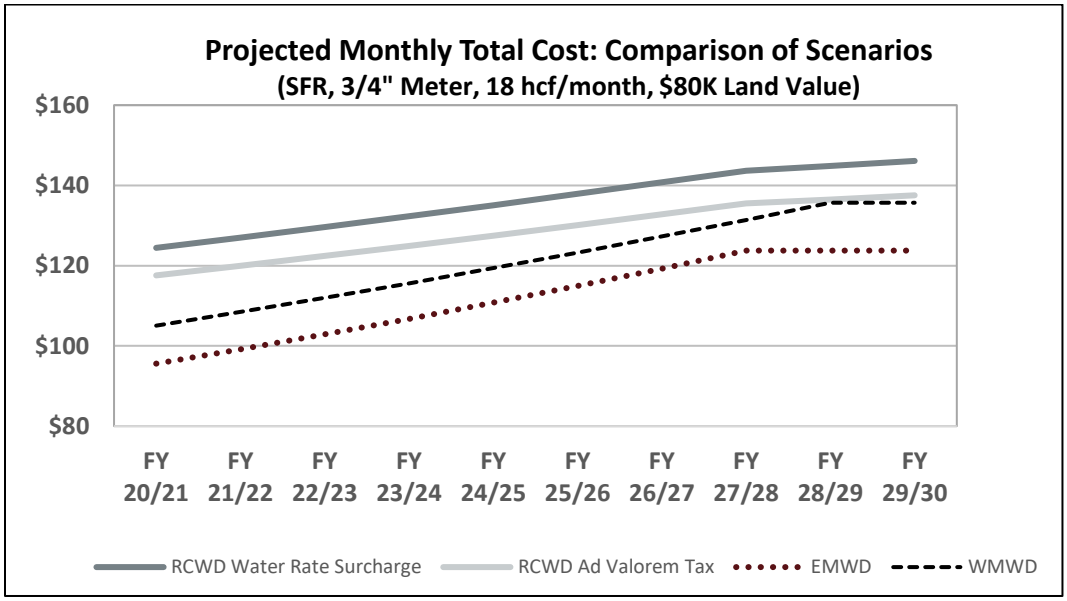


Figure 8-16. Projected Monthly Total Cost: Comparison of Scenarios (SFR, ¾-inch Meter, 18 CCF/month, $80K Land Value)

This graph shows that the EMWD Ownership Scenario, has the lowest total cost of water for the example single-family residence. After EMWD's Acquisition Balance is paid off (expected to be after FY 29/30), the total cost of water for the single-family residential example would decrease further. The RCWD Ownership Scenario has the highest total cost of water, though the total cost of water under the RCWD Ownership Scenario will also depend on whether an Ad Valorem tax is applied, or if RCWD applies the water rate surcharge.

Figure 8-17 shows the total cost of water for the commercial example, for all three Ownership Scenarios.

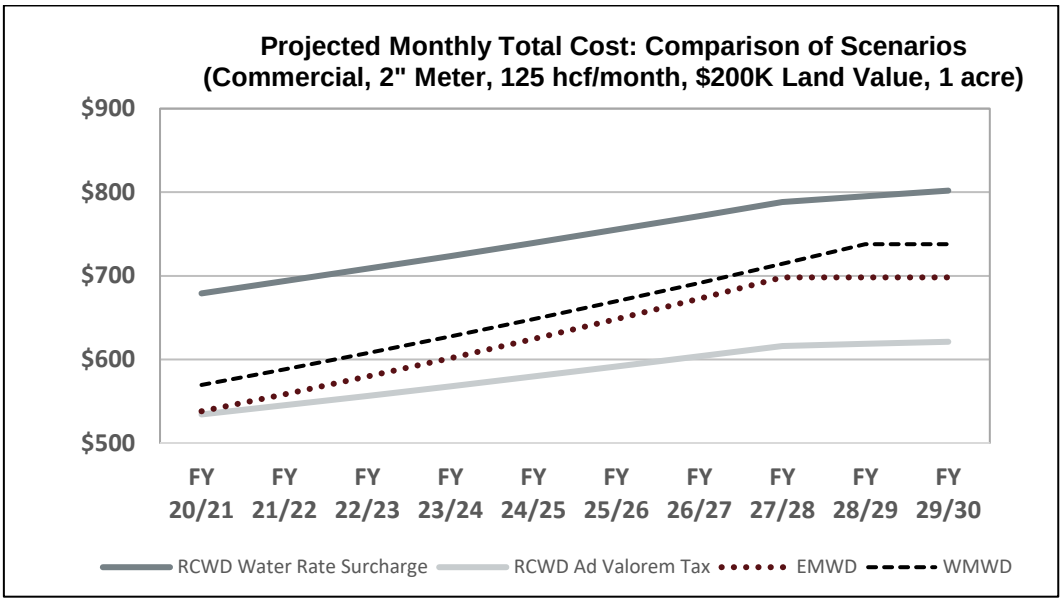


Figure 8-17. Projected Monthly Total Cost: Comparison of Scenarios (Commercial, 2-inch Meter, 125 CCF/month, $200K Land Value, 1 acre)

Figure 8-17 shows that the implementation of the Ad Valorem Tax results in the RCWD Ownership Scenario providing the lowest total cost of water for the land value assumption shown. If RCWD does not implement an Ad Valorem Tax, until the EMWD Acquisition Balance is paid off, the total cost of water for this commercial example will be lowest under the EMWD Ownership Scenario. There is a wide range of projected total cost under the RCWD Ownership Scenario, depending on whether an Ad Valorem Tax or Water Rate Surcharge is applied. After the EMWD's Acquisition Balance is paid off (expected to be after FY 29/30), the total cost of water under the EMWD Ownership Scenario is expected to increase, because EMWD's commercial water rates are generally higher than WMWD's commercial water rates.

8.5.2 Financial Impact to Development

The financial impact to development can be measured according to two factors:

1. How the $37 million in CIP Expansion improvements can be funded, and
2. The Magnitude of connection fees

8.5.2.1.1 CIP Expansion Improvement Funding

Developer Funding: In all Ownership Scenarios, Developer Funding is possible. This FMSR does not speculate on the capacity or willingness of developers to fund all or part of the $37 million of CIP Expansion improvements.

Community Facilities District and Assessment Funding: In all Ownership Scenarios, formation of one or more Community Facility District(s) or Assessment District(s) is possible. This FMSR does not speculate on how likely it for a Community Facility District or Assessment District to successfully form.

Table 8-25 outlines a comparison CFD and AD activity among the agencies. It should be noted that each agency has its own policies and procedures in place that reflects that agency's development demands, with some agencies more built out prior to this FMSR. RCWD did note that their low capacity fees and presence of existing RCWD water infrastructure near areas of development has allowed developers to proceed with projects without the need for CFDs or ADs, which is reflective of their total number of CFDs/ADs or requests to form them. Additionally, WMWD also noted they do not currently allow CFDs to be financed through the District, though they are a participant in CFDs/ADs.

Table 8-25. Comparison of CFD and AD Activity[a]

Agency	Total Overall CFDs/Ads in Program	Total CFDs/Ads In Process of Being Formed or Amended[e]	Total CFDs/Ads Formed in Past Five Years	Total CFDs as Participant in Past Five Years	Total CFDs/Ads as Lead Agency or Participant in Past Five Years
EMWD	83[b]	5	17	42	59
RCWD	4[c]	0	0	0	0
WMWD	19[d]	0	0	6	6

(a) Information gathered via available public records and requested of agencies.
(b) EMWD has issued or refinanced bonds for 38 of its total 83 ADs/CFDs in the past five years.
(c) RCWD has refinanced bonds for 3 of its total 4 ADs/CFDs.
(d) WMWD has not led the issuance or refinancing of bonds for any of its CFDs/ADs within the past five years. Lead agencies were the Murrieta Valley and Riverside Unified School Districts.
(e) Application and deposit received. Formation in progress but not complete.

8.5.2.1.2 Connection Fee Comparison

Future development will be required to pay a connection fee (or an equivalent charge with a different name) under all Ownership Scenarios. A comparison of CY 2020 connection fees for ¾-inch and 2-inch meters is shown below:

- **¾-inch Water Meter**
  - WMWD: $7,050
  - RCWD: $2,537
  - EMWD: $5,501
- **2-inch Water Meter**
  - WMWD: $37,599
  - RCWD: $13,445

— EMWD: Ranges between $44,008 - $73,328, depending on the type of 2-inch meter. The closest comparative fee appears to be the low end of the range at $44,008

For both meter sizes shown, RCWD has the lowest Connection Fees. Each agency calculates its connection fee differently, and RCWD's lower fees acknowledge that Ad Valorem tax revenues are also used to pay for water system infrastructure.

WMWD's Connection Fee for a ¾-inch meter is the highest, and EMWD's Connection Fee for a 2-inch meter is highest. EMWD's fee for a 2-inch meter is shown as a range because EMWD has multiple 2-inch meter Connection Fees for different types of 2-inch meters. Separately, in the example Total Cost to Ratepayers calculation, a customer with a 2-inch water meter and water consumption of 125 ccf/month is used for comparison. EMWD noted that this customer with water consumption of 125 ccf/month would likely require a 1.5-inch water meter. EMWD's Connection Fee for a 1.5-inch meter is $27,505.

8.6 Summary of Financial Analysis

Table 8-26 summarizes the key parameters associated with this FMSR.

Table 8-26. Key Parameters and Comparison of Ownership Scenarios

Parameter[a]	WMWD	RCWD	EMWD
Key Policies			
Financially Distinct or Financially Integrated	Distinct	Distinct[b]	Integrated
Ad Valorem Tax	No	Possibly[c]	No
Possible Funding Sources for $37M of Pipe Extensions			
Developers	Yes	Yes	Yes
Assessment Districts[d]	Yes	Yes	Yes
Community Facility Districts[d]	Yes, but can't be financed through WMWD	Yes	Yes
Low Income Discount	Yes	No	No
Projected Total Cost to Ratepayers			
Example Single-Family Residence	Middle	Highest	Lowest
Example Commercial Customer	Middle, but higher than EMWD Scenario.	If water rate surcharge then highest. If ad valorem tax then lowest.	Middle, but less than WMWD Scenario.
Residents with Private Wells			
Mandatory Connection of Private Wells	No	No	No
Standby Charge, $/Acre/year	$21	$69.92	$14
Voluntary Connection to Public Water System for Customers Currently Using Private Wells	Option to Convert Indoor Use Only. May reduce meter size and connection fee.	Must Convert Indoor and Irrigation Use.	Option to Convert Indoor Use Only. May reduce meter size and connection fee.
Connection Fee Comparison[e]			
Single Family Residential[f]	$7,050	$2,537	$5,501
2" Meter[g]	$37,599	$13,445	$44,008 - $73,328

(a) Please refer to Section 8 for more detail on these parameters.
(b) RCWD indicated that this policy would be reevaluated after RCWD has experience operating the system.
(c) The decision of whether to adopt an ad valorem tax under the RCWD Ownership Scenario will be made by the RCWD Board of Directors. If RCWD decides not to adopt an ad valorem tax, then RCWD would adopt a water rate surcharge that collects the same amount of money.
(d) Section 8.5.2 contains additional detail, including a comparison of how frequently each agency has used these funding mechanisms in the recent past.
(e) RCWD connection fees are lower because of revenue from Ad Valorem property taxes that reduce reliance on connection fees.
(f) The Connection Fee for a ¾-inch meter is shown to provide a standard for comparison. It is acknowledged that future single-family residences may require a 1-inch meter depending on fire sprinkler requirements inside the home.
(g) A 2-inch meter is shown for comparative purposes. Separately, in the example Total Cost to Ratepayers calculation, a customer with a 2-inch water meter and water consumption of 125 ccf/month is used for comparison. EMWD noted that this customer with water consumption of 125 ccf/month would likely require a 1.5-inch water meter. EMWD's Connection Fee for a 1.5-inch meter is $27,505

9.0 RAINBOW AND ROCK MOUNTAIN SERVICE AREA

At the outset of the FMSR for the Murrieta Study Area, several questions have come up regarding the analysis of the Rainbow and Rock and Mountain Study Areas. The questions center on how the analysis differs for the Rainbow and Rock Mountain Study Areas versus the Murrieta Study Area. It is correct that the Rainbow and Rock Mountain Study Areas were originally contemplated for analysis in the Request for Proposal. However, several key distinctions were identified that eliminated the need for such a detailed analysis of the Rainbow and Rock and Mountain Study Areas.

The most significant distinction is the physical infrastructure. Currently, the Rainbow and Rock Mountain Study Areas are WMWD customers. However, WMWD does not have physical facilities in the Rock Mountain Service Area. WMWD does have a storage reservoir, distribution pipelines and Metropolitan Water District (MWD) turnout in the Rainbow Service Area. The water operations for both service areas are provided under contract through RCWD. Because of this existing arrangement, a detailed analysis of the Rainbow and Rock Mountain areas would be largely duplicative. It was determined that a duplicate effort was not warranted under this Municipal Service Review. As a result, that detailed analysis was ultimately eliminated from the scope of work. However, West Yost was asked to include the key considerations, distinctions and rationale for this decision. These are outlined below:

- The Rainbow and Rock Mountain areas are physically served by WMWD through a contract with RCWD.
- WMWD does not have any physical facilities in the Rock Mountain Service Area.
- WMWD owns a storage reservoir, distribution pipelines and Metropolitan Water District (MWD) turnout in the Rainbow Service Area.
- Because of the existing infrastructure, RCWD could serve these areas directly, without the need for any significant infrastructure modifications or cost.
- The WMWD infrastructure in the Rainbow Service Area would require ownership transfer to RCWD.
- Continued WMWD ownership would require continuation of the contracted operation currently in place with RCWD.
- EMWD does not have any physical facilities in this area.
- EMWD ownership would also likely require contracted operation with RCWD.
- Rainbow study area's rate structure is a fixed monthly charge, plus commodity and elevation charges which depend on water use. The water rate structure is called a "uniform block" structure, meaning that all metered water consumption is sold at the same price. Rainbow does not have a budget-based water rate structure. If the ownership of the system is transferred from WMWD to EMWD or RCWD, either EMWD or RCWD will have to decide whether to retain the current rate structure, or change the rate structure to be consistent with what is charged to the agency's other customers.

Given the size and remote nature of the Rainbow and Rock Mountain Study Areas, the cost to build or extend infrastructure distinctly separate from RCWD's system, would impact those rates, and would likely make any other transfer scenario cost prohibitive.

10.0 DETERMINATIONS

The comparison of three potential water purveyors, each with distinct policy drivers, revenue approaches, and physical infrastructure in proximity to the study area, leads to a complex analysis. In conducting our analysis in this FMSR, West Yost carefully evaluated:

- The community input received by residents in the Murrieta Study Area, received at two community outreach meetings. The input we received was considered and included in our requests to each agency for specific policy directions. This included important community issues such as the potential use of Ad Valorem taxes, private well owners, rate implication and future development (growth paying for growth).
- Existing Facilities and Supply Sources, including MWD Annexation Fee considerations.
- Agency infrastructure policies, including anticipated water supply policies, current and future water demands, system peaking factors, build-out services policies, infrastructure performance criteria and corresponding infrastructure improvements required
- Numerous hydraulic model simulations were performed to simulate service from WMWD, RCWD and EMWD to meet current and future needs. This includes recommended improvements to the existing system and to serve potential future expansions. Detailed costs for improvements under all Ownership Scenarios were prepared and reviewed by the agencies.

After compiling the information and performing our analysis, we can offer the following overall conclusions regarding Infrastructure, Future Development and the Total Cost to Ratepayers.

10.1 Infrastructure

The cost of infrastructure to serve the Study Area's supply needs is one of the important factors in determining the most cost-effective approach to serve the area. The proximity of the Study Area to existing infrastructure has a significant impact on the cost of future or expanded infrastructure. The closer the Study Area is to existing infrastructure, the less infrastructure would be anticipated. We also analyzed potential impacts to connections with their own private wells:

- Due to its closer proximity to the Study Area and the presence of current infrastructure, RCWD has the lowest infrastructure costs associated with extending their facilities to provide service to future development.
- Under all Ownership Scenarios, nearly $5 million is anticipated to replace legacy small diameter water lines in the Study Area. For purposes of this FMSR, these improvements are projected to be done over the next 10 years.
- Both EMWD and WMWD offer an option for residents who currently use private wells. If a resident chooses to connect to the public water system, EMWD and WMWD offer the option of converting indoor use only, and would allow connections to leave their irrigation demands connected to their private well.
- EMWD offers existing private well users the lowest standby charges.

10.2 Future Development

Several important factors are important to accommodate potential development in the Study Area. These include connection fees for agencies, future extension of facilities, policies regarding growth paying for growth, and the funding mechanisms for infrastructure required to serve future development

- RCWD has the lowest connection fees of the three agencies
- The pipe extensions required to extend water service to facilitate development would not be funded directly by the utility. All agencies would allow developers to build and fund them.
- All agencies would allow formation of one or more Assessment Districts where the assessment is based on the value of the property.
- All agencies would allow formation of one or more CFDs, though WMWD does not allow CFDs to be financed through WMWD.
- This FMSR did not specifically asses the ability to immediately serve projected development in the Jefferson Avenue Corridor. That being said, it is likely the RCWD Ownership Scenario would allow some development in the Jefferson Avenue Corridor with less up front cost to developers than the other agencies. This is due to the closer proximity of existing RCWD infrastructure. However, depending on the location of the development, and the timing of future development, some of this developer-funded investment might be redundant or stranded in the long-term.

10.3 Total Cost to Ratepayers:

- Figure 8-16 shows that the EMWD Ownership Scenario, has the lowest total cost of water for the example single-family residence. After EMWD's Acquisition Balance is paid off (expected to be after FY 29/30), the total cost of water for the single-family residential example would decrease further. This anticipated reduction would occur after this FMWR's study threshold of ten years and is therefore not reflective in the report Figures.
- The total cost to connections under the RCWD scenario will depend on the specifics of each connection and whether RCWD chooses to (and is able to) adopt an Ad Valorem tax or pursue a water rate surcharge. Both RCWD alternatives were evaluated and are reflected in the single-family connection comparison and the commercial connection comparison.
- Figure 8-17 shows that until the Acquisition Balance is paid off (expected to be after FY 29/30), the total cost of water for this commercial example will be lowest under the EMWD Ownership Scenario. There is a wide range of projected total cost under the RCWD Ownership Scenario, depending on whether an Ad Valorem Tax or Water Rate Surcharge is applied. After the EMWD's Acquisition Balance is paid off (expected to be after FY 29/30), the total cost of water under the EMWD Ownership Scenario is expected to increase, because EMWD's commercial water rates are generally higher than WMWD's commercial water rates.

- It should be noted that EMWD believes its rate structure and policies may result in further commercial conservation. EMWD provided records for commercial connections nearest the Murrieta Study Area which indicated an average of 59 CCF/month for similar 2-inch water meters. Based on the EMWD data, the overall cost of the representative commercial connection would decrease due to the lower volume. The trend would be the same as described above. Initially, EMWD is likely to offer the lowest cost to commercial connections. After the Acquisition Balance is paid off (expected to be after FY 29/30, commercial connections may pay more under the EMWD Ownership Scenario than had WMWD retained water system ownership.

As stated at the outset of this report, there are several complex considerations that often overlap, but also compete for consideration in determining which agency should serve the Murrieta Retail Area. These include competing interest for existing and future customers. This includes both residential and retail/commercial customers. Some factors attributing to the complexity include the costs and efficiencies of system improvements serving existing customers or combined with expansion for future customers, proximity of existing infrastructure compared to rates and an agency's overall cost of service, availability of existing storage versus the feasibility of expanding storage facilities, etc. Nowhere do these issues appear to converge more than in the Murrieta Retail Service Area. This focused MSR specifically considered these competing issues in determining the hydraulic, infrastructure and financial implications for existing and future customers. The City of Murrieta also has a desire to facilitate the needs of future customers that will come from growth, through the potential build out of the region.

Because of these complexities and competing interests, this report established a methodology to allow each agency reasonable flexibility in their approaches and policies, while requesting those at the outset of this project. Each agency had respective input and control of their own financial models. However, only after each agency reviewed their model, were the cumulative results shared with all agencies. The objective was to minimize modifications to agreed assumptions or chosen policies, which would result in an iterative financial modeling process. This is not to say that any agencies policies are better. It is simply a reflection of applicability to the unique circumstances within the Murrieta Retail Area.

Based on the agreed key assumptions and the agencies respective policy approaches, the desired agency will likely depend on the customer perspectives. While some existing customers have expressed a desire to remain with WMWD, regardless of cost, the following general conclusions may be drawn. The representative existing and future residential customer would experience lower water bills under the EMWD ownership scenario. The representative existing and future commercial customer would experience lower water bills through at least FY 29/30 under the EMWD ownership scenario and potentially higher bills after but would depend on EMWD's conservation rate structure at that time. Existing landowners who wish to develop their properties may prefer the lower connection fees and closer proximity to existing RCWD infrastructure.

During the financial modeling process, all agencies have agreed with the process. However, when the consolidated financial model was shared among the three agencies, there was some indication that the agencies may wish to incorporate additional considerations. For purposes of this FMSR, those substantive modifications to the agreed key assumptions and policy decisions were not included, but may be submitted during the public comment period for this report and submitted to LAFCO for consideration.

Appendix A

Public Comment Summary

Appendix A: Public Comment Summary [1]

Public Comment/ Topic #	Provided Comment and/or Statement [2]	Response
1	A West Murrieta resident and member of Ad Hoc committee that was recently disbanded by the city. Attended meeting in July 2017, regarding annexing Murrieta into Rancho California's service area to share fixed costs, $135M in debt, that will retire in 2047.	Comment has been noted. This Murrieta Focused Municipal Service Review (FMSR) will independently consider Eastern Municipal Water District, Rancho California Water District and Western Municipal Water District based on equally evaluated criteria.
2	Comment expressed concerns over the development in the Jefferson Corridor.	The FMSR has many areas of consideration for the three participating water agencies. The City of Murrieta is also a participant in the study, with the desire to evaluate the water infrastructure required to serve the study area through buildout. The detailed results can be found in Section 5 of the FMSR. The FMSR does not provide assessment of the development policies within the General Plan, only the required water infrastructure to serve development.
3	Concern was expressed that fire flow is an issue.	Fire flow analyses were conducted under the existing and ultimate buildout conditions for all three water agencies. See Sections 3 and 5 in the FMSR.
4	Resident expressed a general concern with the Murrieta study area changing service from WMWD to RCWD	Comment has been noted. This Murrieta Focused Municipal Service Review (FMSR) will independently consider Eastern Municipal Water District, Rancho California Water District and Western Municipal Water District based on equally evaluated criteria.
5	The commenter wants assurances from LAFCO for 1.) A complete story from City and Districts 2.) If a change is anticipated, requests the boundary change be thoroughly evaluated, and 3.) A public forum to discuss the potential change.	The FMSR does provide a through evaluation of the issues facing each agency and any potential de-annexation. LAFCO has stated it's intent to hold a public forum, in addition to any regular board meeting.
6	Comment was focused on the need for another study, the $260k cost. Commenter directed their comment to City representatives that development is the intent behind the study.	The FMSR has many technical areas for consideration in the scope of work, to consider the three participating water agencies. The City of Murrieta is also a participant in the study, with the desire to evaluate the water infrastructure required to serve the study area through buildout.
7	What will the cost be to join RCWD and the Ad Valorem Tax implications.	To respond the residents concerns, RCWD had two scenarios analyzed. One funding mechanism would utilize a water rate surcharge, the other is an Ad Valorem Tax. The results of the RCWD analysis it address in detail in Section 8.3 of the FMSR.
8	Resident as lived in Murrieta his entire life and can remember fire hydrants wrapped in black plastic when agencies do not work cooperatively.	Comment has been noted. This Murrieta Focused Municipal Service Review (FMSR) will independently consider Eastern Municipal Water District, Rancho California Water District and Western Municipal Water District based on equally evaluated criteria, to help resolve the type of concern the resident raised. See Section 5 in the FMSR.
9	Resident was thankful for the community attendance and voicing their concerns and expressed concerns that private well owners will be forced to connect to the agency systems and abandon their wells or have their wells metered. The resident indicated this was the case in in French Valley and Temecula. Lots of money. The resident wanted written assurances in the report.	Each agency was specifically asked to address this concern with their respective policies. Sections 7.2.9, 7.2.10, Table 7-3 and Table 8-25 outlines each agencies' policy.
10	Room is too small.	Comment was noted and larger accommodations will be sought in the future.
11	Is Wildomar being considered as part of the study area.	The Wildomar area is not a part of this FMSR.
12	No information sent to residents about this meeting, I heard about it on social media. Meeting should have been advertised.	Comment has been noted by the participating agencies. WMWD indicated notifications were sent and will look into why some residents may not have received a notice.
13	Community member residence is on a well and has concerns if access to City water would jeopardize use of their well. Also felt too many permits are issued for multi-family developments.	Each agency was specifically asked to address this concern with their respective policies. Sections 7.2.9, 7.2.10, Table 7-3 and Table 8-26 outlines each agencies' policy. The specific land use types utilized in this study rely on the City's General Plan. Modifications to the General Plan are not part of the FMSR project.
14	Community member expressed concerns the is not enough water to serve current homes.	The agencies have all expressed an ability to provide sufficient water, consistent with reliability requirements.
15	Community member expressed their belief a pre-decision has been made and nothing can be done to change it.	No pre-decision was ever made, regarding which agencies will serve the Murrieta Study Area. The results of the study differ from some of the beliefs expressed in the community meetings.
16	Community member expressed their concern if there is sufficient groundwater for existing, let alone future demands.	Comment is noted by the agencies. The scope of the FMSR looked at the financial implication across the agencies. The amount of water currently used by existing customers is not expected to change, independent of the agency serving the Murrieta Study Area. Future growth would require further evaluation of future demands and sources, before development could occur.
17	Community member reinforced a prior comment, stating that issuance of building permits for high density development and apartment complexes is too significant.	The specific land use types utilized in this study rely on the City's General Plan. Modifications to the General Plan and approvals by the City are not part of the FMSR project.

Appendix A: Public Comment Summary [1]

Public Comment/ Topic #	Provided Comment and/or Statement [2]	Response
18	Several resident of raised concerns over paying connection fees and feel they do not receive any benefit.	The basis and benefits why WMWD assesses its Standby Charges (or Assessment Charge) are outline on the District's website and Resolution 3126.
19	Long time resident of Murrieta indicated he was not notified about the community meeting.	Comment has been noted by the participating agencies. WMWD indicated notifications were sent and will look into why some residents may not have received a notice.
20	Long time resident expressed his distrust of RCWD and the LAFCO process, particularly since some members in the community live on a fixed income.	Comment has been noted. This Murrieta Focused Municipal Service Review (FMSR) will independently consider Eastern Municipal Water District, Rancho California Water District and Western Municipal Water District based on equally evaluated criteria, to help resolve the type of concern the resident raised. See Section 5 in the FMSR.
21	Long time resident has lived in Murrieta since 1984. This would be the 3rd water district change he has seen.	Comment has been noted. This Murrieta Focused Municipal Service Review (FMSR) will independently consider Eastern Municipal Water District, Rancho California Water District and Western Municipal Water District based on equally evaluated criteria, to help resolve the type of concern the resident raised.
22	Long time resident expressed concerns on the existing condition and long term sustainability of the existing water system.	The residents concern is noted. The FMSR does evaluate improvements to the existing water system. Please see Section 5.0 of the FMSR.
23	Long time resident indicated that WMWD recently installed new water meter, and felt a leak and sinkhole was caused by the meter or nearby aging infrastructure.	Comment has been noted. We can not provide any context if the construction work caused a leak. However, the FMSR dose evaluate the magnitude of aging infrastructure that should be considered for replacement.
24	Resident who lives in Old Town Murrieta, on a well expressed his concern a meter will be put on his well.	Each agency was specifically asked to address this concern with their respective policies. Sections 7.2.9, 7.2.10, Table 7-3 and Table 8-25 outlines each agencies' policy.
25	Resident who lives in Old Town Murrieta expressed concerns about the amount of development.	The FMSR has many areas of consideration for the three participating water agencies. The City of Murrieta is also a participant in the study, with the desire to evaluate the water infrastructure required to serve the study area through buildout. The detailed results can be found in Section 5 of the FMSR. The FMSR does not provide assessment of the development policies within the General Plan, only the required water infrastructure to serve development.
26	Resident who lives in Old Town Murrieta expressed concerns that aquifer drawdown could result in his need to drill a deeper well, at a cost of $50K to $60k.	Comment is noted by the agencies. The scope of the FMSR looked at the financial implication across the agencies. The amount of water currently used by existing customers is not expected to change, independent of the agency serving the Murrieta Study Area. Future growth would require further evaluation of future demands and sources, before development could occur.
27	Resident who lives in Old Town Murrieta expressed he had no desire to receive City.	Comment has been noted. Each agency was specifically asked to address this concern with their respective policies. Sections 7.2.9, 7.2.10, Table 7-3 and Table 8-26 outlines each agencies' policy.
28	Community member indicated they are in a disagreement with RCWD regarding ownership of groundwater rights and is in discussion with the Watermaster. County Kennels "the Window".	Comment has been noted. Specific disputes between a participating agency and customer are not within the scope of the FMSR.
29	A resident of Murrieta since 1957 expressed concerns of over pumped aquifer and potential lost capacity.	Comment is noted by the agencies. The scope of the FMSR looked at the financial implication across the agencies. The amount of water currently used by existing customers is not expected to change, independent of the agency serving the Murrieta Study Area. Future growth would require further evaluation of future demands and sources, before development could occur.
30	A resident of Murrieta since 1957 expressed his resistance to be annexed into RCWD's service area.	Comment has been noted. This Murrieta Focused Municipal Service Review (FMSR) will independently consider Eastern Municipal Water District, Rancho California Water District and Western Municipal Water District based on equally evaluated criteria.
31	Resident has lived in Murrieta since 1983. She has had disagreements with WMWD over meters, but would like the system to remain with WMWD. She feels WMWD will address the aging infrastructure over time.	Comment has been noted. This Murrieta Focused Municipal Service Review (FMSR) will independently consider Eastern Municipal Water District, Rancho California Water District and Western Municipal Water District based on equally evaluated criteria, including improvements to existing infrastructure.
32	Several long term Murrieta resident expressed objections to growth and change in the community.	The FMSR has many areas of consideration for the three participating water agencies. The City of Murrieta is also a participant in the study, with the desire to evaluate the water infrastructure required to serve the study area through buildout.
33	Resident has lived in Murrieta since 1983 and objections to any agency impacting her ability to continue to use her well.	Each agency was specifically asked to address this concern with their respective policies. Sections 7.2.9, 7.2.10, Table 7-3 and Table 8-25 outlines each agencies' policy.

Appendix A: Public Comment Summary [1]

Public Comment/ Topic #	Provided Comment and/or Statement [2]	Response
34	A recent resident of Murrieta inquired which City representatives and elected officials were present for the meetings. He wants the FMSR to be clear in it's conveying of information.	City representatives identified themselves in the meeting. The comments on clarity of the report have been noted. The FMSR provides detailed analysis of infrastructure needs, cost and the financial and rate implications to customers, for each of the participating agencies.
35	How is Murrieta paying for this?	The $255k project cost are equally split between the City of Murrieta, EMWD, RCWD and WMWD.
36	Resident question how will conflicts with existing agency policies be handled, if identified.	The process implemented for the FSMR was intended to address this concern. From the outset of the FMSR, each agency was asked to provide the necessary policy inputs, prior to the analysis being performed. This would reduce the opportunity for policy changes as the results were developed. The policy input provided to West Yost are included within the FMSR.
37	How will ongoing contact with public? Will there be another public meeting ? When WY provides findings to LAFCO, will the meeting be held in Murrieta at a good time when the public can attend, and in a place that will hold everyone?	Ongoing public interface will be handled by LAFCO and WMWD, for their customers and residents. Subsequent to this comment, a third public kickoff meeting was requested by residents and held at the Murrieta Community Center. LAFCO has stated it's intent to hold a public forum, in addition to any regular board meeting. The location is not yet determined due to COVID-19 requirements, but is anticipated to occur in the Murrieta area, at a convenient time for the residents.
38	Resident expressed appreciation that multiple community kickoff meetings were held. Thank you for doing the meeting twice. Resident also stated they participated in a meeting 22 months ago where developers expressed concerns over the cost it would take to get water to their development sites.	Comment is appreciated and noted. The required infrastructure and costs are outlined in Section 6 of this FMSR. It should be noted the consistent policy from the agencies has been growth will pay for growth.
39	Resident expressed a WMWD turning district over to RCWD. Developers and city hall are together.	Comment has been noted. This Murrieta Focused Municipal Service Review (FMSR) will independently consider Eastern Municipal Water District, Rancho California Water District and Western Municipal Water District based on equally evaluated criteria. There are no pre-determined conclusions in the FMSR.
40	Resident expressed concerns over an RCWD annexation to share in existing fixed costs and debt.	The RCWD analysis in the FMSR treated the study area as financially distinct.
41	Resident asked West Yost to look into the Ad Valorem Tax carefully and expressed concerns that if study area is given to RCWD and they became part of Santa Rosa, they would have to pay the Ad Valorem Tax.	To respond the residents concerns, RCWD had two scenarios analyzed. One funding mechanism would utilize a water rate surcharge, the other is an Ad Valorem Tax. The results of the RCWD analysis it address in detail in Section 8.3 of the FMSR.
42	Resident stated that EMWD also has the authority to charge an Ad Valorem Tax	EMWD did not request an Ad Valorem Tax financial analysis to be considered in the FMSR.
43	A resident requested clarification of the structure and authority of the LAFCO Commission.	LAFCO provided an explanation at the meeting.
44	Resident indicated they moved to the are because it was less expensive. Resident indicated that water is becoming more scarce. They have a pool, and are concerned about their financial ability to keep it filled.	Comment has been noted. Sections 7 and 8 of the FMSR will assist the resident in assessing the cost implication of service from any of the three water districts.
45	Resident asked if there will be time to review the final FMSR, prior to any LAFCO Commission meeting?	LAFCO has stated it's intent to hold a public forum, in addition to any regular board meeting. The location is not yet determined due to COVID-19 requirements, but is anticipated to occur in the Murrieta area, at a convenient time for the residents. LAFCO plans to release the report prior to any public meeting and the subsequent commission meeting.
46	Residents asked what initiated looking at this study?	The FMSR was initiated by a request from the City of Murrieta to LAFCO to evaluate the long term infrastructure, cost and financial implications for water service in the Murrieta Retail Area.
47	Resident stated they have lived in the Murrieta area most of their life, but lives outside of boundary of the study area and is on a well, Santa Rosa area. Concerns were raised over the Ad Valorem Tax and RCWD's history with the Murrieta community.	To respond the residents concerns, RCWD had two scenarios analyzed. One funding mechanism would utilize a water rate surcharge, the other is an Ad Valorem Tax. The results of the RCWD analysis it address in detail in Section 8.3 of the FMSR.
48	Comment was provided that developers have to install interior sprinklers.	Generally, this is true. However, the FMSR does not analyze the interior plumbing requirements for any given home or unit.
49	Resident questioned why they were not notified of the meeting and requested advanced notification for future meetings.	Comment has been noted by the participating agencies. WMWD indicated notifications were sent and will look into why some residents may not have received a notice.
50	Resident expressed concerns the AV tax would not be taken into account the.	To respond the residents concerns, RCWD had two scenarios analyzed. One funding mechanism would utilize a water rate surcharge, the other is an Ad Valorem Tax. The results of the RCWD analysis it address in detail in Section 8.3 of the FMSR.
51	Resident expressed concerns over an Ad Valorem Tax and wanted assurances it would be analyzed in the FMSR.	To respond the residents concerns, RCWD had two scenarios analyzed. One funding mechanism would utilize a water rate surcharge, the other is an Ad Valorem Tax. The results of the RCWD analysis it address in detail in Section 8.3 of the FMSR.
52	why was study commissioned? Was it at developers request? What was the process? How to object?	

Appendix A: Public Comment Summary [1]

Public Comment/ Topic #	Provided Comment and/or Statement [2]	Response
53	Why did the water districts and the City agree to pay for the study?	All four agencies mutually agreed an analysis through LAFCO was the best course of action to preserve the necessary independence of a study, for the agencies and the public.
54	Member of the community commented the State can re-adjust agency territories.	Agency boundary adjustments are under the authority of the Riverside LAFCO, who initiated the Murrieta FMSR.
55	Resident commented that well owners may not have received a notice of the meeting because they are not a customer.	Comment has been noted by the participating agencies. WMWD indicated notifications were sent and will look into why some residents may not have received a notice.
56	Residents asked West Yost to look at differences between the water districts regarding metering of private wells.	Each agency provided their respective policies regarding any proposed connection and metering of private wells. Please see Section 8 and Table 8-26 for those policy positions.
57	Resident asked if the community would get to vote on any proposed RCWD Ad Valorem Tax.	Responses were given at the public comments meeting that residents would have an opportunity to vote on an Ad Valorem Tax. However, West Yost are not attorneys who can advise the community on legal or voting matters. To respond the residents concerns, RCWD did request the Ad Valorem tax scenario to be included in the FMSR.
58	Self sustaining questions regarding the study area. Will it be financially distinct from growth projections.	The sustainability of the study area's existing customers weas considered. The FMSR evaluated the necessary infrastructure from each agencies perspective. All growth related infrastructure components/increases will be paid for by those future customers. Growth pays for growth.
59	How will LAFCO maintain contact with public? Will public be able to observe meetings? I just want to observe, I wont talk.	Ongoing public interface will be handled by LAFCO and WMWD, for their customers and residents. Subsequent to this comment, a third public kickoff meeting was requested by residents and held at the Murrieta Community Center. LAFCO has stated it's intent to hold a public forum, in addition to any regular board meeting. The location is not yet determined due to COVID-19 requirements, but is anticipated to occur in the Murrieta area, at a convenient time for the residents. Regular project meetings were not open to the public.
60	Murrieta resident of 40 years asked if fees are all going to be based on lot size? Resident commented that large parcels could pay 5 times than homeowners and 5 acres is more than a residential parcel. Resident feels this is unfair and could force people to sell or subdivide. Fees should be based on house size and not parcel size.	Comment is noted by the agencies. The scope of the FMSR looked at the financial implication across the agencies. The fees based on assessed land values must be consistent with state and local laws for land versus improvement valuations.
61	A community member identified themselves as a real estate developer for 30 years. He expressed concerns about the availability, cost and quality of water.	Comment is noted. The FMSR analyzes each of these issues throughout the report.
62	Several additional residents expressed significant concerns about any agency requiring the metering of their well. The well owners requested for policy clarification within the FMSR.	Each agency was specifically asked to address this concern with their respective policies. Sections 7.2.9, 7.2.10, Table 7-3 and Table 8-25 outlines each agencies' policy.
63	Question was raised if West Yost project dollars for WMWD infrastructure, and if stays with WMWD, who will pay for the infrastructure upgrade?	Yes, the infrastructure and costs for WMWD was analyzed, and also for RCWD and EMWD. Please see Section 5.0 (5.1 for WMWD) for the identified infrastructure and Section 6.0 (6.2.1 for WMWD) of the FMSR.
64	Resident requested a detail analysis of the financial implications.	Detailed financial analysis were completed for the FMSR. Please see Sections 7 and 8 of the FMSR.
65	Resident raised concerns that apartments should have to pay the same fees.	For the FMSR, water rates and fees are applied based on the policies of the respective agency. Modifications to rates and fees are not contemplated within the purview of the FMSR.
66	Resident expressed concerns they will be paying for developers to come in and expressed that anyone interested in buying property should do their homework.	As stated above, the sustainability of the study area's existing customers weas considered. The FMSR evaluated the necessary infrastructure from each agencies perspective. All growth related infrastructure components/increases will be paid for by those future customers. Growth pays for growth.
67	Resident indicated they were told the FMSR would include all costs, also taking into consideration infrastructure costs.	That is correct. The infrastructure and costs for EMWD, RCWD and WMWD were analyzed. Please see Section 5.0 for the identified infrastructure and Section 6.0 for respective cost within the FMSR.

Appendix A: Public Comment Summary [1]

Public Comment/ Topic #	Provided Comment and/or Statement [2]	Response
68	Resident asked how far into future are bills projected? Resident stated they read online they project out to 2050.	While agencies look at long range forecasting, the threshold for this FMSR is ten years. This covers (2) five year Proposition 218 cycles.
69	Resident asked if it is part of the FMSR scope of work to look at adding catch basins? Resident's pond is filled much of the year. Concerns were also expressed over any lining of natural creeks.	The FMSR focuses only on domestic water service only. Stormwater flows, storm drains, creeks and catch basins are not part of the FMSR.
70	Assessment district is okay.	
71	Resident expressed concerns over their property taxes increasing under an Ad Valorem Tax.	To respond the residents concerns, RCWD had two scenarios analyzed. One funding mechanism would utilize a water rate surcharge, the other is an Ad Valorem Tax. The results of the RCWD analysis it address in detail in Section 8.3 of the FMSR.

Notes:
(1) Several members of the public expressed similar comments throughout the public meetings. Where comments and topics overlapped, responses were consolidated within this summary of responses.
(2) The "Provided Comment and/or Statements" column is not intended to provide a verbatim representation or meeting minutes of any particular comment. It is intended to capture the essence of a comment or statement, in order to provide clarity or location where it is covered in the FMSR.

Appendix B

Detailed Financial Models

RIVERSIDE LAFCO
Murrieta Focused Municipal Service Review: Financial Analysis

OCTOBER 2020

Table B-1
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
General Assumptions and Parameters

Line	General Assumptions and Parameters											
1												
2	Gross Plant Value of WMWD Assets, $M					$14.60	Source: WMWD CY 2020 Model, "Assets" tab					
3												
4			FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
5	General Inflation		2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
7	CIP Escalation		2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
8	Change in per capita water consumption		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
9												
10		CY 2020	CY 2021	CY 2022	CY 2023	CY 2024	CY 2025	CY 2026	CY 2027	CY 2028	CY 2029	CY 2030
11	MWD Unit Costs (1)											
12	Full Service Treated Volumetric Cost ($/AF)											
13	Tier 1	$1,078	$1,131	$1,183	$1,237	$1,270	$1,306	$1,336	$1,370	$1,403	$1,442	$1,486
14	Tier 2	$1,165	$1,178	$1,196	$1,218	$1,236	$1,269	$1,278	$1,299	$1,321	$1,354	$1,388
15	Full Service Untreated Volumetric Cost ($/AF)											
16	Tier 1	$755	$781	$807	$836	$860	$889	$916	$945	$974	$998	$1,023
17	Tier 2	$842	$855	$873	$895	$913	$936	$955	$976	$998	$1,023	$1,049
18												
19	Projected EMWD Los Alamos Rate, $/AF (2)	$1,350.48	$1,408.72	$1,469.26	$1,532.11	$1,573.13	$1,617.53	$1,655.87	$1,698.66	$1,740.64	$1,789.20	$1,843.29
20												
21												
22		FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
23	Projected Source Production and Treatment Unit Costs (3)											
24	Source of Supply / AF	$223.73	$229.32	$235.05	$240.93	$246.95	$253.13	$259.45	$265.94	$272.59	$279.40	$286.39
25	Treatment / AF	$89.55	$91.79	$94.09	$96.44	$98.85	$101.32	$103.86	$106.45	$109.11	$111.84	$114.64
26	Total	$313.28	$321.11	$329.14	$337.37	$345.80	$354.45	$363.31	$372.39	$381.70	$391.25	$401.03
27												
28	Water Supply in Acre-feet, per FY (4) (5)	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
29	Local	363	1,452	1,452	1,452	1,452	1,452	1,452	1,452	1,452	1,452	1,452
30	Additional Local Production from New Well No. 3						0	0	0	0	0	0
31	Imported	2,025	936	974	1,014	1,054	1,094	1,136	1,178	1,221	1,264	1,308
32	Total	2,388	2,388	2,426	2,466	2,506	2,546	2,588	2,630	2,673	2,716	2,760
33												
34	% Change in Imported Water Volumes			4.1%	4.0%	3.9%	3.9%	3.8%	3.7%	3.6%	3.6%	3.5%

Table B-1 Notes:

(1) Tier 1 Treated rate from WMWD 2/19/2020 per proposed MWD Updated 10-Year Financial Forecast. Others: From MWD 10-Year Financial Forecast, 2018 (Page 5)

(2) Source: WMWD 2/19/2020

(3) Source: WMWD, 2/19/2020, based on FY 18/19 actual expenses adjusted by rate of General Inflation for future years

(4) FY 19/20 and FY 20/21 equals WMWD's water consumption data plus 3.5% non-revenue water

(5) Groundwater production assumed to remain at 1,452 acre-feet per year, therefore all increase in water supply is from an increase in imported water. FY 19/20 value is lower. because North Well is out of service. Source: WMWD, 2/19/2020.

Table B-2
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
Customer and Water Use Data

This Table Contains:

FY 19/20 Number of Murrieta Study Area Accounts

Meter Size	SFR	MFR	COM	IRR	Schools	Fire Protection	Total (1)
5/8"	347	2	25	3	0	105	482
3/4"	1,939	6	10	3	0	10	1,968
1"	76		51	45	0		172
1.5"	1		31	45	0		77
2"	1	41	75	44	0		161
3"			4	1	0		5
4"		2	2				4
Total	2,364	51	198	141	0	115	2,869

Notes:
(1) Source: WMWD, 2/19/2020. Based on customer meter export at January 15, 2020. Commercial accounts include schools

FY 19/20 Number of Murrieta Study Area Meter Equivalents

		Using WMWD Meter Equivalent Ratios		Using EMWD Meter Equivalent Ratios		Using RCWD Meter Equivalent Ratios	
Meter Size	No. of Accounts	Ratio (1)	No. of Meter Equivalents(2)	Ratio (3)	No. of Meter Equivalents(2)	Ratio (4)	No. of Meter Equivalents(2)
5/8"	482	1.00	482.00	1.00	482.00	0.67	322.94
3/4"	1,968	1.00	1,968.00	1.00	1,968.00	1.00	1,968.00
1"	172	1.67	287.24	1.50	258.00	1.70	292.40
1.5"	77	3.33	256.41	5.00	385.00	3.30	254.10
2"	161	5.33	858.13	8.00	1,288.00	5.30	853.30
3"	5	11.67	58.35	16.00	80.00	16.70	83.50
4"	4	21.00	84.00	25.00	100.00	33.30	133.20
Total	2,869		3,994.13		4,561.00		3,907.44

(1) Source: WMWD Connection Fee Study, Table B-2
(2) Meter Equivalent calculation is based on the number of connections from WMWD's CY 2020 Rate Model
(3) Source: EMWD Cost of Service Study, Table 1-1.
(4) Source: RCWD email 11/25/19

Table B-2
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
Customer and Water Use Data

Projected Number of Single-Family Residential Connections (refer to line: 216 below for annual percent growth rates.)

Meter Size	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
5/8"	347	353	359	365	371	377	383	389	395	401	408
3/4"	1,939	1,970	2,002	2,034	2,067	2,100	2,134	2,169	2,204	2,240	2,276
1"	76	77	78	79	80	81	82	83	84	85	86
1.5"	1	1	1	1	1	1	1	1	1	1	1
2"	1	1	1	1	1	1	1	1	1	1	1
3"	0	0	0	0	0	0	0	0	0	0	0
4"											
Total	2,364	2,402	2,441	2,480	2,520	2,560	2,601	2,643	2,685	2,728	2,772

Projected Number of Multi-Family Residential Connections (refer to line: 216 below for annual percent growth rates.)

Meter Size	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
5/8"	2	2	2	2	2	2	2	2	2	2	2
3/4"	6	6	6	6	6	6	6	6	6	6	6
1"	0	0	0	0	0	0	0	0	0	0	0
1.5"	0	0	0	0	0	0	0	0	0	0	0
2"	41	42	43	44	45	46	47	48	49	50	51
3"	0	0	0	0	0	0	0	0	0	0	0
4"											
Total	49	50	51	52	53	54	55	56	57	58	59

Projected Number of Commercial Connections (refer to line: 216 below for annual percent growth rates.)

Meter Size	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
5/8"	25	25	25	25	25	25	25	25	25	25	25
3/4"	10	10	10	10	10	10	10	10	10	10	10
1"	51	52	53	54	55	56	57	58	59	60	61
1.5"	31	32	33	34	35	36	37	38	39	40	41
2"	75	76	77	78	79	80	81	82	83	84	85
3"	4	4	4	4	4	4	4	4	4	4	4
4"	2	2	2	2	2	2	2	2	2	2	2
Total	198	201	204	207	210	213	216	219	222	225	228

Projected Number of Irrigation Connections (refer to line: 216 below for annual percent growth rates.)

Meter Size	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
5/8"	3	3	3	3	3	3	3	3	3	3	3
3/4"	3	3	3	3	3	3	3	3	3	3	3
1"	45	46	47	48	49	50	51	52	53	54	55
1.5"	45	46	47	48	49	50	51	52	53	54	55
2"	44	45	46	47	48	49	50	51	52	53	54
3"	1	1	1	1	1	1	1	1	1	1	1
4"	0	0	0	0	0	0	0	0	0	0	0
Total	141	144	147	150	153	156	159	162	165	168	171

Table B-2
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
Customer and Water Use Data

Projected Number of School Connections Note: WMWD includes usage for schools in its Commercial customer class

Projected Number of Fire Protection Connections (refer to line: 216 below for annual percent growth rates.)

Meter Size	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
5/8"	105	107	109	111	113	115	117	119	121	123	125
3/4"	10	10	10	10	10	10	10	10	10	10	10
1"	0	0	0	0	0	0	0	0	0	0	0
1.5"	0	0	0	0	0	0	0	0	0	0	0
2"	0	0	0	0	0	0	0	0	0	0	0
3"	0	0	0	0	0	0	0	0	0	0	0
4"	0	0	0	0	0	0	0	0	0	0	0
Total	115	117	119	121	123	125	127	129	131	133	135

Total Projected Number of Connections

Meter Size	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
5/8"	482	490	498	506	514	522	530	538	546	554	563
3/4"	1,968	1,999	2,031	2,063	2,096	2,129	2,163	2,198	2,233	2,269	2,305
1"	172	175	178	181	184	187	190	193	196	199	202
1.5"	77	79	81	83	85	87	89	91	93	95	97
2"	161	164	167	170	173	176	179	182	185	188	191
3"	5	5	5	5	5	5	5	5	5	5	5
4"	2	2	2	2	2	2	2	2	2	2	2
Total	2,867	2,914	2,962	3,010	3,059	3,108	3,158	3,209	3,260	3,312	3,365

Monthly Water Use in Murrieta Study Area, All Customer Classes

	Monthly Water Use, ccf												Total Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Usage
Tier 1	28,000	30,000	28,000	36,000	38,000	50,000	50,000	40,000	40,000	38,000	35,000	42,000	455,000
Tier 2	19,000	20,000	17,000	30,000	48,000	50,000	68,000	58,000	50,000	36,000	30,000	25,000	451,000
Tier 3	3,000	1,500	1,300	1,700	2,800	3,500	4,200	5,000	5,300	4,500	4,200	3,800	40,800
Tier 4	1,500	1,200	1,000	800	1,200	1,400	1,700	2,100	2,300	2,200	2,100	2,000	19,500
Tier 5	3,500	2,000	1,800	1,900	2,400	2,900	2,200	4,000	3,500	3,800	4,400	5,000	37,400
Total	55,000	54,700	49,100	70,400	92,400	107,800	126,100	109,100	101,100	84,500	75,700	77,800	1,003,700

Source: WMWD, 2/19/2020

Total in AFY	2,304
Compare to current total demand, per West Yost, AFY	2,090

Murrieta Study Area Single Family Residential Usage (ccf, 2013-2014 Average)

Source: WMWD CY 2020 Rate Model, get tab and cell range

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Annual
Tier 1. Efficient Indoor Use	22,680	22,592	22,465	22,146	21,883	21,548	18,572	17,380	20,464	21,603	22,233	22,528	256,092
Tier 2. Efficient Outdoor Use	36,572	36,748	34,623	28,042	22,795	17,251	6,399	9,368	12,966	19,636	31,661	38,928	294,987
Tier 3. Inefficient Use	786	808	1,492	1,355	1,028	894	307	296	368	202	698	953	9,187
Tier 4. Excessive Use	203	211	660	520	470	412	117	89	88	64	184	327	3,345
Tier 5. Unsustainable Use	69	81	561	417	303	354	501	100	30	75	124	202	2,817
Total	60,309	60,440	59,801	52,480	46,479	40,459	25,895	27,232	33,916	41,580	54,899	62,938	566,428

Table B-2
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
Customer and Water Use Data

Annual Usage by Tier for Each Customer Class, ccf

Step 1. Use Previously Provided Data from WMWD's CY 2020 Rate Model, As Percent of Total. Assume Fire Protection Account Use is 0.

	Single-Family Residential		Multi-Family Residential		Irrigation		All Other (CII)		Fire Prot.	Total	
	Annual Usage	% of Tier Usage	Annual Usage	% of Tier Usage	Annual Usage	% of Tier Usage	Annual Usage	% of Tier Usage	Annual Usage	Annual Usage	% of Total Usage
Tier 1	256,092	68.31%	73,043	19.48%	0	0.00%	45,738	12.20%	0	374,873	41%
Tier 2	295,675	64.94%	2,498	0.55%	119,854	26.33%	37,248	8.18%	0	455,274	50%
Tier 3	8,729	32.90%	1,251	4.72%	12,965	48.87%	3,586	13.51%	0	26,531	3%
Tier 4	3,203	22.92%	523	3.74%	8,549	61.17%	1,700	12.16%	0	13,975	2%
Tier 5	2,728	6.14%	253	0.57%	36,963	83.13%	4,520	10.17%	0	44,464	5%
Total	566,428		77,568		178,331		92,791		0	915,118	100%
% of Usage	62%		8%		19%		10%		0%		

Step 1. Multiply Percentages from Previously Provided Data from CY 2020 Rate Model (which is a projection) by Total Demand by Tier Data Provided by WMWD 2/19/2020.

	SFR	MFR	Irrigation	All Other (CII)	Fire Prot.	Total
	Annual Usage	Annual Usage	Annual Usage	Annual Usage	Annual Usage	Annual Usage
Tier 1	310,830	88,655	0	55,514	0	455,000
Tier 2	292,899	2,475	118,728	36,898	0	451,000
Tier 3	13,424	1,924	19,938	5,514	0	40,800
Tier 4	4,470	730	11,929	2,372	0	19,500
Tier 5	2,295	213	31,090	3,802	0	37,400
Total	623,918	93,996	181,686	104,100	0	1,003,700

Annual Source of Supply, Current (Data is Superseded by Data Found in Table B-1)

Current Average Source of Supply

Unit of GPM	1,295	gpm	Source: West Yost, 12/20/19
Units of GPD	1,864,800	gpd	
Units of Cubic Feet per Day	249,305	cf per day	
Units of Cubic Feet per Year	91,058,583	cf per year	
Units of Acre Feet Per Year	2,090	afy	

Table B-2
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
Customer and Water Use Data

Projected Water Demands from 2017 Kennedy Jenks Draft Western Murrieta Retail Demand Projection

Source: Kennedy/Jenks DRAFT Western Murrieta Retail Demand Projection July 2017, Table 3-2, page 25 of 31 (Scenario 2a, Recommended Scenario; units = AFY)

	Year						
Category	2010	2015	2020	2025	2030	2035	2040
Single Family Indoor (1)	313	395	440	477	517	560	577
Single Family Outdoor (2)	940	1,184	1,320	1,430	1,550	1,680	1,732
Single Family Total (3)	1,254	1,578	1,760	1,907	2,067	2,240	2,309
Commercial/Multi-Family Indoor (4)	253	319	355	385	417	452	466
Commercial/Multi-Family Outdoor (5)	309	389	434	470	510	553	570
Commercial/Multi-Family Total (6)	562	708	789	855	927	1,005	1,036
Landscape Potable (7)	640	806	899	974	1,056	1,144	1,179
Temporary	5	7	8	9	10	11	11
Total	2,461	3,099	3,456	3,745	4,060	4,400	4,535
Annual Percent Growth				1.62%	1.63%		

Notes from Kennedy Jenks report:

Note: Assumes 2016 SCAG growth rate plus an additional 0.5% increment of annual growth. Differences in totals between Table 3-3 and Table 2-12 due to rounding.
(1) Assumes indoor water use 25% of total water use.
(2) Assumes outdoor water use 75% of total water use.
(3) Years 2010-2015 based on Western Meter Data, Cost Center 270, Single Family Category.
(4) Assumes indoor water use 45% of total water use.
(5) Assumes outdoor water use 55% of total water use.
(6) Years 2010-2015 based on Western Meter Data, Cost Center 270. Commercial/Multi-Family includes Commercial, Multi-Family, Religious Organizations, Restaurants, Schools, and Park Restrooms.
(7) Years 2010-2015 based on Western Meter Data, Cost Center 270. Landscape includes Landscape Potable, Hydrant, and Fire Protection.

Use of this data in the financial analysis: Not directly used in calculations, but used for comparison of growth rates.

Projected Annual Growth Rate from 2017 Kennedy Jenks Draft Western Murrieta Retail Demand Projection

Source: Kennedy/Jenks DRAFT Western Murrieta Retail Demand Projection July 2017, page 25

Category	2020-2025	2025-2030
Single Family Indoor (1)	1.63%	1.62%
Single Family Outdoor (2)	1.61%	1.62%
Single Family Total (3)	1.62%	1.62%
Commercial/Multi-Family Indoor (4)	1.64%	1.61%
Commercial/Multi-Family Outdoor (5)	1.61%	1.65%
Commercial/Multi-Family Total (6)	1.62%	1.63%
Landscape Potable (7)	1.62%	1.63%
Temporary	2.38%	2.13%
Total	1.62%	1.63%

Notes from Kennedy Jenks report:

Note: Assumes 2016 SCAG growth rate plus an additional 0.5% increment of annual growth. Differences in totals between Table 3-3 and Table 2-12 due to rounding.
(1) Assumes indoor water use 25% of total water use.
(2) Assumes outdoor water use 75% of total water use.
(3) Years 2010-2015 based on Western Meter Data, Cost Center 270, Single Family Category.
(4) Assumes indoor water use 45% of total water use.
(5) Assumes outdoor water use 55% of total water use.
(6) Years 2010-2015 based on Western Meter Data, Cost Center 270. Commercial/Multi-Family includes Commercial, Multi-Family, Religious Organizations, Restaurants, Schools, and Park Restrooms.
(7) Years 2010-2015 based on Western Meter Data, Cost Center 270. Landscape includes Landscape Potable, Hydrant, and Fire Protection.

Use of this data in the financial analysis: The total percent growth rates in the last line of this table are used as the projected water system growth rates.

Table B-2
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
Customer and Water Use Data

These annual growth rates are used to project water rate revenues, certain O&M expenses, the number of service connections, and connection fee revenues.

Projected Buildout Meter Equivalents

Methodology: Use West Yost Water Demand Projections

Current Average Day Demand, gpm	1,295	
Projected Buildout Average Day Demand, gpm	2,339	Note 1
% Increase in Average Day Demand at Buildout	80.62%	
% Increase in Meter Equivalents at Buildout	80.62%	
Increase in Meter Equivalents at Buildout	3,219.98	
Number of Meter Equivalents at Buildout	7,214.11	

Notes:
(1) Scenario: Build-Out Demand With Parcels Served by Existing Private Well Within 1,000' of Existing Pipeline Converted to Municipal Service. Note that any such connections of customers on existing private wells to municipal service is voluntary. Inclusion of these customers connecting is how the facilities are being planned for, in the event they connect in the future.

Table B-3
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
WMWD SCENARIO TABLES

Table B-3a
WMWD SCENARIO Projected Operating Statement: Sources of Funds

Line		WMWD Fund	Projected FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	Notes
1	**Beginning Reserve Balance as of 7/1**													
2	Operating Fund 230	230	$3,109,336	$2,493,163	$2,796,455	$2,454,184	$2,443,753	$2,651,231	$2,986,003	$3,266,784	$3,597,474	$4,090,579	$4,517,531	1, 2
3	Connection Fee Fund 231	231	($1,223,311)	($820,381)	($706,630)	($940,411)	($1,169,367)	($1,385,570)	($1,596,515)	($1,864,512)	($2,109,889)	($2,340,461)	($2,547,054)	1, 2
4	Distribution Fund 233	233	$256,807	$261,943	$267,182	$272,526	$277,976	$283,536	$289,206	$294,991	$300,890	$306,908	$313,046	1, 2
5	Asset Replacement Fund 235	235	$4,049,899	$2,378,668	$2,439,691	$3,057,860	$2,688,391	$3,311,534	$3,947,139	$4,285,518	$4,730,664	$5,184,713	$5,747,844	1, 2
6														
7	**Sources of Funds**													
8	Customer Rates (CY 2019 and CY 2020 Rates)	230	5,061,033											3
9	Customer Rates (CY 2020 Rates)	230		5,539,097	5,628,784	5,719,924	5,812,539	5,906,653	6,002,834	6,100,580	6,199,919	6,300,875	6,403,474	4
10														
11	Additional Rate Revenues (Rate Increases CY 2021 and Subsequent Years)													5
12	Fiscal	% of Water	Months											
13	Year	Rate Revenue	of Revenue											
14	FY 19/20	N/A	N/A	230										
15	FY 20/21	3.3%	6	230		91,395	185,750	188,757	191,814	194,920	198,094	201,319	204,597	207,929	211,315	
16	FY 21/22	3.3%	6	230			95,940	194,986	198,144	201,352	204,631	207,963	211,349	214,791	218,288	
17	FY 22/23	3.3%	6	230				100,710	204,682	207,997	211,383	214,825	218,324	221,879	225,492	
18	FY 23/24	3.3%	6	230					105,718	214,860	218,359	221,915	225,528	229,201	232,933	
19	FY 24/25	3.3%	6	230						110,975	225,565	229,238	232,971	236,764	240,620	
20	FY 25/26	3.3%	6	230							116,504	236,803	240,659	244,577	248,560	
21	FY 26/27	3.3%	6	230								122,309	248,600	252,649	256,763	
22	FY 27/28	3.3%	6	230									128,402	260,986	265,236	
23	FY 28/29		6	230										0	0	
24	FY 29/30		6	230											0	
25	Total Additional Rate Revenue				$0	$91,395	$281,690	$484,453	$700,358	$930,104	$1,174,536	$1,434,372	$1,710,430	$1,868,776	$1,899,207	
26																
27	Total Customer Rate Revenues, Fund 230				$5,061,033	$5,630,492	$5,910,474	$6,204,377	$6,512,897	$6,836,757	$7,177,370	$7,534,952	$7,910,349	$8,169,651	$8,302,681	
28																
29	Non-Rate Revenue															
30	Non-Operating Revenues															
31	Property Tax	230			2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	
32	Operating Revenues															
33	Interest Income	230			62,187	49,863	55,929	49,084	48,875	53,025	59,720	65,336	71,949	81,812	90,351	
34	Interest Income	231			0	0	0	0	0	0	0	0	0	0	0	
35	Interest Income	233			5,136	5,239	5,344	5,451	5,560	5,671	5,784	5,900	6,018	6,138	6,261	
36	Interest Income	235			80,998	47,573	48,794	61,157	53,768	66,231	78,943	85,710	94,613	103,694	114,957	
37	Delinquent Penalties	230			53,045	53,045	53,045	53,045	53,045	53,045	53,045	53,045	53,045	53,045	53,045	
38	Water Availability Charge Revenue	230			138,978	138,978	138,978	138,978	138,978	138,978	138,978	138,978	138,978	138,978	138,978	
39	Other - New Service Set Up & Meter Repair	230			4,244	4,244	4,244	4,244	4,244	4,244	4,244	4,244	4,244	4,244	4,244	
40	Water Reliability Charge Revenue	230			0	0	0	0	0	0	0	0	0	0	0	
41	Connection Fees	231			469,995	481,745	501,196	513,726	534,351	547,709	569,578	592,198	607,002	630,982	655,781	6
43	Debt Proceeds, FMSR Capital, Existing Customers	235					5,197,442				8,016,251					12
44	Debt Proceeds, FMSR Capital, Development	231					5,651,312				6,462,522					12
45	Debt Proceeds, New Well No. 3	235							0							
46	Total Non-Rate Revenue				$2,816,583	$782,688	$11,658,283	$827,684	$840,820	$870,902	$15,391,064	$947,410	$977,850	$1,020,893	$1,065,617	
47																
48	Total Revenues				$7,877,616	$6,413,180	$17,568,757	$7,032,061	$7,353,717	$7,707,659	$22,568,434	$8,482,363	$8,888,199	$9,190,544	$9,368,298	
49	Table Notes for this table are found after Table B-3b															

Table B-3
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
WMWD SCENARIO TABLES

Table B-3b
WMWD SCENARIO Projected Operating Statement: Uses of Funds and Financial Performance Criteria

		WMWD	Projected											
		Fund	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	Notes
50	**Uses of Funds**													
51	O&M Expenditures Source of Data: FY 19/20 from WMWD, 2/19/2020													7
52	Water Pumping	230	272,503	279,316	286,298	293,456	300,792	308,312	316,020	323,920	332,018	340,319	348,827	8
53	Transmission & Distribution	230	1,312,466	1,345,278	1,378,910	1,413,382	1,448,717	1,484,935	1,522,058	1,560,110	1,599,112	1,639,090	1,680,067	
54	Customer Accounts	230	187,042	194,822	202,926	211,367	220,159	229,317	238,878	248,836	259,211	270,017	281,274	8
55	G&A Allocation	230	651,575	667,864	684,561	701,675	719,217	737,197	755,627	774,518	793,881	813,728	834,071	
56	Other Operating Expenses	230	123,698	126,790	129,960	133,209	136,539	139,953	143,452	147,038	150,714	154,482	158,344	
57														
58	Other Expenditures													
59	Purchased Water	230	$2,734,384	$1,318,210	$1,431,664	$1,553,099	$1,657,486	$1,769,890	$1,880,495	$2,000,664	$2,124,645	$2,261,783	$2,411,685	8
60	Source of Supply	230	81,213	332,973	341,297	349,829	358,575	367,539	376,728	386,146	395,800	405,695	415,837	13
61	Treatment	230	32,508	133,284	136,616	140,031	143,532	147,120	150,798	154,568	158,432	162,393	166,453	13
62	Water Use Efficiency	230	49,950	51,199	52,479	53,791	55,135	56,514	57,927	59,375	60,859	62,381	63,940	
63	Other Non-Operating Expense	230	3,320	3,403	3,488	3,575	3,665	3,756	3,850	3,946	4,045	4,146	4,250	
64														
65	Other Expenditures (Other than O&M)													
66	Capital (GIS Mapping, Tank Mixing System)	230	$0	$500,000	$350,000	$0	$0	$0	$0	$0	$0	$0	$0	9
67	Debt Service, Interfund Loan for North Well	230	0	108,743	108,743	108,743	108,743	108,743	108,743	108,743	108,743	108,743	108,743	
68	Capital Project Funding - 231	231	0	0	0	0	0	0	0	0	0	0	0	
69	Debt Service - 231	231	67,065	67,054	67,016	67,009	66,976	66,976	66,976	66,976	66,976	66,976	66,976	
70	Capital Project Funding - 233	233	0	0	0	0	0	0	0	0	0	0	0	
71	Debt Service - 233	233	0	0	0	0	0	0	0	0	0	0	0	
72	Capital Projects - 235	235	4,241,229	0	0	1,100,000		0	0	0	0	0	0	9
73	Study Area Repair & Replacement	235		500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	10
74														
75	FMSR Capital Projects													
76	PAYG Capital, Existing Customers	235		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
77	PAYG Capital, Future Development	231		$300,940	$308,464	$316,175	$324,079	$332,181	$0	$0	$0	$0	$0	
78	PAYG, Annual Debt Svc, Existing Customers	235		$0	$330,625	$330,625	$330,625	$330,625	$840,564	$840,564	$840,564	$840,564	$840,564	11
79	PAYG, Annual Debt Svc, Future Development	231		$0	$359,498	$359,498	$359,498	$359,498	$770,599	$770,599	$770,599	$770,599	$770,599	11
80	FMSR Capital Projects, Existing Customers	235			5,197,442				8,016,251					11
81	FMSR Capital Projects, Future Development	231			5,651,312				6,462,522					11
82	New Well No. 3	235					0							11
83														
84	Total Uses of Funds		$9,756,953	$5,929,875	$17,521,298	$7,635,465	$6,733,739	$6,942,557	$22,211,486	$7,946,004	$8,165,600	$8,400,915	$8,651,630	
85														
86	Interfund Transfer: 230 to 235		489,000	513,450	1,400,000	1,500,000	1,400,000	1,400,000	1,600,000	1,700,000	1,700,000	1,800,000	1,850,000	12
87														
88	**End of Year Balance**													
89	Operating Fund 230		$2,493,163	$2,796,455	$2,454,184	$2,443,753	$2,651,231	$2,986,003	$3,266,784	$3,597,474	$4,090,579	$4,517,531	$4,785,339	
90	Connection Fee Fund 231		($820,381)	($706,630)	($940,411)	($1,169,367)	($1,385,570)	($1,596,515)	($1,864,512)	($2,109,889)	($2,340,461)	($2,547,054)	($2,728,847)	
91	Distribution Fund 233		$261,943	$267,182	$272,526	$277,976	$283,536	$289,206	$294,991	$300,890	$306,908	$313,046	$319,307	
92	Asset Replacement Fund 235		$2,378,668	$2,439,691	$3,057,860	$2,688,391	$3,311,534	$3,947,139	$4,285,518	$4,730,664	$5,184,713	$5,747,844	$6,372,236	
93	Math Check, should equal $0		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
94														

Table B-3
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
WMWD SCENARIO TABLES

95	**Financial Performance Criteria**											
96	Operating Reserve: Target 3 - 6 months of Operating Expenses (2013 Reserve Policies, Page 7 as found in Appendix to 2018 - 2020 Budget)											
97	Operating Expenses (230 expenses less capital)	$5,448,659	$4,453,138	$4,648,199	$4,853,415	$5,043,818	$5,244,534	$5,445,832	$5,659,122	$5,878,718	$6,114,034	$6,364,748	
98	3 Months Operating Expenses	$1,362,165	$1,113,284	$1,162,050	$1,213,354	$1,260,954	$1,311,134	$1,361,458	$1,414,781	$1,469,679	$1,528,508	$1,591,187	
99	6 Months Operating Expenses	$2,724,330	$2,226,569	$2,324,099	$2,426,707	$2,521,909	$2,622,267	$2,722,916	$2,829,561	$2,939,359	$3,057,017	$3,182,374	
100	Projected EOY 230+231 Reserve Balance	$1,672,783	$2,089,825	$1,513,773	$1,274,386	$1,265,662	$1,389,488	$1,402,272	$1,487,585	$1,750,117	$1,970,477	$2,056,491	13
101	OK?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
102													
103	Asset Replacement Fund Reserve: Target between $6,355,923 and $14,235,000 per WMWD 2/5/2020												
104	Projected EOY 235 Reserve Balance	$2,378,668	$2,439,691	$3,057,860	$2,688,391	$3,311,534	$3,947,139	$4,285,518	$4,730,664	$5,184,713	$5,747,844	$6,372,236	
105	OK?	No	No	No	No	No	No	No	No	No	No	Yes	
106													
107													

108 **Notes to Tables A-3a and A-3b:**
109 (1) FY 19/20 Beginning Balance per WMWD, 2/4/2020
110 (2) WMWD has four funds used to separately track water system revenues and expenses
111 (3) Source: WMWD Calendar Year 2020 Rate Model
112 (4) Calculated by FG Solutions based on WMWD's CY 2020 Rates and Customer, Water Use data contained in WMWD's CY 2020 Rate Model. See Table A3-c. ~1.6% annual system growth is also included in the calculations (See Table B-2)
113 (5) Projected rate increases are calculated by FG Solutions based on meeting the cash needs of the utility.
114 (6) Connection Fee revenues are included in this analysis and they will be used to pay for Development Capital. See Table B-3c.
115 (7) FY 19/20 expenses from WMWD's FY 19/20 budget. All expenses except debt service and capital improvements are escalated for inflation.
116 (8) Projected expenses are also adjusted for system growth in addition to inflation. Purchased Water expenses based on imported acre-feet times EMWD's per acre-foot cost (see Table B-1).
117 FY 19/20 imported water deliveries and costs are higher than typical because the North Well has been out of service, which reduces local groundwater production.
118 (9) Source: $500K for GIS Mapping and $1.1M for Reservoir Recoating. Schedule per WMWD 2/4/2020. FY 19/20 North Well $ from WMWD, 2/19/2020. $5M for 3rd Well, FY 23/24, per WMWD 2/04/2020.
119 $350K for tank mixing system and schedule from WMWD 2/19/2020.
120 (10) Per WMWD, 2/5/2020
121 (11) See Tables A-3d and A-3e.
122 (12) Transfers estimated by FG Solutions based on meeting the minimum reserve criteria (Operating Reserve exceeding of 3 months of expenses and Asset Replacement Fund reserve within WMWD's specified range.
123 (13) Projected local production times local production unit cost. See Table B-1
124 (14) The 230 and 231 Reserve Balances are combined for the purposes of this reserve balance criteria calculation because the negative balance in the 231 Fund must be covered by the 230 Fund.

Table B-3
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
WMWD SCENARIO TABLES

Table B-3c
WMWD SCENARIO: Revenue Calculations

This Table Contains:

Line Number	Subject
125	Number of Connections per Meter Size (See Table B-2)
134	Projected Water Use by WMWD Tier, ccf/year (See Table B-2)
142	Seasonal Distribution of Water Use, ccf/year (Calculated from Data in Table B-2)
152	CY 2019 and CY 2020 Rate Revenue Back calculation Under WMWD Rates
204	WMWD Adopted Water Rates Through Calendar Year 2020, and Projected Rates through FY 29/30. Projected Based on % Increases in Operating Statement Shown Above in Table B-3a
229	Projected Connection Fee Revenues

						Projected						
		FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
125	**Number of Connections per Meter Size (See Table B-2)**											
126	5/8"	482	490	498	506	514	522	530	538	546	554	563
127	3/4"	1,968	1,999	2,031	2,063	2,096	2,129	2,163	2,198	2,233	2,269	2,305
128	1"	172	175	178	181	184	187	190	193	196	199	202
129	1.5"	77	79	81	83	85	87	89	91	93	95	97
130	2"	161	164	167	170	173	176	179	182	185	188	191
131	3"	5	5	5	5	5	5	5	5	5	5	5
132	4"	2	2	2	2	2	2	2	2	2	2	2
133	Total	2,867	2,914	2,962	3,010	3,059	3,108	3,158	3,209	3,260	3,312	3,365
134	**Projected Water Use by WMWD Tier, ccf/year (See Table B-2)**											
135	Tier 1	455,000	462,367	469,853	477,461	485,192	493,048	501,077	509,236	517,528	525,955	534,519
136	Tier 2	451,000	458,302	465,723	473,264	480,927	488,714	496,672	504,760	512,979	521,332	529,821
137	Tier 3	40,800	41,461	42,132	42,814	43,507	44,211	44,931	45,663	46,407	47,163	47,931
138	Tier 4	19,500	19,816	20,137	20,463	20,794	21,131	21,475	21,825	22,180	22,541	22,908
139	Tier 5	37,400	38,006	38,621	39,246	39,881	40,527	41,187	41,858	42,540	43,233	43,937
140	Total	1,003,700	1,019,952	1,036,466	1,053,248	1,070,301	1,087,631	1,105,342	1,123,342	1,141,634	1,160,224	1,179,116
141												
142	**Seasonal Distribution of Water Use, ccf/year (Calculated from Data in Table B-2)**											

		July - Dec	Jan - June
143			
144	Tier 1	54%	46%
145	Tier 2	59%	41%
146	Tier 3	66%	34%
147	Tier 4	64%	36%
148	Tier 5	61%	39%
149	Total	57%	43%

What this table means: according to data provided by WMWD, 54% of Tier 1 water use occurs between July and December, 61% of Tier 5 water use occurs between July and December, and 57% of total water use occurs between January and June.

150
151

Table B-3
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
WMWD SCENARIO TABLES

CY 2019 and CY 2020 Rate Revenue Back calculation Under WMWD Rates

Fixed System Charge, CY 2019 and CY 2020 Rates

	CY 2019	CY 2020
5/8" Meter	$29.05	$32.00
3/4" Meter	$40.11	$44.39
1" Meter	$61.68	$68.56
1.5" Meter	$115.87	$129.28
2" Meter	$138.43	$154.50
3" Meter	$344.39	$384.49
4" Meter	$665.06	$744.16

Fixed System Charge Revenues	FY 19/20	FY 20/21
5/8" Meter	$176,557	$188,160
3/4" Meter	997,776	1,064,827
1" Meter	134,408	143,976
1.5" Meter	113,259	122,557
2" Meter	282,970	304,056
3" Meter	21,866	23,069
4" Meter	16,911	17,860
Subtotal, Fixed System Charge Revenues	$1,743,747	$1,864,506

Commodity Charge and Pumping Charges (per HCF, 1 HCF = 748 gallons)

Water delivered for fire protection services will be billed at the Tier 2 rate.

Commodity Charge Tiers	CY 2019	CY 2020
Tier 1 - Indoor Budget	$1.919	$2.006
Tier 2 - Outdoor Budget	$4.115	$4.286
Tier 3 - Inefficient	$4.932	$5.118
Tier 4 - Wasteful	$5.372	$5.558
Tier 5 - Unsustainable	$6.252	$6.438
Pumping Charge (per HCF)		
Power Zone 8 - Grizzly Ridge	$0.225	$0.234

Commodity Charge Revenues	FY 19/20	CY 2020
Tier 1 - Indoor Budget	$891,415	$920,687
Tier 2 - Outdoor Budget	1,887,329	1,951,514
Tier 3 - Inefficient	203,792	211,053
Tier 4 - Wasteful	106,075	109,498
Tier 5 - Unsustainable	236,522	243,170
Subtotal Commodity Charge Revenues	$3,325,133	$3,435,923
Pumping Charge Revenues	$233,177	$238,669
Total Calculated Rate Revenues	$5,302,057	$5,539,097
Compare with FY 19/20 revenues in WMWD Budget (see Table B-3a above)		$5,061,033

Conclusion: FY 19/20 revenues should be lower than calculated CY 2020 revenues, given projected system growth between 2019 and 2020, and that the calculated CY 2020 rates have a full year of the CY 2020 rate increases in effect. The CY 2020 rate revenues are based on a different set of customer data, with more customers and higher water use resulting from growth.

8.63% percent difference between calculated and FY 19/20 WMWD Budget.

Table B-3
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
WMWD SCENARIO TABLES

WMWD Adopted Water Rates Through Calendar Year 2020, and Projected Rates through FY 29/30. Projected Based on % Increases in Operating Statement Shown Above in Table B-3a

	Adopted CY 2020	Projected CY 2021	Projected CY 2022	Projected CY 2023	Projected CY 2024	Projected CY 2025	Projected CY 2026	Projected CY 2027	Projected CY 2028	Projected CY 2029	Projected CY 2030
Fixed System Charge											
5/8" Meter	$32.00	$33.06	$34.15	$35.27	$36.44	$37.64	$38.88	$40.17	$41.49	$41.49	$41.49
3/4" Meter	$44.39	$45.85	$47.37	$48.93	$50.55	$52.21	$53.94	$55.72	$57.56	$57.56	$57.56
1" Meter	$68.56	$70.82	$73.16	$75.57	$78.07	$80.64	$83.31	$86.05	$88.89	$88.89	$88.89
1.5" Meter	$129.28	$133.55	$137.95	$142.51	$147.21	$152.07	$157.08	$162.27	$167.62	$167.62	$167.62
2" Meter	$154.50	$159.60	$164.87	$170.31	$175.93	$181.73	$187.73	$193.92	$200.32	$200.32	$200.32
3" Meter	$384.49	$397.18	$410.29	$423.82	$437.81	$452.26	$467.18	$482.60	$498.53	$498.53	$498.53
4" Meter	$744.16	$768.72	$794.08	$820.29	$847.36	$875.32	$904.21	$934.05	$964.87	$964.87	$964.87
Commodity Charge Tiers (per HCF)											
Tier 1 - Indoor Budget	$2.006	$2.07	$2.14	$2.21	$2.28	$2.36	$2.44	$2.52	$2.60	$2.60	$2.60
Tier 2 - Outdoor Budget	$4.286	$4.43	$4.57	$4.72	$4.88	$5.04	$5.21	$5.38	$5.56	$5.56	$5.56
Tier 3 - Inefficient	$5.118	$5.29	$5.46	$5.64	$5.83	$6.02	$6.22	$6.42	$6.64	$6.64	$6.64
Tier 4 - Wasteful	$5.558	$5.74	$5.93	$6.13	$6.33	$6.54	$6.75	$6.98	$7.21	$7.21	$7.21
Tier 5 - Unsustainable	$6.438	$6.65	$6.87	$7.10	$7.33	$7.57	$7.82	$8.08	$8.35	$8.35	$8.35
Pumping Charge (per HCF)											
Power Zone 8 - Grizzly Ridge	$0.234	$0.242	$0.250	$0.258	$0.266	$0.275	$0.284	$0.294	$0.303	$0.303	$0.303

Note: the majority of the WMWD Service Area is in Power Zone 7, so this Pumping Charge is not applicable.

Projected Connection Fee Revenues

Additional growth rate if desired, to make Fund 231 balance = $0 at end of FY 29/30: 0.0% Included in model per 3/26/2020 direction from WMWD; removed per 4/2/2020 direction from WMWD

	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	Projected FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
Number of New Meters											
5/8"	8	8	8	8	8	8	8	8	8	8	9
3/4"	31	31	32	32	33	33	34	35	35	36	36
1"	3	3	3	3	3	3	3	3	3	3	3
1.5"	2	2	2	2	2	2	2	2	2	2	2
2"	3	3	3	3	3	3	3	3	3	3	3
3"	0	0	0	0	0	0	0	0	0	0	0
4"	0	0	0	0	0	0	0	0	0	0	0
Total	47	47	48	48	49	49	50	51	51	52	53
Connection Fee (Assume any new meters larger than 2" pay the 2" Connection Fee). Connection Fees increased with rate of CIP escalation per WMWD, 2/4/2020											
5/8"	$7,050	$7,226	$7,407	$7,592	$7,782	$7,976	$8,176	$8,380	$8,590	$8,804	$9,025
3/4"	$7,050	$7,226	$7,407	$7,592	$7,782	$7,976	$8,176	$8,380	$8,590	$8,804	$9,025
1"	$11,750	$12,043	$12,344	$12,653	$12,969	$13,294	$13,626	$13,967	$14,316	$14,674	$15,041
1.5"	$23,499	$24,087	$24,689	$25,306	$25,939	$26,587	$27,252	$27,933	$28,632	$29,347	$30,081
2"	$37,599	$38,539	$39,503	$40,490	$41,503	$42,540	$43,604	$44,694	$45,811	$46,956	$48,130
Projected Connection Fee Revenues											
5/8"	$56,400	$57,810	$59,255	$60,737	$62,255	$63,811	$65,407	$67,042	$68,718	$70,436	$81,221
3/4"	218,550	224,014	237,021	242,947	256,802	263,222	277,979	293,308	300,641	316,961	324,885
1"	35,249	36,130	37,033	37,959	38,908	39,881	40,878	41,900	42,947	44,021	45,122
1.5"	46,999	48,173	49,378	50,612	51,878	53,175	54,504	55,866	57,263	58,695	60,162
2"	112,798	115,618	118,508	121,471	124,508	127,620	130,811	134,081	137,433	140,869	144,391
Total	$469,995	$481,745	$501,196	$513,726	$534,351	$547,709	$569,578	$592,198	$607,002	$630,982	$655,781

Table B-3
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
WMWD SCENARIO TABLES

Table B-3d
WMWD SCENARIO: FSMR Capital Improvements and New Well No. 3; Possible Cost Allocation to Existing Customers or Future Development

	Project	Estimated Cost, 2020 $ (See Note 1)	Benefits Existing Customers or Development?	$ to Existing Customers	$ to Future Development Funded by WMWD	$ to Future Development Funded by Developers	Basis for Existing/ Development Allocation	Projected Schedule
258								
259	Storage	$8,328,000	Both	$4,610,842	$3,717,158		Note 2	Note 5
260	Pipelines Associated with Storage	$4,157,000	Both	$2,301,546	$1,855,454		Note 2	Note 5
261	Expansion CIP North of Murrieta Creek	$17,120,000	Future Only			$17,120,000	Note 3	Note 3
262	Expansion CIP South of Murrieta Creek	$20,388,000	Future Only			$20,388,000	Note 3	Note 3
263	WMWD Hydraulic Improvements	$1,468,000	Future Only		$1,468,000		Note 4	Note 4
264	Supply Improvements Through EMWD	$5,379,000	Future Only		$5,379,000		Note 4	Note 4
265	Legacy (Small Diameter) Improvements	$4,947,000	Existing Only	$4,947,000			Note 6	Note 6
266								
267	Total	$61,787,000		$11,859,388	$12,419,612	$37,508,000		
268								
269	New Well No. 3	$0	Both	$0	$0		Note 2	Note 7
270								

271 Notes:
272 (1) Source: West Yost, October 2019, except for New Well No. 3. Costs for New Well No. 3 are in FY 23/24 dollars.
273 (2) Project serves both existing and new EDUs. % to existing EDUs is based on ratio of existing EDUs to buildout EDUs.
274 (3) Expansion of water system. Project is not needed unless there is development. Schedule depends on when development occurs.
275 (4) Needed to accommodate future water demands from growth. Improvement is not needed unless there is development. Schedule depends on when development occurs but assumed FY 21/22 in this analysis.
276 (5) Assume that this improvement will be completed between 2025 and 2030. Anticipate that permitting and siting of the reservoir will require additional time and could occur before 2025.
277 (6) These improvements are required even if there is no future development. Assume improvements will be completed between 2020 and 2025.
278 (7) Not Used

Table B-3
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
WMWD SCENARIO TABLES

Table B-3e
WMWD SCENARIO: Potential Pay-As-You-Go Capital Expenses and Potential Debt Service Expenses

	FMSR Capital Projects	Potential Funding Method (1)	Projected Pay-As-You-Go Expenditures and/or Debt Service Expenditures										Note
			FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	
279	Storage, Portion for Existing Customers	Debt 235						$340,150	$340,150	$340,150	$340,150	$340,150	2
280	Storage, Portion for Future Development	Debt 231						$274,221	$274,221	$274,221	$274,221	$274,221	2
281	Pipelines Associated with Storage, Existing Customers	Debt 235						$169,789	$169,789	$169,789	$169,789	$169,789	2
282	Pipelines Associated with Storage, Future Development	Debt 231						$136,880	$136,880	$136,880	$136,880	$136,880	2
283	Expansion CIP North of Murrieta Creek	Developer											1
284	Expansion CIP South of Murrieta Creek	Developer											1
285	WMWD Hydraulic Improvements	PAYG 231	$300,940	$308,464	$316,175	$324,079	$332,181						3
286	Supply Improvements Through EMWD	Debt 231		$359,498	$359,498	$359,498	$359,498	$359,498	$359,498	$359,498	$359,498	$359,498	4
287	Legacy (Small Diameter) Improvements	Debt 235		$330,625	$330,625	$330,625	$330,625	$330,625	$330,625	$330,625	$330,625	$330,625	4
288	Total		$300,940	$998,586	$1,006,298	$1,014,202	$1,022,304	$1,611,163	$1,611,163	$1,611,163	$1,611,163	$1,611,163	
289													
290								Projected					
291	Existing WMWD Debt Service and Future Debt Service for 3rd Well		FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	
292	2010 A&B Revenue Bond Debt Service	Fund 231	$67,054	$67,016	$67,009	$66,976	$66,976	$66,976	$66,976	$66,976	$66,976	$66,976	
293	Interfund Loan for North Well	Fund 230	$108,743	$108,743	$108,743	$108,743	$108,743	$108,743	$108,743	$108,743	$108,743	$108,743	
294	Well No. 3, Portion for Existing Customers	Fund 235				$0	$0	$0	$0	$0	$0	$0	
295	Well No. 3, Portion for Future Development	Fund 231				$0	$0	$0	$0	$0	$0	$0	
296	Total		$175,797	$175,759	$175,752	$175,719	$175,719	$175,719	$175,719	$175,719	$175,719	$175,719	
297													

298 Table B-3d Notes:
299 (1) Decisions on how to fund improvement projects will be made by the WMWD Board of Directors. Information is provided here to indicate a potential funding method, and is subject to review and modification by WMWD staff and/or Board.
300 WMWD's resolutions state that the "District will not finance through proceedings pursuant to the Mello-Roos Community Facilities Act of 1982". Therefore, Improvement Districts are not assumed to be an option.
301 (2) Assumes 30 year debt at interest rate of 4%, staring in FY 25/26, with 10% added to project cost to cover capitalized bond reserve and issuance costs. Project cost escalated for inflation from 2019 dollars to 2025 dollars.
302 (3) Project cost spread evenly between FY 20/21 and FY 24/25 and adjusted for inflation.
303 (4) Assumes 30 year debt (per WMWD 2/4/2020) at interest rate of 4%, staring in FY 21/22, with 10% added to project cost to cover capitalized bond reserve and issuance costs. Project cost escalated for inflation from 2019 dollars to 2021 dollars.

Table B-3f
WMWD SCENARIO: Potential Capital Funding for Facilities That Benefit Future Development

	Capital Projects	How Growth Pays for Growth
304	Storage	WMWD funds growth portion using debt; cost incorporated into Connection Fee. Future development pays Connection Fees.
305	Pipelines Associated with Storage	WMWD funds growth portion using debt; cost incorporated into Connection Fee. Future development pays Connection Fees.
306	Expansion CIP North of Murrieta Creek	Developer
307	Expansion CIP South of Murrieta Creek	Developer
308	WMWD Hydraulic Improvements	WMWD funds project; cost incorporated into Connection Fee. Future development pays Connection Fees.
309	Supply Improvements Through EMWD	WMWD funds project; cost incorporated into Connection Fee. Future development pays Connection Fees.
310	Fireflow Improvements	Not applicable. Not growth related
311	New Well No. 3	Not applicable. Project not planned

Table B-3
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
WMWD SCENARIO TABLES

Table B-3g
WMWD SCENARIO: Projected Total Cost of Water

		Projected										
		FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	Notes
312	Single Family Residence, 3/4" Meter, 18 ccf/month, Power Zone 7											1
313	Fixed System Charge, $/month	$44.39	$45.85	$47.37	$48.93	$50.55	$52.21	$53.94	$55.72	$57.56	$57.56	
314	Tier 1 Volume Charge, $/hcf	$2.01	$2.07	$2.14	$2.21	$2.28	$2.36	$2.44	$2.52	$2.60	$2.60	
315	Tier 2 Volume Charge, $/hcf	$4.29	$4.43	$4.57	$4.72	$4.88	$5.04	$5.21	$5.38	$5.56	$5.56	
316	Pumping Charge, $/hcf (N/A to the majority of the Study Area)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
317	Standby Charge, $/month	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	
318	Projected Total Cost of Water	$105.05	$108.46	$111.98	$115.62	$119.37	$123.25	$127.26	$131.41	$135.69	$135.69	
319												
320	Commercial Account, 2" Meter, 1,500 ccf/year (125 ccf/month)											2
321	Fixed System Charge, $/month	$154.50	$159.60	$164.87	$170.31	$175.93	$181.73	$187.73	$193.92	$200.32	$200.32	
322	Tier 1 Volume Charge, $/hcf	$2.01	$2.07	$2.14	$2.21	$2.28	$2.36	$2.44	$2.52	$2.60	$2.60	
323	Tier 2 Volume Charge, $/hcf	$4.29	$4.43	$4.57	$4.72	$4.88	$5.04	$5.21	$5.38	$5.56	$5.56	
324	Pumping Charge, $/hcf (N/A to the majority of the Study Area)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
325	Standby Charge, $/month	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	$1.75	
326	Projected Total Cost of Water	$569.45	$588.18	$607.54	$627.53	$648.18	$669.51	$691.55	$714.31	$737.82	$737.82	

Notes:

(1) For single-family residential customers, estimate 8 ccf/month in Tier 1 and remainder of water use in Tier 2. No Tier 3 or Tier 4 use. (8 ccf/month in Tier 1 per WMWD, 2/4/2020)
3.28 household size yields 8 ccf/month in Tier 1, at 60 gpcd.
For the commercial account example, 1,500 ccf/year is the average water use for WMWD's customers in the Study Area with 2" meters, as reported by WMWD (1/21/2020)

(2) WMWD's commercial budget formula is for any given month, 43% of that month's three-year historical average water use is in Tier 1, and the remaining 57% is in Tier 2. For the purposes of this monthly bill calculation, Tier 1 water use is 53.75 ccf, and Tier 2 water use is 71.25 ccf.
Source: WMWD staff, 8/20/2020.

Table B-4
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
RCWD SCENARIO TABLES

Table B-4a
RCWD SCENARIO: Projected Operating Statement: Sources of Funds

Line				Projected									Notes
				FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	
1	**Beginning Reserve Balance**													
2	Working Capital			$1,314,934	$1,423,939	$1,485,839	$1,287,861	$1,613,947	$1,676,216	$1,740,135	$1,805,794	$1,874,316	$1,946,293	
3	Drought Reserve			$0	$325,890	$351,529	$0	$197,016	$387,248	$399,010	$411,642	$424,274	$434,881	
4	Rate Stabilization			$0	$0	$46,287	$0	$0	$320,172	$873,699	$1,354,345	$1,405,737	$1,459,720	
5	Water Replenishment: Not Applicable			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
6	Risk Management			$0	$0	$0	$0	$0	$0	$0	$130,710	$746,032	$895,951	
7	Unrestricted			$0	$0	$0	$0	$0	$0	$0	$0	$0	$415,914	
8														
9	**Sources of Funds**													
10	Rate Revenues Under Existing Santa Rosa Division Rate Schedule													
11	Monthly Service Charges			$1,862,904	1,893,067	1,923,719	1,954,867	1,986,520	2,018,867	2,051,741	2,085,151	2,119,104	2,153,610	
12	Commodity Charges			$2,115,628	2,149,883	2,184,693	2,220,067	2,256,014	2,292,749	2,330,083	2,368,025	2,406,584	2,445,772	
13														
14	Additional Rate Revenues (Rate Increases for Monthly Service Charges and Commodity Charges)													
15	Fiscal	% of Water	Months											
16	Year	Rate Revenue	of Revenue											
17	FY 20/21	2.0%	12	79,571	80,859	82,168	83,499	84,851	86,232	87,636	89,064	90,514	91,988	
18	FY 21/22	2.0%	12		82,476	83,812	85,169	86,548	87,957	89,389	90,845	92,324	93,827	
19	FY 22/23	2.0%	12			85,488	86,872	88,279	89,716	91,177	92,662	94,171	95,704	
20	FY 23/24	2.0%	12				88,609	90,044	91,510	93,001	94,515	96,054	97,618	
21	FY 24/25	2.0%	12					91,845	93,341	94,861	96,405	97,975	99,570	
22	FY 25/26	2.0%	12						95,207	96,758	98,333	99,935	101,562	
23	FY 26/27	2.0%	12							98,693	100,300	101,933	103,593	
24	FY 27/28	2.0%	12								102,306	103,972	105,665	
25	FY 28/29		12									0	0	
26	FY 29/30		12										0	
27	Total Additional Rate Revenue (Monthly Service Charges, Commodity Charges			$79,571	$163,335	$251,468	$344,149	$441,567	$543,963	$651,515	$764,430	$776,878	$789,527	
28														
29	Energy Charges			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
30	Ad Valorem Equivalent Rate Surcharge (assume land values increases with inflation)			$2,090,450	2,142,711	2,196,279	2,251,186	2,307,466	2,365,152	2,424,281	2,484,888	2,547,010	2,610,686	
31														
32	Subtotal Rate Revenues			$6,148,552	$6,348,997	$6,556,159	$6,770,269	$6,991,566	$7,220,732	$7,457,620	$7,702,493	$7,849,577	$7,999,595	
33														
34	Non-Rate Revenue													
35	Non-Operating Revenues													
36	Property Tax (1% Share) Assume WMWD's small property tax revenue does not transfer			0	0	0	0	0	0	0	0	0	0	
37	Operating Revenues													
38	Interest Income			26,299	34,997	37,673	25,757	36,219	47,673	60,257	74,050	89,007	103,055	
39	Delinquent Penalties (Assumed Same as WMWD)			53,045	53,045	53,045	53,045	53,045	53,045	53,045	53,045	53,045	53,045	
40	Standby Charge Revenues			462,731	462,731	462,731	462,731	462,731	462,731	462,731	462,731	462,731	462,731	
41	Other - New Service Set Up & Meter Repair			4,244	4,244	4,244	4,244	4,244	4,244	4,244	4,244	4,244	4,244	
42	Other Revenues													
43	Connection Fees			166,322	173,145	177,474	184,711	189,329	197,004	204,945	210,068	218,489	226,127	
44	Total Non-Rate Revenue			$712,640	$728,161	$735,166	$730,488	$745,568	$764,696	$785,221	$804,138	$827,515	$849,202	
45														
46	Total Revenues			$6,861,192	$7,077,158	$7,291,326	$7,500,757	$7,737,134	$7,985,428	$8,242,842	$8,506,631	$8,677,092	$8,848,796	
47														
48														

Table B-4
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
RCWD SCENARIO TABLES

Table B-4b
RCWD SCENARIO: Projected Operating Statement: Uses of Funds and Financial Performance Criteria

		Projected										
		FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	Notes
49	**Uses of Funds**											
50	O&M Expenditures											1
51	Water Pumping	279,316	286,298	293,456	300,792	308,312	316,020	323,920	332,018	340,319	348,827	
52	Transmission & Distribution	1,345,278	1,378,910	1,413,382	1,448,717	1,484,935	1,522,058	1,560,110	1,599,112	1,639,090	1,680,067	
53	Customer Accounts	194,822	202,926	211,367	220,159	229,317	238,878	248,836	259,211	270,017	281,274	
54	G&A Allocation	667,864	684,561	701,675	719,217	737,197	755,627	774,518	793,881	813,728	834,071	3
55	Other Operating Expenses	126,790	129,960	133,209	136,539	139,953	143,452	147,038	150,714	154,482	158,344	
56												
57	Other Expenditures											
58	Purchased Water	$1,136,889	$1,240,134	$1,349,234	$1,452,788	$1,550,253	$1,650,218	$1,752,904	$1,861,616	$1,978,049	$2,106,981	8
59	Source of Supply	332,973	341,297	349,829	358,575	367,539	376,728	386,146	395,800	405,695	415,837	
60	Treatment	133,284	136,616	140,031	143,532	147,120	150,798	154,568	158,432	162,393	166,453	
61	Water Use Efficiency	51,199	53,328	55,547	57,857	60,264	62,776	65,394	68,120	70,960	73,918	
62	Other Non-Operating Expenses	3,403	3,488	3,575	3,665	3,756	3,850	3,946	4,045	4,146	4,250	
63												
64	Other Expenditures											
65	WMWD Identified Capital Project Funding (GIS Mapping and Tank Mixing System)	$500,000	$350,000	$0	$0	$0	$0	$0	$0	$0	$0	
68	WMWD-Identified Capital Project Funding (Reservoir Recoating)	0	0	1,100,000	0	0	0	0	0	0	0	
69	Study Area Repair and Replacement	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	4
70	RCWD "Backbone" Repair and Replacement	540,000	540,000	540,000	540,000	540,000	540,000	540,000	540,000	540,000	540,000	5
71	FMSR Capital Excluding Improvement Districts	$614,479	$1,095,814	$1,095,814	$1,095,814	$1,095,814	$1,095,814	$1,095,814	$1,095,814	$1,095,814	$1,095,814	6
72												
73	Total Uses of Funds	$6,426,297	$6,943,332	$7,887,120	$6,977,656	$7,164,461	$7,356,220	$7,553,195	$7,758,763	$7,974,693	$8,205,837	
74												
75	**End of Year Balance**											
76	Working Capital	$1,423,939	$1,485,839	$1,287,861	$1,613,947	$1,676,216	$1,740,135	$1,805,794	$1,874,316	$1,946,293	$2,023,341	
77	Drought Reserve	$325,890	$351,529	$0	$197,016	$387,248	$399,010	$411,642	$424,274	$434,881	$445,753	
78	Rate Stabilization	$0	$46,287	$0	$0	$320,172	$873,699	$1,354,345	$1,405,737	$1,459,720	$1,517,506	
79	Water Replenishment: Not Applicable	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
80	Risk Management	$0	$0	$0	$0	$0	$0	$130,710	$746,032	$895,951	$895,951	
81	Unrestricted	$0	$0	$0	$0	$0	$0	$0	$0	$415,914	$913,168	
82	Math Check, should equal $0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
83												
84	**Financial Performance Criteria**											
85	Working Capital Reserve: Four Months of Operating Budget Within Five Years											
86	Criteria, $	$1,423,939	$1,485,839	$1,550,435	$1,613,947	$1,676,216	$1,740,135	$1,805,794	$1,874,316	$1,946,293	$2,023,341	
87	Reserve Criteria Met?					Yes	Yes	Yes	Yes	Yes	Yes	
88	Drought Reserve: 30% of Local Supplies @MWD Tier 1 Untreated Rate Effective at End of FY											7
89	Criteria, $	$340,204	$351,529	$364,162	$374,616	$387,248	$399,010	$411,642	$424,274	$434,881	$445,753	
90	Reserve Criteria Met?	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	
91	Rate Stabilization Fund: Three Months of Operating Budget Within Ten Years											
92	Criteria, $	$1,067,954	$1,114,380	$1,162,826	$1,210,460	$1,257,162	$1,305,101	$1,354,345	$1,405,737	$1,459,720	$1,517,506	
93	Reserve Criteria Met?										Yes	
94	Water Replenishment Reserve: not applicable per RWS 1/22/2020											
95	Reserve Criteria Met?											
96	Risk Management Reserve: $750,000 plus 1% of current gross plant											
97	Criteria, $	$895,951	$895,951	$895,951	$895,951	$895,951	$895,951	$895,951	$895,951	$895,951	$895,951	
98	Reserve Criteria Met?	No	No	No	No	No	No	No	No	Yes	Yes	
99												

Table B-4
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
RCWD SCENARIO TABLES

Table B-4a and A-5b Notes:
(1) Source: Western Municipal Water District FY 2020 for the expenses in this table except for purchased water.
(2) Debt service payments under a WMWD Scenario will be discontinued under a RCWD scenario because WMWD's outstanding debt will be refunded as part of a service area transfer.
(3) RCWD reviewed this projected General and Administrative expense projected by WMWD and for the purposes of this analysis, determined that it was a reasonable estimate.
(4) Estimated, starting FY 20/21, per WMWD 2/5/2020. FY 20/21 and 21/22 WMWD-identified capital expenses also represent repair/replacement expenditures.
(5) Per RCWD staff, 1/22/2020. Represents repair/replacement expenditures in RCWD's system that will provide water source, storage, and transmission services to the Study Area.
(6) See Table B-4d for more details.
(7) Criteria for Drought Reserve per RCWD staff, January 22, 2020.
(8) Purchased Water = MWD Tier 1 Rate * 1.1 * Imported AF/Year. 10% factor for MWD Capacity and RTS Charges, based on review of EMWD's charges to WMWD

Table B-4c
RCWD SCENARIO: Revenue Calculations

This Table Contains:

Line Number	Subject
109	Number of Connections per Meter Size (See Table B-2)
118	Comparison of RCWD and WMWD Budget-Based Rate Tiers
137	Projected Water Use by RCWD Tier, ccf/year (See Table B-2), All Customers Except CII (Commercial, Industrial, Institutional)
158	FY 19/20 Rate Revenue Back calculation Under RCWD's Santa Rosa Rate Schedule
212	RCWD Adopted Water Rates Through FY 19/20, and Projected Rates through FY 29/30. Projected Based on % Increases in Operating Statement Shown Above.
237	Existing Santa Rosa Division Capacity Charge Schedule
253	Projected Capacity Charge Revenues
277	Projected Standby Charge Revenues
287	Projected Ad Valorem Tax Revenues and Projected Revenue-Neutral Rate Surcharge Calculation
337	Projected Reserve Balance Transferred From WMWD to RCWD

		Projected										
		FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
109	**Number of Connections per Meter Size (See Table B-2)**											
110	5/8"	482	490	498	506	514	522	530	538	546	554	563
111	3/4"	1,968	1,999	2,031	2,063	2,096	2,129	2,163	2,198	2,233	2,269	2,305
112	1"	172	175	178	181	184	187	190	193	196	199	202
113	1.5"	77	79	81	83	85	87	89	91	93	95	97
114	2"	161	164	167	170	173	176	179	182	185	188	191
115	3"	5	5	5	5	5	5	5	5	5	5	5
116	4"	2	2	2	2	2	2	2	2	2	2	2
117												

Comparison of RCWD and WMWD Budget-Based Rate Tiers
- WMWD has five tiers, RCWD has four tiers. For CII, WMWD has five tiers, RCWD has three. Projecting revenues from Santa Rosa Division rates requires estimating water sales by RCWD tiers.
- Over 60% of Murrieta Division Water Use is Single-Family. A comparison of tier definitions is as follows:
- Also, from Table B-2, 91% of Murrieta Division water use is in either Tier 1 or Tier 2

Tier	WMWD SFR	RCWD SFR	WMWD CII	RCWD CII
Tier 1	100% IWB	100% IWB	43% TWB	100% AWB
Tier 2	100% OWB	100% OWB	57% TWB	50% AWB
Tier 3	25% TWB	50% TWB	25% TWB	Above Tier 2
Tier 4	25% TWB	Above Tier 3	25% TWB	
Tier 5	Above Tier 4		Above Tier 4	

SFR Conclusions:
RCWD Tier 1 Use = WMWD Tier 1 Use
RCWD Tier 2 Use = WMWD Tier 2 Use
RCWD Tier 3 Use = WMWD Tier 3 + Tier 4 Use
RCWD Tier 4 Use = WMWD Tier 4 Use

CII (Commercial, Industrial, Institutional) Conclusions:
RCWD Tier 1 Use = WMWD Tier 1 + Tier 2 Use
RCWD Tier 2 Use = WMWD Tier 3 + Tier 4 Use
RCWD Tier 3 Use = WMWD Tier 5 Use

Table B-4
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
RCWD SCENARIO TABLES

Projected Water Use by RCWD Tier, ccf/year (See Table B-2), All Customers Except CII (Commercial, Industrial, Institutional)

		Projected										
		FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
	Tier 1	399,486	405,954	412,527	419,206	425,994	432,892	439,941	447,105	454,385	461,784	469,303
	Tier 2	414,102	420,807	427,621	434,545	441,581	448,731	456,038	463,464	471,011	478,681	486,476
	Tier 3	52,414	53,263	54,125	55,001	55,892	56,797	57,722	58,662	59,617	60,588	61,575
	Tier 4	33,598	34,142	34,695	35,257	35,828	36,408	37,001	37,604	38,216	38,838	39,470
	Total	899,600	914,166	928,968	944,009	959,295	974,828	990,702	1,006,835	1,023,229	1,039,891	1,056,824

Projected Water Use by RCWD Tier, ccf/year (See Table B-2), CII

		Projected										
		FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
	Tier 1	92,412	93,909	95,430	96,975	98,545	100,141	101,772	103,429	105,113	106,825	108,564
	Tier 2	7,886	8,013	8,143	8,275	8,409	8,545	8,684	8,825	8,969	9,115	9,263
	Tier 3	3,802	3,863	3,926	3,990	4,055	4,121	4,188	4,256	4,325	4,395	4,467
	Total	104,100	105,785	107,499	109,240	111,009	112,807	114,644	116,510	118,407	120,335	122,294
	Total Murrieta Division Water Use	1,003,700	1,019,951	1,036,467	1,053,249	1,070,304	1,087,635	1,105,346	1,123,345	1,141,636	1,160,226	1,179,118

FY 19/20 Rate Revenue Back calculation Under RCWD's Santa Rosa Rate Schedule

Monthly Service Charge	Effective 7/1/2019	
5/8" Meter	$29.51	Per RCWD 1/22/2020: RCWD doesn't have this charge because they don't use 5/8" meters. They would scale the 3/4" charge per their meter equivalent ratio.
3/4" Meter	$44.04	
1" Meter	$66.49	
1.5" Meter	$117.50	
2" Meter	$180.79	
3" Meter	$532.49	
4" Meter	$1,047.78	
6" Meter	$1,669.23	
8" Meter or Larger	$2,358.21	

Source: Rancho California Water District: Customer Guide Rates & Charges 2019-2020

Monthly Service Charge Revenues	FY 19/20
5/8" Meter	$170,667
3/4" Meter	$1,040,049
1" Meter	$137,235
1.5" Meter	$108,570
2" Meter	$349,286
3" Meter	$31,949
4" Meter	$25,147
Total	$1,862,904

Table B-4
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
RCWD SCENARIO TABLES

Commodity Charge and Pumping Charges ($ per HCF, 1 HCF = 748 gallons)
Assume that standard rates apply, as Tier 1 water will be available from MWD via the MWD wholesaler (EMWD)

	Effective 7/1/2019	
	Standard	Pre & Post 2003 Annex
Residential, Multi-Family & Landscape		
Tier 1	$1.286	$2.548
Tier 2	$2.255	$2.548
Tier 3	$3.235	$3.235
Tier 4	$7.597	$7.597
Commercial, Industrial, Ag, Domestic, and Other		
Tier 1	$2.044	$2.548
Tier 2	$3.235	$3.235
Tier 3	$7.597	$7.597

Energy Rates: Assume Most of System in RCWD 1305 with no energy charge zone

Source: Rancho California Water District: Customer Guide Rates & Charges 2019-2020

Commodity Charge Revenues	FY 19/20 All Customers Except CII	FY 19/20 CII
Tier 1	$513,739	$188,891
Tier 2	933,800	25,510
Tier 3	169,560	28,883
Tier 4	255,245	N/A
Subtotal Commodity Charge Revenues	$1,872,344	$243,284

RCWD Adopted Water Rates Through FY 19/20, and Projected Rates through FY 29/30. Projected Based on % Increases in Operating Statement Shown Above.

	Adopted	Projected									
	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
Monthly Service Charge											
5/8" Meter	$29.51	$30.10	$30.70	$31.31	$31.94	$32.58	$33.23	$33.89	$34.57	$34.57	$34.57
3/4" Meter	$44.04	$44.92	$45.82	$46.74	$47.67	$48.62	$49.60	$50.59	$51.60	$51.60	$51.60
1" Meter	$66.49	$67.82	$69.18	$70.56	$71.97	$73.41	$74.88	$76.38	$77.90	$77.90	$77.90
1.5" Meter	$117.50	$119.85	$122.25	$124.69	$127.19	$129.73	$132.32	$134.97	$137.67	$137.67	$137.67
2" Meter	$180.79	$184.41	$188.09	$191.86	$195.69	$199.61	$203.60	$207.67	$211.82	$211.82	$211.82
3" Meter	$532.49	$543.14	$554.00	$565.08	$576.38	$587.91	$599.67	$611.66	$623.90	$623.90	$623.90
4" Meter	$1,047.78	$1,068.74	$1,090.11	$1,111.91	$1,134.15	$1,156.83	$1,179.97	$1,203.57	$1,227.64	$1,227.64	$1,227.64
Commodity Charge											
Residential, Multi-Family & Landscape											
Tier 1	$1.286	$1.312	$1.338	$1.365	$1.392	$1.420	$1.448	$1.477	$1.507	$1.507	$1.507
Tier 2	$2.255	$2.300	$2.346	$2.393	$2.441	$2.490	$2.539	$2.590	$2.642	$2.642	$2.642
Tier 3	$3.235	$3.300	$3.366	$3.433	$3.502	$3.572	$3.643	$3.716	$3.790	$3.790	$3.790
Tier 4	$7.597	$7.749	$7.904	$8.062	$8.223	$8.388	$8.555	$8.727	$8.901	$8.901	$8.901
Commercial, Industrial, Ag, Domestic, and Other											
Tier 1	$2.044	$2.085	$2.127	$2.169	$2.212	$2.257	$2.302	$2.348	$2.395	$2.395	$2.395
Tier 2	$3.235	$3.300	$3.366	$3.433	$3.502	$3.572	$3.643	$3.716	$3.790	$3.790	$3.790
Tier 3	$7.597	$7.749	$7.904	$8.062	$8.223	$8.388	$8.555	$8.727	$8.901	$8.901	$8.901

Table B-4
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
RCWD SCENARIO TABLES

Existing Santa Rosa Division Capacity Charge Schedule

Capacity Charge	Santa Rosa District 7/1/2019	Projected FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
5/8" Meter	$1,700	$1,742.50	$1,786.06	$1,830.71	$1,876.48	$1,923.39	$1,971.48	$2,020.77	$2,071.28	$2,123.07	$2,176.14
3/4" Meter	$2,537	$2,600.43	$2,665.44	$2,732.07	$2,800.37	$2,870.38	$2,942.14	$3,015.70	$3,091.09	$3,168.37	$3,247.57
1" Meter	$4,313	$4,420.83	$4,531.35	$4,644.63	$4,760.74	$4,879.76	$5,001.76	$5,126.80	$5,254.97	$5,386.35	$5,521.00
1.5" Meter	$8,372	$8,581.30	$8,795.83	$9,015.73	$9,241.12	$9,472.15	$9,708.95	$9,951.68	$10,200.47	$10,455.48	$10,716.87
2" Meter	$13,445	$13,781.13	$14,125.65	$14,478.79	$14,840.76	$15,211.78	$15,592.08	$15,981.88	$16,381.43	$16,790.96	$17,210.74
2" Turbine Meter	$25,367	$26,001.18	$26,651.20	$27,317.48	$28,000.42	$28,700.43	$29,417.94	$30,153.39	$30,907.23	$31,679.91	$32,471.90
3" Meter	$42,363	$43,422.08	$44,507.63	$45,620.32	$46,760.83	$47,929.85	$49,128.09	$50,356.29	$51,615.20	$52,905.58	$54,228.22
4" Meter	$84,471	$86,582.78	$88,747.34	$90,966.03	$93,240.18	$95,571.18	$97,960.46	$100,409.47	$102,919.71	$105,492.70	$108,130.02
6" Meter	$135,204	$138,584.10	$142,048.70	$145,599.92	$149,239.92	$152,970.92	$156,795.19	$160,715.07	$164,732.95	$168,851.27	$173,072.55
8" Meter or Larger	$191,518	$196,305.95	$201,213.60	$206,243.94	$211,400.04	$216,685.04	$222,102.16	$227,654.72	$233,346.09	$239,179.74	$245,159.23

Projected Capacity Charge Revenues

	Projected FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
Number of New Meters											
5/8"	8	8	8	8	8	8	8	8	8	8	9
3/4"	31	31	32	32	33	33	34	35	35	36	36
1"	3	3	3	3	3	3	3	3	3	3	3
1.5"	2	2	2	2	2	2	2	2	2	2	2
2"	3	3	3	3	3	3	3	3	3	3	3
3"	0	0	0	0	0	0	0	0	0	0	0
4"	0	0	0	0	0	0	0	0	0	0	0
Total	47	47	48	48	49	49	50	51	51	52	53
Projected Capacity Charge Revenues											
5/8"		$13,940	$14,289	$14,646	$15,012	$15,387	$15,772	$16,166	$16,570	$16,985	$19,585
3/4"		$80,613	$85,294	$87,426	$92,412	$94,723	$100,033	$105,549	$108,188	$114,061	$116,913
1"		$13,262	$13,594	$13,934	$14,282	$14,639	$15,005	$15,380	$15,765	$16,159	$16,563
1.5"		$17,163	$17,592	$18,031	$18,482	$18,944	$19,418	$19,903	$20,401	$20,911	$21,434
2"		$41,343	$42,377	$43,436	$44,522	$45,635	$46,776	$47,946	$49,144	$50,373	$51,632
3"		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4"		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
		$166,322	$173,145	$177,474	$184,711	$189,329	$197,004	$204,945	$210,068	$218,489	$226,127

Projected Standby Charge Revenues

Methodology: RCWD Standby Charge Revenue = WMWD Standby Charge Revenue * (RCWD Standby Fee / WMWD Standby Fee)

$138,978	WMWD Standby Charge Revenue (Source: WMWD CY 2020 Water Rate Model)
$21	WMWD Standby Charge, $/acre or $/parcel if less than one acre (Source: 5/15/19 letter from WMWD GM to WMWD Board)
$69.92	RCWD Standby Charge, $/acre or $/parcel if less than one acre (Source: RCWD Customer Guide - Rates & Charges)
$462,730.56	RCWD Standby Charge Revenue

Table B-4
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
RCWD SCENARIO TABLES

Projected Ad Valorem Tax Revenues and Projected Revenue-Neutral Rate Surcharge Calculation

Methodology: Ad Valorem Tax Revenue = Ad Valorem Rate * Assessed Value of Land. Ad valorem tax applied to entirety of service area, regardless of whether it is served by RCWD or not.

$0.50	Ad Valorem Rate, $/ $100 assessed land value (Source: RCWD Customer Guide - Rates & Charges)
$407,892,695	Assessed Value of Land (Source: City of Murrieta, spreadsheet filename StudyAreaLandValue20190423, analyzed by West Yost to include customers served by WMWD.
$2,039,463	Annual Ad Valorem Tax Revenue

Check of Water Rate Revenues and Ad Valorem Revenues from RCWD (Entire District and Santa Rosa Division) to compare magnitude of Ad Valorem vs water rates

Water Rate Revenue (Santa Rosa Rates Applied to Murrieta Study Area)	
Monthly Service Charge	$1,862,904
Commodity Charge	$2,115,628
Standby Charge	$462,731
Total	$4,441,262

FY 19/20 Budget	Entire RCWD District	
Water Revenue + Monthly Service Charges	$61,973,719	pdf page 61
Reclass from Non-Operating	$10,381,868	pdf page 61
Energy Charges	$3,010,786	pdf page 64
Ad Valorem Assessments	$25,957,000	page 213
1% Assessments	$17,951,900	District's share of the 1% property tax that is levied by the County based on land value and distributed to agencies

FY 19/20 Budget	Santa Rosa Division	
Water Revenue + Monthly Service Charges	$27,969,071	page 67
Reclass from Non-Operating	$3,909,256	page 67
Energy Charges	$1,735,144	page 67
Ad Valorem Assessments	$8,834,000	page 213
1% Assessments	$2,741,100	District's share of the 1% property tax that is levied by the County based on land value and distributed to agencies

Conclusion: in the Murrieta Study Area, ad valorem revenues would be about 87% of monthly service charge + commodity charge revenues.
In RCWD's Santa Rosa Division, ad valorem revenues are ~1/3 of water rate revenues. RCWD district as a whole, ad valorem revenues are ~40% of water rate revenues.
Why for Murrieta Study Area are ad valorem revenues a higher % of water rate revenues than in the RCWD service area? Is there more land value in the Murrieta Study Area that is not connected to the water system? Thereby subject to an ad valorem fee but not paying water rates?

Calculation of Revenue-Neutral Rate Surcharge

Note: In the event an ad valorem tax is not adopted, RCWD staff indicated that RCWD would adopt a revenue-neutral rate surcharge. Any such decision is a policy decision that must be made by the RCWD Board of Directors, and that decision has not yet been made. For the purposes of this analysis, RCWD staff indicated that a revenue-neutral rate surcharge would be charged to water system customers.

$0.50	Ad Valorem Rate, $/ $100 assessed land value (Source: RCWD Customer Guide - Rates & Charges)
$407,892,695	Assessed Value of Land by Customers Currently Served by WMWD (Source: City of Murrieta, spreadsheet filename StudyAreaLandValue20190423, as analyzed by West Yost)
$2,039,463	Annual Ad Valorem Tax Revenue from Customers Currently Served by WMWD

Monthly Service Charge Revenue	$1,862,904	
Commodity Charge Revenues	$2,115,628	
Ad Valorem Tax Revenue as a % of Monthly Service Charge and Commodity Charge Revenue	51.26%	this is the percentage that Monthly Service Charges and Commodity Charges would need to go up
Ad Valorem Tax Revenue as a % of Monthly Service Charge Revenue	109.48%	% increase to Monthly Service Charges if surcharge is not applied to Commodity Charges

Table B-4
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
RCWD SCENARIO TABLES

Projected Reserve Balance Transferred From WMWD to RCWD

Methodology: value of projected WMWD reserves as of 7/1/20, less outstanding debt principal.

Projected WMWD Reserves as of 7/1/20		
WMWD Fund 230	$2,493,163	
WMWD Fund 231	($820,381)	
WMWD Fund 233	$261,943	
WMWD Fund 235	$2,378,668	
Less Outstanding Debt	(998,460)	Source: WMWD
Less Outstanding Interfund Loan	(2,000,000)	Source: WWMD
Total	$1,314,934	

Table B-4d
RCWD SCENARIO: FSMR Capital Improvements and Possible Cost Allocation to Existing Customers or Future Development

Project	Estimated Cost, 2020 $ (See Note 1)	Benefits Existing Customers or Development?	$ to Existing Customers	$ to Future Development: Funded by RCWD	$ to Future Development: Funded by Developers or Imp. District	Basis for Existing/ Development Allocation	Projected Schedule
Buy-In to RCWD for Existing Customers (Note 2)	$9,659,628	Existing Only	$9,659,628			Note 3	
Expansion CIP North of Murrieta Creek	$17,120,000	Future Only			$17,120,000	Note 4	Note 4
Expansion CIP South of Murrieta Creek	$20,388,000	Future Only			$20,388,000	Note 4	Note 4
RCWD Hydraulic Improvement	$2,255,000	Future Only		$2,255,000		Note 5	Note 8
Not Used. Previously Supply Improvements Through RCWD	$0	Future Only				Note 5	Note 8
Legacy (Small Diameter) Improvements	$4,947,000	Existing Only	$4,947,000			Note 6	Note 8
Total	$54,369,628		$14,606,628	$2,255,000	$37,508,000		
New Well No. 3, Not Included in Infrastructure Review	$0		$0	$0		Note 9	

Notes:
(1) Source: West Yost, October 2019
(2) RCWD anticipates requiring existing Murrieta Study Area customers to buy into RCWD facilities, including storage facilities, distribution facilities, and accessing MWD connections. This buy-in eliminates the need to separately build storage. Calculation of the buy-in is as follows (effective 7/1/19 to 6/30/2020):

Meter Size	Number of Connections	Capacity Fee per Connection	Buy-In Charge
5/8"	482	$1,700	$819,400
3/4"	1,968	$2,537	$4,992,816
1"	172	$4,313	$741,836
1.5"	77	$8,372	$644,644
2"	161	$13,445	$2,164,645
3"	5	$25,367	$126,835
4"	4	$42,363	$169,452
Total			$9,659,628

(3) No cost is assigned to future development. Storage needs for future development will be provided by RCWD and funded via Capacity Fees paid by future development.
(4) Expansion of water system. Project is not needed unless there is development. Schedule depends on when development occurs.
(5) Needed to accommodate future water demands from growth. Project is not needed unless there is development.
(6) These improvements are required even if there is no future development. Assume improvements will be completed between 2020 and 2025.
(7) Schedule depends on development, but assume improvements will be completed between 2020 and 2025.
(8) Assume improvements will be completed between 2020 and 2025.
(9) Project Identified by WMWD but RCWD would not complete this project (RCWD, 2/18/2020). However, since the local water production is increased, it is assumed for the purposes of this analysis that RCWD would in fact include this project.

Table B-4
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
RCWD SCENARIO TABLES

Table B-4e
RCWD SCENARIO: Potential Pay-As-You-Go Capital Expenses and Potential Debt Service Expenses

	Infrastructure Review Projects + RCWD System Buy-In + New Well No. 3	Potential Funding Method (1)	Projected FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	Note
388	Buy-In to RCWD for Existing Customers	Debt	$614,479	$614,479	$614,479	$614,479	$614,479	$614,479	$614,479	$614,479	$614,479	$614,479	2
389	Expansion CIP North of Murrieta Creek	Developer or Improvement District											1
390	Expansion CIP South of Murrieta Creek	Developer or Improvement District											1
391	RCWD Hydraulic Improvement	Debt		$150,710	$150,710	$150,710	$150,710	$150,710	$150,710	$150,710	$150,710	$150,710	3
392	Not Used. Previously Supply Improvements Through RCWD	Pay-As-You-Go	$0	$0	$0	$0	$0						3
393	Legacy (Small Diameter) Improvements	Debt		$330,625	$330,625	$330,625	$330,625	$330,625	$330,625	$330,625	$330,625	$330,625	4
394	New Well No. 3, Not Included in Infrastructure Review	Debt				$0	$0	$0	$0	$0	$0	$0	4
395	Total		$614,479	$1,095,814	$1,095,814	$1,095,814	$1,095,814	$1,095,814	$1,095,814	$1,095,814	$1,095,814	$1,095,814	

(1) Decisions on how to fund improvement projects would be made by the RCWD Board of Directors. Information is provided here to indicate a potential funding method, and is subject to review and modification by RCWD staff and/or Board. Use of improvement districts is listed as a potential source for Expansion CIP projects based on input from staff.

(2) Assumes 30 year debt at interest rate of 4%, staring in FY 25/26, with 10% added to project cost to cover capitalized bond reserve and issuance costs. Project cost escalated for inflation from 2019 dollars to 2025 dollars.

(3) Project cost spread evenly between FY 20/21 and FY 24/25 and adjusted for inflation. Supply Improvements Through RCWD No Longer Proposed, due to RCWD's Opinion that Pipe Velocities Without This Improvement Being Acceptable.

(4) Assumes 30 year debt at interest rate of 4%, staring in FY 21/22, with 10% added to project cost to cover capitalized bond reserve and issuance costs. Project cost escalated for inflation from 2019 dollars to 2021 dollars, except New Well 3 (FY 23/24 $)

Table B-4f
RCWD SCENARIO: Potential Capital Funding for Facilities That Benefit Future Development

	FMSR Capital Projects	How Growth Pays for Growth
396	Expansion CIP North of Murrieta Creek	Developer or Improvement District
397	Expansion CIP South of Murrieta Creek	Developer or Improvement District
398	Hydraulic Improvement, Pipelines	RCWD funds project; cost incorporated into Connection Fee. Future development pays Connection Fees.
399	Hydraulic Improvement, VFD @ Alson BPS	RCWD funds project; cost incorporated into Connection Fee. Future development pays Connection Fees.
400	Supply Improvements Through RCWD	Not Applicable. No Supply Improvements Needed
401	Fireflow Improvements	Not applicable. Not growth related

Table B-4
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
RCWD SCENARIO TABLES

Table B-4g
RCWD Scenario: Projected Total Water Cost Calculation

		Projected										Notes
		FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	
402	Single Family Residence (3/4" Meter; 18 ccf/month; $80,000 land value)											1, 2, 3
403	Monthly Service Charge	$44.92	$45.82	$46.74	$47.67	$48.62	$49.60	$50.59	$51.60	$51.60	$51.60	
404	Tier 1 Commodity Charge, $/hcf	$1.31	$1.34	$1.36	$1.39	$1.42	$1.45	$1.48	$1.51	$1.51	$1.51	
405	Tier 2 Commodity Charge, $/hcf	$2.30	$2.35	$2.39	$2.44	$2.49	$2.54	$2.59	$2.64	$2.64	$2.64	
406												
407	Monthly Water Bill (Service Charge + 8*Tier 1 Charge + 10*Tier 2 Charge)	$78.42	$79.98	$81.58	$83.22	$84.88	$86.58	$88.31	$90.07	$90.07	$90.07	
408												
409	Standby Charge, $/month	$5.83	$5.83	$5.83	$5.83	$5.83	$5.83	$5.83	$5.83	$5.83	$5.83	
410												
411	Ad Valorem Tax Calculation											
412	Valuation (FY 20/21 Dollars, Adjusted for Inflation in Subsequent Years)	$80,000	$82,000	$84,050	$86,151	$88,305	$90,513	$92,775	$95,095	$97,472	$99,909	
413	Annual Ad Valorem Rate ($ per $100 land value)	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	
414	Ad Valorem Tax per Month	$33.33	$34.17	$35.02	$35.90	$36.79	$37.71	$38.66	$39.62	$40.61	$41.63	
415												
416	Revenue Neutral Rate Surcharge											
417	% Rate Surcharge (applied to FY 19/20 Bill)	51.26%										
418	$ Rate Surcharge (55.42% of FY 19/20 Monthly Bill, Increased for Inflation in Subsequent Yrs)	$40.20	$41.20	$42.23	$43.29	$44.37	$45.48	$46.62	$47.78	$48.98	$50.20	
419	Inflation is due to projected inflationary increase in property values											
420												
421	Commercial Account (2" Meter; 125 ccf/month; $200,000 land value, 1 acre)											2, 4, 5
422	Monthly Service Charge, $/month	$184.41	$188.09	$191.86	$195.69	$199.61	$203.60	$207.67	$211.82	$211.82	$211.82	
423	Tier 1 Commodity Charge, $/hcf	$2.08	$2.13	$2.17	$2.21	$2.26	$2.30	$2.35	$2.39	$2.39	$2.39	
424	Monthly Water Bill (Service Charge + 100*Tier 1 Charge)	$445.02	$453.92	$462.99	$472.25	$481.70	$491.33	$501.16	$511.18	$511.18	$511.18	
425												
426	Standby Charge, $/month	$5.83	$5.83	$5.83	$5.83	$5.83	$5.83	$5.83	$5.83	$5.83	$5.83	
427												
428	Ad Valorem Tax Calculation											
429	Valuation (FY 20/21 Dollars, Adjusted for Inflation in Subsequent Years)	$200,000	$205,000	$210,125	$215,378	$220,763	$226,282	$231,939	$237,737	$243,681	$249,773	
430	Annual Ad Valorem Rate ($ per $100 land value)	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	
431	Ad Valorem Tax per Month	$83.33	$85.42	$87.55	$89.74	$91.98	$94.28	$96.64	$99.06	$101.53	$104.07	
432												
433	Revenue Neutral Rate Surcharge											
434	% Rate Surcharge (applied to FY 19/20 Bill)	51.26%										
435	$ Rate Surcharge (89.32% of FY 19/20 Monthly Bill, Increased for Inflation in Subsequent Yrs)	$228.12	$233.83	$239.67	$245.66	$251.80	$258.10	$264.55	$271.17	$277.95	$284.89	

Notes:
(1) Both RCWD and WMWD use budget based rates. For single-family residences, of the 18 ccf/month use, estimate 8 ccf/month in Tier 1 and remainder of water use in Tier 2. No Tier 3 or Tier 4 use.
For the commercial account example, 1,500 ccf/year (125 ccf/month) is the average water use for WMWD's customers in the Study Area with 2" meters, as reported by WMWD (1/21/2020)
(2) RCWD adjusts rates on July 1 of each year. The monthly bills shown in this table are for the entire fiscal year.
(3) $80,000 is used as an example land value for single-family residences based on qualitative review of assessor data provided by the City of Murrieta.
(4) WMWD and RCWD have different tier structures for non-residential customers. For RCWD, all water use is projected to be in Tier 1.
(5) $200,000 is used as an example land value for commercial property based on qualitative review of assessor data provided by the City of Murrieta.

Table B-5
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
EMWD SCENARIO TABLES

Table B-5a
EMWD SCENARIO: Projected Operating Statement: Sources of Funds

Line					Projected										Notes
					FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	
1	**Beginning Reserve Balance**				$1,314,934	$1,746,478	$2,240,672	$2,783,083	$3,377,960	$4,029,623	$4,742,899	$5,523,053	$6,375,447	$7,306,146	1
2															
3	**Sources of Funds**														
4	Methodology: Initially, transferred customers will be charged WMWD's rate schedule. WMWD's rates are higher than EMWD's rates. The difference in rate revenues between WMWD's and EMWD's rates will be used to pay off the acquisition balance.														
5	After the acquisition balance is paid off, transferred customers will be charged EMWD's rate schedule.														
6															
7	Step 1. Rate Revenues WMWD Rate Schedule as Adjusted by EMWD														
8	Water Rate Revenues at WMWD CY 2020 Rates				5,539,097	5,628,784	5,719,924	5,812,539	5,906,653	6,002,834	6,100,580	6,199,919	6,300,875	6,403,474	1
9	Less Rate Discount Offered by EMWD (20% of WMWD's Fixed Charge)				(372,901)	(379,151)	(385,401)	(391,758)	(398,115)	(404,578)	(411,148)	(417,717)	(424,394)	(431,147)	2
10															
11	Additional Rate Revenues from Future EMWD Increases to Adjusted WMWD Rates														
12	Fiscal	% of Water	Months												
13	Year	Rate Revenue	of Revenue												
14	FY 20/21	3.8%	6		98,158	199,486	202,712	205,990	209,324	212,734	216,198	219,724	223,306	226,948	3
15	FY 21/22	3.8%	6			103,533	210,415	213,817	217,279	220,818	224,414	228,073	231,792	235,572	
16	FY 22/23	3.8%	6				109,205	221,942	225,535	229,209	232,942	236,740	240,600	244,524	
17	FY 23/24	3.8%	6					115,188	234,106	237,919	241,793	245,736	249,743	253,816	
18	FY 24/25	3.8%	6						121,501	246,960	250,982	255,074	259,233	263,461	
19	FY 25/26	3.8%	6							128,172	260,519	264,767	269,084	273,473	
20	FY 26/27	3.8%	6								135,209	274,828	279,309	283,865	
21	FY 27/28	3.8%	6									142,636	289,923	294,651	
22	FY 28/29	0.0%	6										0	0	
23	FY 29/30	0.0%	6											0	
24	Total Additional Rate Revenue (Monthly Service Charges, Commodity Charges)				$98,158	$303,019	$522,332	$756,937	$1,007,745	$1,275,812	$1,562,057	$1,867,578	$2,042,990	$2,076,310	
25															
26	Subtotal Rate Revenues: WMWD Rate Schedule as Adjusted by EMWD				$5,264,354	$5,552,652	$5,856,854	$6,177,717	$6,516,283	$6,874,068	$7,251,490	$7,649,779	$7,919,471	$8,048,638	
27															
28	Step 2: Rate Revenues, EMWD Rates				$4,623,838	$4,859,573	$5,087,179	$5,325,945	$5,576,181	$5,839,134	$6,115,057	$6,404,315	$6,707,890	$7,026,520	
29	Methodology: Use EMWD Rates That Have Been Adopted Thru CY 2021. In Subsequent Years Include Projected Inflationary Rate Increases. See line 182 below:														
30															
31	Step 3: Determine Whether to Use WMWD or EMWD Rates, Based on Whether the Acquisition Balance is Paid Off														
32	Beginning Year Acquisition Balance				$11,970,446	$11,329,930	$10,636,851	$9,867,176	$9,015,403	$8,075,300	$7,040,367	$5,903,934	$4,658,469	$3,446,888	
33	Define Which Rate Structure to Use				WMWD Adj	WMWD Adj	WMWD Adj	WMWD Adj	WMWD Adj	WMWD Adj	WMWD Adj	WMWD Adj	WMWD Adj	WMWD Adj	
34															
35	Step 4: Determine the Projected Rate Revenue														
36	Projected Rate Revenue Under EMWD Rates Used to Pay Expenses				$4,623,838	$4,859,573	$5,087,179	$5,325,945	$5,576,181	$5,839,134	$6,115,057	$6,404,315	$6,707,890	$7,026,520	
37	(Delta Between Adjusted WMWD Rates and EMWD Rates Used to Pay Acquisition Balance Down)														
38															
39	Non-Rate Revenue														
40	Non-Operating Revenues														
41	Property Tax (1% Share) Assume WMWD's small property tax rev does not transfe				0	0	0	0	0	0	0	0	0	0	
42	Operating Revenues														
43	Interest Income				26,299	34,930	44,813	55,662	67,559	80,592	94,858	110,461	127,509	146,123	
44	Delinquent Penalties (Assumed Same as WMWD)				53,045	53,045	53,045	53,045	53,045	53,045	53,045	53,045	53,045	53,045	
45	Standby Charge Revenues				92,652	92,652	92,652	92,652	92,652	92,652	92,652	92,652	92,652	92,652	
46	Other - New Service Set Up & Meter Repair				4,244	4,244	4,244	4,244	4,244	4,244	4,244	4,244	4,244	4,244	
47	Other Revenues														
48	Total Non-Rate Revenue				$176,240	$184,871	$194,754	$205,603	$217,500	$230,533	$244,799	$260,402	$277,450	$296,064	
49															
50	Total Revenues Excluding Paydown of Acquisition Balance				$4,800,078	$5,044,443	$5,281,933	$5,531,547	$5,793,681	$6,069,667	$6,359,856	$6,664,717	$6,985,340	$7,322,584	

Table B-5
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
EMWD SCENARIO TABLES

Table B-5b
EMWD SCENARIO Projected Operating Statement: Uses of Funds, Projected Payoff of Acquisition Balance, and Cumulative FPC Revenues

		Projected										
		FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	
51	**Uses of Funds**											
52												
53	Estimated Cost to Provide Water Service, Including O&M, Debt Service, Capital, and OPEB (Excludes Capital Required to Bring System to Operational Parity)											
54	Capital required to bring system to operational parity assumed for the purposes of this analysis to be the portion of the West Yost identified capital improvements that benefits existing customers.											
55												
56	Cost to Provide Water Service, $/AF (see below)	$1,830	$1,875	$1,922	$1,970	$2,019	$2,070	$2,122	$2,175	$2,229	$2,285	4
57	Number of AF	2,388	2,426	2,466	2,506	2,546	2,588	2,630	2,673	2,716	2,760	5
58												
59	Cost to provide water services	$4,368,533	$4,550,249	$4,739,523	$4,936,670	$5,142,018	$5,356,391	$5,579,702	$5,812,323	$6,054,641	$6,307,062	
60												
61												
62	Total Uses of Funds	$4,368,533	$4,550,249	$4,739,523	$4,936,670	$5,142,018	$5,356,391	$5,579,702	$5,812,323	$6,054,641	$6,307,062	
63												
64	**End of Year Balance**	$1,746,478	$2,240,672	$2,783,083	$3,377,960	$4,029,623	$4,742,899	$5,523,053	$6,375,447	$7,306,146	$8,321,667	
65	Math Check, should equal $0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
66												
67												
68						Projected						
69	**Projected Payoff of Acquisition Balance**	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	
70	Beginning Year Acquisition Balance	$11,970,446	$11,329,930	$10,636,851	$9,867,176	$9,015,403	$8,075,300	$7,040,367	$5,903,934	$4,658,469	$3,446,888	
71												
72	Calculation of Acquisition Balance Paydown Amount											
73	Rate Revenues Under WMWD Rates (Including EMWD Discount and Rate Increases)	$5,264,354	$5,552,652	$5,856,854	$6,177,717	$6,516,283	$6,874,068	$7,251,490	$7,649,779	$7,919,471	$8,048,638	
74	Less Rate Revenues Under EMWD Rates (See Table A4-b Below)	($4,623,838)	($4,859,573)	($5,087,179)	($5,325,945)	($5,576,181)	($5,839,134)	($6,115,057)	($6,404,315)	($6,707,890)	($7,026,520)	
75	Acquisition Balance Paydown Amount	$640,516	$693,079	$769,675	$851,773	$940,102	$1,034,934	$1,136,433	$1,245,465	$1,211,581	$1,022,118	
76												
77	Ending Year Acquisition Balance	$11,329,930	$10,636,851	$9,867,176	$9,015,403	$8,075,300	$7,040,367	$5,903,934	$4,658,469	$3,446,888	$2,424,771	
78												
79												
80						Projected						
81	**Cumulative FPC Revenues**	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	
82	Annual FPC Revenues	$473,692	$491,314	$503,597	$522,259	$535,316	$555,078	$575,494	$589,881	$611,498	$633,827	
83	Cumulative FPC Revenues	$473,692	$965,007	$1,468,604	$1,990,863	$2,526,179	$3,081,257	$3,656,751	$4,246,632	$4,858,130	$5,491,958	
84												

85 Notes:
86 (1) Calculation of reserve balance to be transferred is shown below and represents projected 7/1/2020 WMWD reserves less outstanding WMWD debt.
87 (2) EMWD is proposing an initial rate discount of 20% of WMWD's fixed charge. See line 337 below for the calculation of this revenue adjustment.
88 (3) Both EMWD and WMWD adjust rates on January 1 of each year. The first increase for future EMWD increases to Adjusted WMWD rates would occur on January 1, 2021.
89 (4) FY 20/21 per Acre Foot demand expense estimated in Table B-5c below. Subsequent years adjusted for inflation per assumptions in Table B-1.
90 (5) FY 20/21 number of Meter Equivalents estimated in Table B-2. Subsequent years adjusted for growth per assumptions in Table B-2.
91
92

Table B-5
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
EMWD SCENARIO TABLES

Table B-5c
EMWD SCENARIO: Revenue Calculations

This Table Contains:

Line Number	Subject
94	Number of Connections per Meter Size (See Table B-2)
102	Comparison of EMWD and WMWD Budget-Based Rate Tiers
124	Seasonal Use of Water in Murrieta Study Area (Source: WMWD Water Use Data, See Table B-3)
134	Projected Water Use by Tier, ccf/year, All Residential Customers, When Calculating Revenues Under Adjusted WMWD Rates and Monthly Bills Under Adjusted WMWD Rates
152	Projected Water Use by EMWD Tier, ccf/year, Non-Residential
163	EMWD Adopted Water Rates Through Calendar Year 2021, Projected Rates through FY 29/30, and Rate Revenue Calculation Through Calendar Year 2021
309	Projected Rate Revenues Under EMWD Rates
337	Adjustment to Revenues Where EMWD Applies WMWD Rates with 20% Discount on Fixed Charge
379	Reserve Balance Transferred Over
393	Projected Financial Participation Charge Revenue Calculation
430	Standby Charge Revenue Calculation

					Projected						
		FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
93	**Number of Connections per Meter Size (See Table B-2)**											
94	5/8"	482	490	498	506	514	522	530	538	546	554	563
95	3/4"	1,968	1,999	2,031	2,063	2,096	2,129	2,163	2,198	2,233	2,269	2,305
96	1"	172	175	178	181	184	187	190	193	196	199	202
97	1.5"	77	79	81	83	85	87	89	91	93	95	97
98	2"	161	164	167	170	173	176	179	182	185	188	191
99	3"	5	5	5	5	5	5	5	5	5	5	5
100	4"	2	2	2	2	2	2	2	2	2	2	2

101

102 **Comparison of EMWD and WMWD Budget-Based Rate Tiers**

103 - WMWD has five tiers, EMWD has four tiers. For CII, WMWD has five tiers, EMWD has three. Projecting revenues from EMWD rates requires estimating water sales by EMWD tiers.

104 - Over 60% of Murrieta Division Water Use is Single-Family. A comparison of tier definitions is as follows:

105 - Also, from Table B-2, 91% of Murrieta Division water use is in either Tier 1 or Tier 2

106

107		WMWD	EMWD		WMWD	EMWD
108	Tier	Residential	Residential		Non-Residential	Non-Residential
109	Tier 1	100% IWB	0 - 20% TWB		43% TWB	100% TWB
110	Tier 2	100% OWB	20 - 100% TWB		57% TWB	101-150% TWB
111	Tier 3	25% TWB	101-150% TWB		25% TWB	Above Tier 2
112	Tier 4	25% TWB	Above Tier 3		25% TWB	
113	Tier 5	Above Tier 4			Above Tier 4	

114

115	Residential	Non-Residential
116	EMWD Tier 1 Use ~ WMWD Tier 1 Use	EMWD Tier 1 Use = WMWD Tier 1 + Tier 2 Use
117	EMWD Tier 2 Use ~ WMWD Tier 2 Use	EMWD Tier 2 Use = WMWD Tier 3 + Tier 4 Use
118	EMWD Tier 3 Use = WMWD Tier 3 + Tier 4 Use	EMWD Tier 3 Use = WMWD Tier 5 Use
119	EMWD Tier 4 Use = WMWD Tier 4 Use	

120

121 EMWD Source: https://www.emwd.org/sites/default/files/file-attachments/emwd_prop_218_2019_residential_final_web.pdf, downloaded July 25, 2019

122

123

Table B-5
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
EMWD SCENARIO TABLES

Seasonal Use of Water in Murrieta Study Area (Source: WMWD Water Use Data, See Table B-3)

WMWD Tier	July - Dec	Jan - June
Tier 1	54%	46%
Tier 2	59%	41%
Tier 3	66%	34%
Tier 4	64%	36%
Tier 5	61%	39%
Total	57%	43%

What this table means: according to data provided by WMWD, 54% of Tier 1 water use occurs between July and December, 61% of Tier 5 water use occurs between July and December, and 57% of total water use occurs between January and June.

Projected Water Use by Tier, ccf/year, All Residential Customers, When Calculating Revenues Under Adjusted WMWD Rates and Monthly Bills Under Adjusted WMWD Rates

						Projected					
	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
Tier 1	399,486	405,954	412,527	419,206	425,994	432,892	439,941	447,105	454,385	461,784	469,303
Tier 2	414,102	420,807	427,621	434,545	441,581	448,731	456,038	463,464	471,011	478,681	486,476
Tier 3	52,414	53,263	54,125	55,001	55,892	56,797	57,722	58,662	59,617	60,588	61,575
Tier 4	33,598	34,142	34,695	35,257	35,828	36,408	37,001	37,604	38,216	38,838	39,470
Total	899,600	914,166	928,968	944,009	959,295	974,828	990,702	1,006,835	1,023,229	1,039,891	1,056,824

Projected Water Use by Tier, ccf/year, All Residential Customers, When Calculating Revenues Under EMWD Rates and Monthly Bills Under EMWD Rates

						Projected					
	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
Tier 1	162,718	165,352	168,030	170,750	173,515	176,325	179,196	182,114	185,079	188,093	191,156
Tier 2	650,870	661,409	672,118	683,001	694,060	705,298	716,783	728,455	740,317	752,372	764,623
Tier 3	52,414	53,263	54,125	55,001	55,892	56,797	57,722	58,662	59,617	60,588	61,575
Tier 4	33,598	34,142	34,695	35,257	35,828	36,408	37,001	37,604	38,216	38,838	39,470
Total	899,600	914,166	928,968	944,009	959,295	974,828	990,702	1,006,835	1,023,229	1,039,891	1,056,824

Projected Water Use by EMWD Tier, ccf/year, Non-Residential

						Projected					
	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
Tier 1	92,412	93,909	95,430	96,975	98,545	100,141	101,772	103,429	105,113	106,825	108,564
Tier 2	7,886	8,013	8,143	8,275	8,409	8,545	8,684	8,825	8,969	9,115	9,263
Tier 3	3,802	3,863	3,926	3,990	4,055	4,121	4,188	4,256	4,325	4,395	4,467
Total	104,100	105,785	107,499	109,240	111,009	112,807	114,644	116,510	118,407	120,335	122,294
Total Murrieta Division Water Use	1,003,700	1,019,951	1,036,467	1,053,249	1,070,304	1,087,635	1,105,346	1,123,345	1,141,636	1,160,226	1,179,118

EMWD Adopted Water Rates Through Calendar Year 2021, Projected Rates through FY 29/30, and Rate Revenue Calculation Through Calendar Year 2021

EMWD Daily Service Charge

Sources of Data:

https://www.emwd.org/sites/default/files/file-attachments/emwd_prop_218_2019_residential_final_web.pdf

https://www.emwd.org/sites/default/files/file-attachments/emwd_prop_218_2019_commercial_final_web.pdf

Daily Service Charge Schedule ($/day)	Adopted CY 2017	Adopted CY 2018	Adopted CY 2019	Adopted CY 2020	Adopted CY 2021
5/8" Meter	$0.39	$0.39	$0.42	$0.44	$0.46
3/4" Meter			$0.42	$0.44	$0.46
1" Meter			$0.57	$0.60	$0.63
1.5" Meter			$1.58	$1.65	$1.73
2" Meter			$2.45	$2.57	$2.68
3" Meter			$4.77	$5.00	$5.23
4" Meter			$7.38	$7.73	$8.08
6" Meter			$14.63	$15.33	$16.02

Table B-5
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
EMWD SCENARIO TABLES

Daily Service Charge Revenues Through FY 21/22 (See Notes 1 and 2)	1st Half of FY 19/20	2nd Half of FY 19/20	Total FY 19/20	1st Half of FY 20/21	2nd Half of FY 20/21	Total FY 20/21	1st Half of FY 21/22	2nd Half of FY 21/22	Total FY 21/22
5/8" Meter	$36,945	$38,705	$75,650	$39,347	$41,136	$80,483	$41,807	$41,807	$83,614
3/4" Meter	$150,847	$158,030	$308,878	$160,520	$167,816	$328,336	$170,502	$170,502	$341,005
1" Meter	$17,892	$18,834	$36,726	$19,163	$20,121	$39,283	$20,466	$20,466	$40,931
1.5" Meter	$22,203	$23,187	$45,390	$23,789	$24,942	$48,731	$25,574	$25,574	$51,147
2" Meter	$71,987	$75,513	$147,500	$76,920	$80,212	$157,133	$81,680	$81,680	$163,359
3" Meter	$4,353	$4,563	$8,915	$4,563	$4,772	$9,335	$4,772	$4,772	$9,545
4" Meter	$2,694	$2,821	$5,515	$2,821	$2,949	$5,771	$2,949	$2,949	$5,898
Total			$628,574			$669,071			$695,500

Notes:
(1) Annual revenues are the daily charge multiplied by 365 times the projected number of customers.
(2) EMWD has adopted rate increases only through CY 2021, which covers the first half of FY 21/22. This table projects FY 21/22 revenues at the CY 2021 rate.
Rate adjustments effective for CY 2022 are projected in Table B-5a above.

Daily Service Charge Schedule ($/month)	Adopted CY 2020	Adopted CY 2021	Projected CY 2022	Projected CY 2023	Projected CY 2024	Projected CY 2025	Projected CY 2026	Projected CY 2027	Projected CY 2028	Projected CY 2029	Projected CY 2030
5/8" Meter	$13.38	$13.99	$14.34	$14.70	$15.07	$15.44	$15.83	$16.23	$16.63	$17.05	$17.47
3/4" Meter	$13.38	$13.99	$14.34	$14.70	$15.07	$15.44	$15.83	$16.23	$16.63	$17.05	$17.47
1" Meter	$18.25	$19.16	$19.64	$20.13	$20.64	$21.15	$21.68	$22.22	$22.78	$23.35	$23.93
1.5" Meter	$50.19	$52.62	$53.94	$55.28	$56.67	$58.08	$59.54	$61.02	$62.55	$64.11	$65.72
2" Meter	$78.17	$81.52	$83.55	$85.64	$87.78	$89.98	$92.23	$94.53	$96.90	$99.32	$101.80
3" Meter	$152.08	$159.08	$163.06	$167.13	$171.31	$175.59	$179.98	$184.48	$189.10	$193.82	$198.67
4" Meter	$235.12	$245.77	$251.91	$258.21	$264.66	$271.28	$278.06	$285.01	$292.14	$299.44	$306.93
6" Meter	$466.29	$487.28	$499.46	$511.94	$524.74	$537.86	$551.31	$565.09	$579.22	$593.70	$608.54

Projected Daily Service Charge Revenues	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
					Projected					
5/8" Meter	$80,483	$84,659	$88,170	$91,803	$95,563	$99,453	$103,478	$107,642	$111,950	$116,612
3/4" Meter	$328,336	$345,267	$359,475	$374,356	$389,756	$405,880	$422,759	$440,228	$458,508	$477,428
1" Meter	$39,283	$41,443	$43,195	$45,008	$46,886	$48,829	$50,840	$52,921	$55,074	$57,302
1.5" Meter	$48,731	$51,787	$54,392	$57,095	$59,900	$62,809	$65,826	$68,954	$72,198	$75,561
2" Meter	$157,133	$165,401	$172,582	$180,018	$187,718	$195,691	$203,945	$212,490	$221,334	$230,487
3" Meter	$9,335	$9,664	$9,906	$10,153	$10,407	$10,667	$10,934	$11,207	$11,488	$11,775
4" Meter	$5,771	$5,972	$6,121	$6,274	$6,431	$6,592	$6,757	$6,926	$7,099	$7,276
Total	$669,071	$704,194	$733,841	$764,709	$796,661	$829,921	$864,538	$900,368	$937,650	$976,442

EMWD Fixed Charge for Water Supply and Reliability Capital Projects
Sources of Data:
https://www.emwd.org/sites/default/files/file-attachments/emwd_prop_218_2019_residential_final_web.pdf
https://www.emwd.org/sites/default/files/file-attachments/emwd_prop_218_2019_commercial_final_web.pdf
The charge is shown on the EMWD website as "per Equivalent Meter Size". EMWD Equivalent Meter factors are shown in Table B-2

Monthly Fixed Charge for Water Supply and Reliability	Adopted CY 2019	Adopted CY 2020	Adopted CY 2021	Projected CY 2022	Projected CY 2023	Projected CY 2024	Projected CY 2025	Projected CY 2026	Projected CY 2027	Projected CY 2028	Projected CY 2029	Projected CY 2030
5/8" Meter	$3.65	$3.95	$4.26	$4.37	$4.48	$4.59	$4.70	$4.82	$4.94	$5.06	$5.19	$5.32
3/4" Meter	$3.65	$3.95	$4.26	$4.37	$4.48	$4.59	$4.70	$4.82	$4.94	$5.06	$5.19	$5.32
1" Meter	$5.48	$5.93	$6.39	$6.55	$6.71	$6.88	$7.05	$7.23	$7.41	$7.60	$7.79	$7.98
1.5" Meter	$18.25	$19.75	$21.30	$21.83	$22.38	$22.94	$23.51	$24.10	$24.70	$25.32	$25.95	$26.60
2" Meter	$29.20	$31.60	$34.08	$34.93	$35.81	$36.70	$37.62	$38.56	$39.52	$40.51	$41.52	$42.56
3" Meter	$58.40	$63.20	$68.16	$69.86	$71.61	$73.40	$75.24	$77.12	$79.04	$81.02	$83.05	$85.12
4" Meter	$91.25	$98.75	$106.50	$109.16	$111.89	$114.69	$117.56	$120.49	$123.51	$126.60	$129.76	$133.00

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Revenues, Monthly Fixed Charge for Capital Through FY 21/22 (See Notes 1 and 2)	1st Half of FY 19/20	2nd Half of FY 19/20	Total FY 19/20	1st Half of FY 20/21	2nd Half of FY 20/21	Total FY 20/21	1st Half of FY 21/22	2nd Half of FY 21/22	Total FY 21/22
5/8" Meter	$10,556	$11,423	$21,979	$11,613	$12,524	$24,137	$12,729	$12,729	$25,458
3/4" Meter	$43,099	$46,642	$89,741	$47,376	$51,094	$98,471	$51,912	$51,912	$103,825
1" Meter	$5,650	$6,115	$11,765	$6,221	$6,710	$12,931	$6,825	$6,825	$13,649
1.5" Meter	$8,432	$9,125	$17,556	$9,362	$10,096	$19,458	$10,352	$10,352	$20,704
2" Meter	$28,207	$30,526	$58,733	$31,094	$33,535	$64,629	$34,148	$34,148	$68,296
3" Meter	$1,752	$1,896	$3,648	$1,896	$2,045	$3,941	$2,045	$2,045	$4,090
4" Meter	$1,095	$1,185	$2,280	$1,185	$1,278	$2,463	$1,278	$1,278	$2,556
Total			$205,702			$226,030			$238,577

Notes:
(1) Annual revenues are the monthly charge multiplied by 12 times the projected number of customers.
(2) EMWD has adopted rate increases only through CY 2021, which covers the first half of FY 21/22. This table projects FY 21/22 revenues at the CY 2021 rate.
Rate adjustments effective for CY 2022 are projected in Table B-5a above.

Projected Monthly Fixed Charge for Capital Projects Revenues	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
					Projected					
5/8" Meter	$24,137	$25,776	$26,845	$27,951	$29,096	$30,280	$31,506	$32,773	$34,085	$35,505
3/4" Meter	$98,471	$105,123	$109,448	$113,979	$118,668	$123,577	$128,716	$134,035	$139,601	$145,361
1" Meter	$12,931	$13,820	$14,404	$15,009	$15,635	$16,283	$16,953	$17,647	$18,365	$19,108
1.5" Meter	$19,458	$20,962	$22,017	$23,111	$24,246	$25,424	$26,645	$27,911	$29,224	$30,586
2" Meter	$64,629	$69,150	$72,152	$75,261	$78,480	$81,813	$85,264	$88,836	$92,534	$96,361
3" Meter	$3,941	$4,141	$4,244	$4,350	$4,459	$4,571	$4,685	$4,802	$4,922	$5,045
4" Meter	$2,463	$2,588	$2,653	$2,719	$2,787	$2,857	$2,928	$3,001	$3,076	$3,153
Total	$226,030	$241,559	$251,763	$262,380	$273,371	$284,804	$296,697	$309,006	$321,807	$335,118

EMWD Commodity Charge

Residential Commodity Charge	Adopted CY 2019	Adopted CY 2020	Adopted CY 2021	Projected CY 2022	Projected CY 2023	Projected CY 2024	Projected CY 2025	Projected CY 2026	Projected CY 2027	Projected CY 2028	Projected CY 2029	Projected CY 2030
Tier 1	$1.07	$1.10	$1.13	$1.16	$1.19	$1.22	$1.25	$1.28	$1.31	$1.34	$1.38	$1.41
Tier 2	$3.43	$3.53	$3.63	$3.72	$3.81	$3.91	$4.01	$4.11	$4.21	$4.31	$4.42	$4.53
Tier 3: Excessive Use	$5.67	$5.84	$6.01	$6.16	$6.31	$6.47	$6.63	$6.80	$6.97	$7.14	$7.32	$7.51
Tier 4: Wasteful Use	$11.59	$11.94	$12.30	$12.61	$12.92	$13.25	$13.58	$13.92	$14.26	$14.62	$14.99	$15.36

Non-Residential Commodity Charge	Adopted CY 2019	Adopted CY 2020	Adopted CY 2021	Projected CY 2022	Projected CY 2023	Projected CY 2024	Projected CY 2025	Projected CY 2026	Projected CY 2027	Projected CY 2028	Projected CY 2029	Projected CY 2030
Tier 1	$3.55	$3.66	$3.77	$3.86	$3.96	$4.06	$4.16	$4.27	$4.37	$4.48	$4.59	$4.71
Tier 2	$7.21	$7.43	$7.65	$7.84	$8.04	$8.24	$8.44	$8.66	$8.87	$9.09	$9.32	$9.55
Tier 3: Excessive Use	$12.02	$12.38	$12.75	$13.07	$13.40	$13.73	$14.07	$14.43	$14.79	$15.16	$15.53	$15.92

Commodity Charge Revenues	1st Half of FY 19/20 Residential	2nd Half of FY 19/20 Residential	Total FY 19/20 Residential	1st Half of FY 19/20 Non-Residential	2nd Half of FY 19/20 Non-Residential	Total FY 19/20 Non-Residential
Tier 1	$93,750	$82,610	$176,361	$176,650	$156,106	$332,756
Tier 2	$1,321,670	$937,368	$2,259,039	$33,660	$23,904	$57,564
Tier 3	$196,669	$103,534	$300,202	$30,241	$15,920	$46,161
Tier 4	$247,620	$146,064	$393,684			
Subtotal Commodity Charge Revenues			$3,129,286			$436,481

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Commodity Charge Revenues	1st Half of FY 20/21 Residential	2nd Half of FY 20/21 Residential	Total FY 20/21 Residential	1st Half of FY 20/21 Non-Residential	2nd Half of FY 20/21 Non-Residential	Total FY 20/21 Non-Residential
Tier 1	$97,939	$86,238	$184,177	$185,073	$163,402	$348,475
Tier 2	$1,382,227	$979,530	$2,361,757	$35,247	$25,009	$60,256
Tier 3	$205,846	$108,273	$314,119	$31,648	$16,176	$47,824
Tier 4	$259,227	$152,904	$412,131			
Subtotal Commodity Charge Revenues			$3,272,184			$456,554

Commodity Charge Revenues	1st Half of FY 21/22 Residential	2nd Half of FY 21/22 Residential	Total FY 21/22 Residential	1st Half of FY 21/22 Non-Residential	2nd Half of FY 21/22 Non-Residential	Total FY 21/22 Non-Residential
Tier 1	$102,240	$87,634	$189,873	$193,723	$166,048	$359,771
Tier 2	$1,444,399	$995,391	$2,439,790	$36,879	$25,415	$62,294
Tier 3	$215,266	$110,025	$325,291	$33,126	$16,931	$50,057
Tier 4	$271,368	$155,380	$426,749			
Subtotal Commodity Charge Revenues			$3,381,703			$472,122

Projected Rate Revenues Under EMWD Rates

				Projected									
				FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
Already Adopted EMWD Rates Through CY 2021 and Projected Rates													
Residential Commodity Charges				$3,272,184	$3,381,703	$3,436,456	$3,492,102	$3,548,646	$3,606,432	$3,665,161	$3,724,839	$3,785,494	$3,847,135
Non-Residential Commodity Charges				$456,554	$472,122	$479,768	$487,537	$495,434	$503,501	$511,697	$520,028	$528,496	$537,099
Daily Service Charge				$669,071	$704,194	$733,841	$764,709	$796,661	$829,921	$864,538	$900,368	$937,650	$976,442
Fixed Charge for Capital Projects				$226,030	$241,559	$251,763	$262,380	$273,371	$284,804	$296,697	$309,006	$321,807	$335,118
Revenue from Projected EMWD Rate Increases after CY 2021													
Fiscal Year	% of Water Rate Revenue	Months of Revenue											
FY 21/22	2.5%	6	CY 2022		59,995	122,546	125,168	127,853	130,616	133,452	136,356	139,336	142,395
FY 22/23	2.5%	6	CY 2023			62,805	128,297	131,049	133,882	136,789	139,765	142,820	145,955
FY 23/24	2.5%	6	CY 2024				65,752	134,325	137,229	140,208	143,259	146,390	149,604
FY 24/25	2.5%	6	CY 2025					68,842	140,660	143,714	146,841	150,050	153,344
FY 25/26	2.5%	6	CY 2026						72,088	147,306	150,512	153,801	157,177
FY 26/27	2.5%	6	CY 2027							75,495	154,274	157,646	161,107
FY 27/28	2.5%	6	CY 2028								79,066	161,587	165,134
FY 28/29	2.5%	6	CY 2029									82,813	169,263
FY 29/30	2.5%	6	CY 2030										86,747
Total Additional Rate Revenue (Monthly Service Charges, Commodity Charges				$0	$59,995	$185,351	$319,217	$462,069	$614,475	$776,964	$950,073	$1,134,443	$1,330,726
Total Projected Rates Under EMWD Rate Structure				$4,623,838	$4,859,573	$5,087,179	$5,325,945	$5,576,181	$5,839,134	$6,115,057	$6,404,315	$6,707,890	$7,026,520

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Adjustment to Revenues Where EMWD Applies WMWD Rates with 20% Discount on Fixed Charge

Methodology: EMWD would charge the Murrieta Study Area customers WMWD's CY 2020 rates but would lower the fixed charge by 20%.
This information is used to calculate revenues based on the EMWD's Adjusted WMWD rates in Table B-5a, Line 9 above

		Projected									
		FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
Initial Reduction in WMWD Meter Charge, percent	20%										
Meter Size		WMWD's Calendar Year 2020 Meter Charge									
5/8" Meter		$32.00	$32.00	$32.00	$32.00	$32.00	$32.00	$32.00	$32.00	$32.00	$32.00
3/4" Meter		$44.39	$44.39	$44.39	$44.39	$44.39	$44.39	$44.39	$44.39	$44.39	$44.39
1" Meter		$68.56	$68.56	$68.56	$68.56	$68.56	$68.56	$68.56	$68.56	$68.56	$68.56
1.5" Meter		$129.28	$129.28	$129.28	$129.28	$129.28	$129.28	$129.28	$129.28	$129.28	$129.28
2" Meter		$154.50	$154.50	$154.50	$154.50	$154.50	$154.50	$154.50	$154.50	$154.50	$154.50
3" Meter		$384.49	$384.49	$384.49	$384.49	$384.49	$384.49	$384.49	$384.49	$384.49	$384.49
4" Meter		$744.16	$744.16	$744.16	$744.16	$744.16	$744.16	$744.16	$744.16	$744.16	$744.16
Meter Size		Initial Difference Between EMWD's Adjusted WMWD Fixed Charge and WMWD's Fixed Charge (CY 2020 Rates)									
5/8" Meter		$6.40	$6.40	$6.40	$6.40	$6.40	$6.40	$6.40	$6.40	$6.40	$6.40
3/4" Meter		$8.88	$8.88	$8.88	$8.88	$8.88	$8.88	$8.88	$8.88	$8.88	$8.88
1" Meter		$13.71	$13.71	$13.71	$13.71	$13.71	$13.71	$13.71	$13.71	$13.71	$13.71
1.5" Meter		$25.86	$25.86	$25.86	$25.86	$25.86	$25.86	$25.86	$25.86	$25.86	$25.86
2" Meter		$30.90	$30.90	$30.90	$30.90	$30.90	$30.90	$30.90	$30.90	$30.90	$30.90
3" Meter		$76.90	$76.90	$76.90	$76.90	$76.90	$76.90	$76.90	$76.90	$76.90	$76.90
4" Meter		$148.83	$148.83	$148.83	$148.83	$148.83	$148.83	$148.83	$148.83	$148.83	$148.83
Change in Revenues Resulting from EMWD's Adjustment to WMWD Rates		$372,901	$379,151	$385,401	$391,758	$398,115	$404,578	$411,148	$417,717	$424,394	$431,147
Meter Size		Proposed EMWD Adjusted WMWD Meter Charge									
5/8" Meter		$25.60	$26.57	$27.58	$28.63	$29.72	$30.85	$32.02	$33.24	$33.24	$33.24
3/4" Meter		$35.51	$36.86	$38.26	$39.72	$41.23	$42.79	$44.42	$46.11	$46.11	$46.11
1" Meter		$54.85	$56.93	$59.10	$61.34	$63.67	$66.09	$68.60	$71.21	$71.21	$71.21
1.5" Meter		$103.42	$107.35	$111.43	$115.67	$120.06	$124.63	$129.36	$134.28	$134.28	$134.28
2" Meter		$123.60	$128.30	$133.17	$138.23	$143.49	$148.94	$154.60	$160.47	$160.47	$160.47
3" Meter		$307.59	$319.28	$331.41	$344.01	$357.08	$370.65	$384.73	$399.35	$399.35	$399.35
4" Meter		$595.33	$617.95	$641.43	$665.81	$691.11	$717.37	$744.63	$772.93	$772.93	$772.93

Reserve Balance Transferred Over

Methodology: value of projected WMWD reserves as of 7/1/20, less outstanding debt principal.

Projected WMWD Reserves and Outstanding Debt as of 7/1/20		
WMWD Fund 230	$2,493,163	
WMWD Fund 231	($820,381)	
WMWD Fund 233	$261,943	
WMWD Fund 235	$2,378,668	
Less Outstanding 2010 A&B Revenue Bond Principal	(998,460)	Source: WMWD via email, 11/20/19
Less Outstanding Interfund Loan	(2,000,000)	
Total	$1,314,934	Represents amount transferred over to EMWD

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Projected Financial Participation Charge Revenue Calculation

Current Financial Participation Charges — Source: EMWD, per https://www.emwd.org/sites/main/files/file-attachments/fees_dsr_mtrs_ems_backflow.pdf?1577750076

Meter Size	7/1/2019		Range depending on type of meter, if applicable
5/8" Meter	$5,501	Assume 5/8" meters are single-family residences with fire sprinklers that would be a 1" meters under EMWD ownership	$5,501
3/4" Meter	$5,501	Assume 3/4" meters are single-family residences with fire sprinklers that would be a 1" meters under EMWD ownership	$5,501
1" Meter	$5,501	Assume 1" meters are single-family residences with fire sprinklers that would be a 1" meters under EMWD ownership	$5,501
1.5" Meter	$27,505	Master Meter Multi-Jet	$27,505
2" Meter	$58,696	Sensus OMNI C2 meter	$44,008 - $73,328
3" Meter	$146,712	Sensus OMNI C2 meter	$146,711.67 - $183,348.33
4" Meter	$293,368	Sensus OMNI C2 meter	$293,368.33 - $366,751.67
6" Meter	$586,792	Sensus OMNI C2 meter	$586,792

EMWD indexes its Financial Participation Charges to inflation, per page 55 of the EMWD Consolidated Schedule of Rates, Fees, and Charges (June 19, 2019). Projected FPC revenues in table below assume inflationary increases in EMWD's FPC.

	Projected									
	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
Number of New Meters										
5/8"	8	8	8	8	8	8	8	8	8	9
3/4"	31	32	32	33	33	34	35	35	36	36
1"	3	3	3	3	3	3	3	3	3	3
1.5"	2	2	2	2	2	2	2	2	2	2
2"	3	3	3	3	3	3	3	3	3	3
3"	0	0	0	0	0	0	0	0	0	0
4"	0	0	0	0	0	0	0	0	0	0
Total	47	48	48	49	49	50	51	51	52	53
Projected Financial Participation Charge Revenues										
5/8"	$45,108	$46,236	$47,392	$48,577	$49,791	$51,036	$52,312	$53,619	$54,960	$63,376
3/4"	$174,794	$184,944	$189,567	$200,378	$205,388	$216,902	$228,864	$234,585	$247,320	$253,503
1"	$16,916	$17,338	$17,772	$18,216	$18,672	$19,138	$19,617	$20,107	$20,610	$21,125
1.5"	$56,385	$57,795	$59,240	$60,721	$62,239	$63,795	$65,390	$67,024	$68,700	$70,417
2"	$180,489	$185,001	$189,626	$194,367	$199,226	$204,207	$209,312	$214,545	$219,909	$225,406
3"	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4"	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	$473,692	$491,314	$503,597	$522,259	$535,316	$555,078	$575,494	$589,881	$611,498	$633,827

Standby Charge Revenue Calculation

Methodology: EMWD Standby Charge Revenue = WMWD Standby Charge Revenue * (EMWD Standby Fee / WMWD Standby Fee)

$138,978	WMWD Standby Charge Revenue (Source: WMWD CY 2020 Water Rate Model)
$21	WMWD Standby Charge, $/acre or $/parcel if less than one acre (Source: 5/15/19 letter from WMWD GM to WMWD Board)
$14.00	Proposed EMWD Standby Charge, $/acre (Source: policy question response from EMWD, 6/26/19)
$92,652	Projected EMWD Standby Charge Revenue

Table B-5
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
EMWD SCENARIO TABLES

Table B-5d
EMWD SCENARIO: Preliminary Cost per Equivalent Meter to Provide Water Service

		Water	Sewer	Recycled	Consolidated	
Cost of Service (Funded by rates) FY 2020-21						
Operating Expense						
	Purchased Water	$78,021,000			$78,021,000	Source: EMWD, 1/23/2020
	Groundwater Replenishment O&M	$724,417			$724,417	Source: EMWD, 1/23/2020
	Operations & Maintenance	$20,335,266	$38,350,816	$2,608,412	$61,294,494	Source: EMWD, 1/23/2020
	Energy	$7,729,356	$4,980,895	$1,051,860	$13,762,111	Source: EMWD, 1/23/2020
	Allocated Support Costs	$24,850,322	$13,522,294	$4,036,068	$42,408,684	Source: EMWD, 1/23/2020
	General and Admin Allocation	$5,054,221	$9,387,048		$14,441,269	Source: EMWD, 1/23/2020
	Subtotal	$136,714,582	$66,241,053	$7,696,340	$210,651,975	
Non-Operating Expense						
	Capital (R&R) (1)	$13,239,287	$15,803,052	$1,327,997	$30,370,336	Source: EMWD, 1/23/2020
	Debt Service (2)	$4,047,495	$5,830,660	$1,279,880	$11,158,035	Source: EMWD, 1/23/2020
	OPEB (ARC)	$7,182,927	$11,817,073		$19,000,000	Source: EMWD, 1/23/2020
	Subtotal	$24,469,709	$33,450,786	$2,607,876	$60,528,371	
Total Cost of Service by Operating Service		$161,184,291	$99,691,839	$10,304,216	$271,180,346	
EMS/EDU		155,000	255,000	NA	NA	Source: EMWD, 1/23/2020
Acre-Foot Supply		98,830	NA	48,000	146,830	Source: EMWD, 1/23/2020
Acre-Foot Demand		88,100		36,000	124,100	Source: EMWD, 1/23/2020
Cost per EMS/EDU		$1,040	$391			
Cost per Acre-Foot Supply		$1,631		$215	$1,847	
Cost per Acre-Foot Demand		**$1,830**				**<== Use this calculation; use demand as a denominator because it is applied to metered water consumption to determine costs.**
(1) Capital (R&R)						
5-Year CIP (FY 2020-21 through FY 2024-25)						
	Replacement CIP	$66,196,437	$79,015,261	$6,639,983	$151,851,681	Source: EMWD, 1/23/2020
	Expansion CIP	$166,930,603	$61,361,321	$18,121,516	$246,413,440	Source: EMWD, 1/23/2020
	Total CIP	$233,127,040	$140,376,582	$24,761,499	$398,265,120	
	Average Annual CIP					
	Replacement CIP	$13,239,287	$15,803,052	$1,327,997	$30,370,336	
	Expansion CIP	$33,386,121	$12,272,264	$3,624,303	$49,282,688	
	Total CIP	$46,625,408	$28,075,316	$4,952,300	$79,653,024	
(2) Debt Service Allocation						
	Expansion Funded (FPC)	$7,510,459	$39,493,423	$1,689,083	$48,692,965	
	Replacement Funded (Rates)	$4,047,495	$5,830,660	$1,279,880	$11,158,035	
	Total Debt Service	$11,557,954	$45,324,083	$2,968,963	$59,851,000	

Table B-5
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
EMWD SCENARIO TABLES

EMWD Funded Replacement Capital TOTAL

Row Labels	Replacement FY 19/20	Replacement FY 20/21	Replacement FY 21/22	Replacement FY 22/23	Replacement FY 23/24	Replacement Total	
General	($16,328)	($42,540)	($22,508)	($39,806)	($3,011)	($124,193)	Source: EMWD, 1/23/2020
Recycled	$2,689,323	$1,336,640	$1,187,239	$847,322	$579,459	$6,639,983	Source: EMWD, 1/23/2020
Sewer	$16,764,995	$17,995,688	$20,654,386	$12,212,995	$11,511,391	$79,139,454	Source: EMWD, 1/23/2020
Water	$11,906,016	$18,733,954	$16,968,825	$8,900,259	$9,687,384	$66,196,437	Source: EMWD, 1/23/2020
Total	$31,344,005	$38,023,741	$38,787,942	$21,920,769	$21,775,223	$151,851,681	

EMWD Funding Capital TOTAL

Row Labels	EMWD Funding FY 19/20	EMWD Funding FY 20/21	EMWD Funding FY 21/22	EMWD Funding FY 22/23	EMWD Funding FY 23/24	EMWD Funding Total	
General	$2,858,032	$3,748,317	$1,363,761	$2,511,342	$519,313	$11,000,765	Source: EMWD, 1/23/2020
Recycled	$8,804,919	$5,078,620	$4,860,067	$3,586,049	$2,431,844	$24,761,499	Source: EMWD, 1/23/2020
Sewer	$21,220,233	$24,267,184	$31,731,100	$31,073,504	$21,083,797	$129,375,817	Source: EMWD, 1/23/2020
Water	$38,016,267	$50,913,956	$58,824,723	$41,878,430	$43,493,665	$233,127,040	Source: EMWD, 1/23/2020
Total	$70,899,450	$84,008,077	$96,779,651	$79,049,326	$67,528,618	$398,265,120	

EMWD Debt Service TOTAL	Debt Service FY 2021	
Water Expansion	$7,510,459	Source: EMWD, 1/23/2020
Water Replacement & Refurbishment (R & R)	$4,047,495	Source: EMWD, 1/23/2020
Sewer Expansion	$39,493,423	Source: EMWD, 1/23/2020
Sewer R & R	$5,830,660	Source: EMWD, 1/23/2020
Recycled Water Expansion	$1,689,083	Source: EMWD, 1/23/2020
Recycled Water R & R	$1,279,880	Source: EMWD, 1/23/2020
Total	$59,851,000	

Table B-5e
EMWD SCENARIO: Preliminary Acquisition Balance Calculation

Component of Acquisition Balance	Amount	
Capital Costs to Achieve Conditional and Operational Parity		
Identified in FMSR	$7,192,626	See Table B-5f
Identified by WMWD	$1,950,000	GIS Mapping, Tank Mixing System, Reservoir Recoating
Prospective PERS Pension & OPEB Costs for		
Transferred Employees; Severance	$0	N/A per EMWD, December 2019 email. No staff anticipated to be transferred over.
Replacement and Refurbishment Reserve	$0	Normally $220 per Equivalent Meter, 12/4/19 email from EMWD. Not applicable per EMWD 1/23/2020, as amount would be ~offset by transferred reserves.
Buy-In to Imported Water Turnouts, Distribution, and Treatment	$2,827,820	$620 per Equivalent Meter, 12/4/19 email from EMWD
Total	$11,970,446	

Note: WMWD outstanding debt is considered as part of the reserve balance transferred over calculation, where WMWD will retain part of its reserves to refund its outstanding debt.

Table B-5
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
EMWD SCENARIO TABLES

Table B-5f
EMWD SCENARIO: FSMR Capital Improvements and Possible Cost Allocation to Existing Customers or Future Development

	Project	Estimated Cost, 2020 $ (See Note 1)	How Funded Existing Customers or Development?	Acquisition Balance	Financial Participation Charges	Improvement District or Developer Funded	Basis for Existing/ Development Allocation	Projected Schedule
522	Storage for Existing Customers (Hunter Tank)	$2,245,626	Existing Only	$2,245,626			Note 2	Note 3
523	Storage for Development (Hunter Tank)	$1,810,374	Future Only		$1,810,374		Note 2	Note 3
524	Expansion CIP North of Murrieta Creek	$17,120,000	Future Only			$17,120,000	Note 3	Note 4
525	Expansion CIP South of Murrieta Creek	$20,388,000	Future Only			$20,388,000	Note 3	Note 4
526	EMWD Hydraulic Improvements	$1,468,000	Future Only		$1,468,000		Note 4	Note 4
527	Supply Improvements Through EMWD	$5,379,000	Future Only		$5,379,000		Note 4	
528	Legacy (Small Diameter) Improvements	$4,947,000	Existing Only	$4,947,000			Note 2	Note 5
529	Well No. 3	$0		$0	$0			
530	Total	$53,358,000		$7,192,626	$8,657,374	$37,508,000		
531								
532								

533 Notes:
534 (1) Source: West Yost, October 2019
535 (2) Per West Yost, these projects are required to address deficiencies in the existing system. Cost of the project to be included in the Acquisition Balance.
536 Reservoir serves both Study Area and EMWD retail service area. 50/50 split of costs between existing Study Area customers and existing EMWD retail customers based on anticipated storage needs.
537 For cost applicable to Study Area, division of cost between existing and future customers based on ratio of existing to buildout Meter Equivalents.
538 (3) Expansion of water system. Project is not needed unless there is development. Schedule depends on when development occurs.
539 (4) Needed to accommodate future water demands from growth. Project is not needed unless there is development. Schedule depends on when development occurs.
540 (5) Assume that this project will be completed between 2025 and 2030. Anticipate that permitting and siting of the reservoir will require additional time and could occur before 2025.
541 (6) Assume improvements will be completed between 2020 and 2025.

Table B-5g
EMWD SCENARIO: Funding for Capital Projects Not Funded by Improvement Districts or Acquisition Balance

	Infrastructure Review Project	Potential Funding Method (1)
542	Storage for Existing Customers (Hunter Tank)	Acquisition Balance
543	Storage for Development (Hunter Tank)	FPC Funded
544	Expansion CIP North of Murrieta Creek	Improvement District or Developer Contribution
545	Expansion CIP South of Murrieta Creek	Improvement District or Developer Contribution
546	EMWD Hydraulic Improvements	FPC Funded
547	Supply Improvements Through EMWD	FPC Funded
548	Fireflow Improvements	Acquisition Balance
549	Total	

550
551 Compare FPC Funded Costs with FPC Revenues Over the 10-Year Planning Period
552
553 FPC Funded Projects $8,657,374
554 FPC Revenues, 10-Year Total $5,491,958
555 FPC Funded Projects Cost More than Projected FPC Revenues. This means that FPC revenues after FY 29/30 would also be used to fund
556 Alternatively, a higher growth rate than the 1.6% (approximately 50 connections per year) would provide more FPC revenues than what is shown here.

Table B-5
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
EMWD SCENARIO TABLES

Table B-5h
Projected Monthly Water Bill Calculations

		Projected										
		FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	Notes
557	Applicable Rate Schedule	WMWD Adj	WMWD Adj	WMWD Adj	WMWD Adj	WMWD Adj	WMWD Adj	WMWD Adj	WMWD Adj	WMWD Adj	WMWD Adj	
558												
559	Single Family Residence, 3/4" Meter, 18 ccf/month											1, 2
560	Fixed System Charge (Adjusted WMWD), $/month	$35.51	$36.86	$38.26	$39.72	$41.23	$42.79	$44.42	$46.11	$46.11	$46.11	3
561	Tier 1 Commodity Charge (WMWD), $/hcf	$2.01	$2.08	$2.16	$2.24	$2.33	$2.42	$2.51	$2.60	$2.60	$2.60	
562	Tier 2 Commodity Charge (WMWD), $/hcf	$4.29	$4.45	$4.62	$4.79	$4.98	$5.16	$5.36	$5.56	$5.56	$5.56	
563	Standby Charge	$1.17	$1.17	$1.17	$1.17	$1.17	$1.17	$1.17	$1.17	$1.17	$1.17	
564	WMWD Rates: Water Bill Calculation	$95.59	$99.17	$102.90	$106.76	$110.78	$114.94	$119.27	$123.75	$123.75	$123.75	
565												
566	Service Charge (EMWD), $/month	$13.38	$13.99	$14.34	$14.70	$15.07	$15.44	$15.83	$16.23	$16.63	$17.05	4
567	Fixed Charge for Water Supply and Reliability (EMWD), $/month	$3.95	$4.26	$4.37	$4.48	$4.59	$4.70	$4.82	$4.94	$5.06	$5.19	
568	Tier 1 Volume Charge (EMWD), $/hcf	$1.10	$1.13	$1.16	$1.19	$1.22	$1.25	$1.28	$1.31	$1.34	$1.38	
569	Tier 2 Volume Charge (EMWD), $/hcf	$3.53	$3.63	$3.72	$3.81	$3.91	$4.01	$4.11	$4.21	$4.31	$4.42	
570	Standby Charge	$1.17	$1.17	$1.17	$1.17	$1.17	$1.17	$1.17	$1.17	$1.17	$1.17	
571	EMWD Rates: Water Bill Calculation	$62.60	$64.76	$66.35	$67.98	$69.65	$71.36	$73.11	$74.91	$76.76	$78.65	
572												
573	Monthly Water Bill	$95.59	$99.17	$102.90	$106.76	$110.78	$114.94	$119.27	$123.75	$123.75	$123.75	
574												
575												
576	Commercial Account, 2" Meter, 1,500 ccf/year (125 ccf/month)											1, 2, 3, 4
577	Fixed System Charge (Adjusted WMWD), $/month	$123.60	$128.30	$133.17	$138.23	$143.49	$148.94	$154.60	$160.47	$160.47	$160.47	
578	Tier 1 Commodity Charge (WMWD), $/hcf	$2.01	$2.08	$2.16	$2.24	$2.33	$2.42	$2.51	$2.60	$2.60	$2.60	
579	Tier 2 Commodity Charge (WMWD), $/hcf	$4.29	$4.45	$4.62	$4.79	$4.98	$5.16	$5.36	$5.56	$5.56	$5.56	
580	Standby Charge	$1.17	$1.17	$1.17	$1.17	$1.17	$1.17	$1.17	$1.17	$1.17	$1.17	
581	WMWD Rates: Water Bill Calculation	$537.97	$558.37	$579.54	$601.52	$624.33	$648.01	$672.59	$698.10	$698.10	$698.10	
582												
583	Service Charge (EMWD), $/month	$78.17	$81.52	$83.55	$85.64	$87.78	$89.98	$92.23	$94.53	$96.90	$99.32	
584	Fixed Charge for Water Supply and Reliability (EMWD), $/month	$31.60	$34.08	$34.93	$35.81	$36.70	$37.62	$38.56	$39.52	$40.51	$41.52	
585	Tier 1 Volume Charge (EMWD), $/hcf	$3.66	$3.77	$3.86	$3.96	$4.06	$4.16	$4.27	$4.37	$4.48	$4.59	
586	Tier 2 Volume Charge (EMWD), $/hcf	$7.43	$7.65	$7.84	$8.04	$8.24	$8.44	$8.66	$8.87	$9.09	$9.32	
587	Standby Charge	$1.17	$1.17	$1.17	$1.17	$1.17	$1.17	$1.17	$1.17	$1.17	$1.17	
588	EMWD Rates: Water Bill Calculation	$568.44	$588.01	$602.68	$617.72	$633.14	$648.94	$665.13	$681.73	$698.74	$716.18	
589												
590	Monthly Water Bill	$537.97	$558.37	$579.54	$601.52	$624.33	$648.01	$672.59	$698.10	$698.10	$698.10	

Notes:

(1) Both EMWD and WMWD use budget based rates. For single-family residences, of the 18 ccf/month use, estimate 8 ccf/month in Tier 1 and remainder of water use in Tier 2. No Tier 3 or Tier 4 use.
For the commercial account example, 1,500 ccf/year is the average water use for WMWD's customers in the Study Area with 2" meters, as reported by WMWD (1/21/2020)

(2) Switch from WMWD rates to EMWD projected to begin as noted in Table B-5a above

(3) WMWD's pumping surcharge is not applicable to most of the Study Area, because the pumping surcharge is for pumping zone 8, and most of the Study Area is in pumping zone 7.

(4) WMWD and EMWD adjust rates on January 1 of each year. The monthly bills shown in this table are for the July - December portion of each fiscal year.

(5) WMWD and EMWD have different tier structures for non-residential customers. For EMWD, all water use is projected to be in Tier 1. For WMWD, 90% of water use is Tier 1 and 10% is Tier 2.

(6) WMWD's commercial budget formula is for any given month, 90% of that month's two-year historical average water use is in Tier 1, and the remaining 10% is in Tier 2. For the purposes of this monthly bill calculation, Tier 1 water use is 90%*125 ccf/month, and Tier 2 water use is 10%*125 ccf/month.
Source: https://www.wmwd.com/337/Water-Budget-Chart-Commercial
EMWD's commercial budget formula is shown above. For the purposes of this calculation, all commercial water use is Tier 1.

Table B-6
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
Graph Data and Graphs

WMWD Scenario: Projected Revenues, $M

	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
Water Rate Revenues	$5.63	$5.91	$6.20	$6.51	$6.84	$7.18	$7.53	$7.91	$8.17	$8.30
Standby Charges	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Interest Income	0.10	0.11	0.12	0.11	0.12	0.14	0.16	0.17	0.19	0.21
Connection Fees	0.47	0.48	0.50	0.51	0.53	0.55	0.57	0.59	0.61	0.63
Other Non-Rate Revenues	0.07	0.08	0.07	0.08	0.07	0.08	0.08	0.07	0.08	0.08
Total	$6.41	$6.72	$7.03	$7.35	$7.71	$8.09	$8.48	$8.89	$9.19	$9.37
math check, should = $0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

WMWD Scenario: Projected Expenses, $M

	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
Purchased Water	$1.32	$1.43	$1.55	$1.66	$1.77	$1.88	$2.00	$2.12	$2.26	$2.41
Other O&M	3.13	3.22	3.30	3.39	3.47	3.57	3.66	3.75	3.85	3.95
Debt Service	0.18	0.87	0.87	0.87	0.87	1.79	1.79	1.79	1.79	1.79
Pay as You Go Capital, Repair/Repl.	1.30	1.16	1.92	0.82	0.83	0.50	0.50	0.50	0.50	0.50
Total	$5.93	$6.67	$7.64	$6.73	$6.94	$7.73	$7.95	$8.17	$8.40	$8.65
math check, should = $0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

WMWD Scenario: Projected Ending Year Reserves, $M

	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
Projected Ending Year Reserve Balance	$4.80	$4.84	$4.24	$4.86	$5.63	$5.98	$6.52	$7.24	$8.03	$8.75
WMWD's Minimum Reserve Balance	$7.47	$7.52	$7.57	$7.62	$7.67	$7.72	$7.77	$7.83	$7.88	$7.95

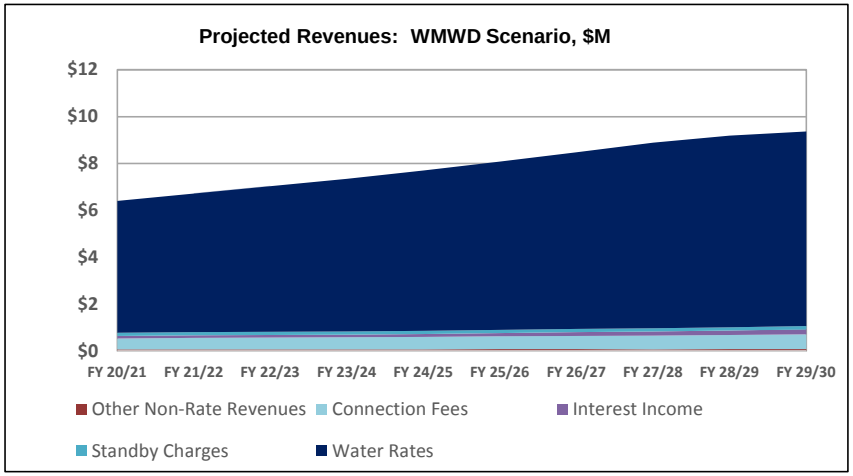
WMWD Scenario: Projected Total Water Cost, SFR, 3/4" Meter, 18 ccf/month, Tier 1 Usage 8 ccf/month, Power Zone 7

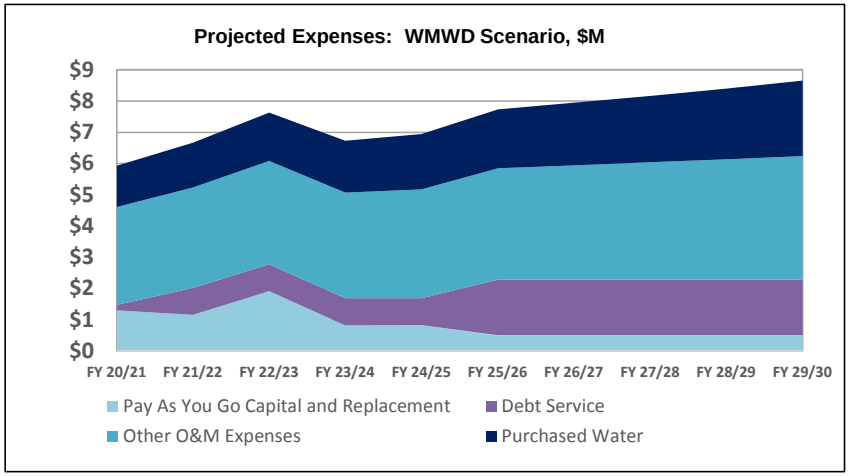
	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
Total Water Cost	$105.05	$108.46	$111.98	$115.62	$119.37	$123.25	$127.26	$131.41	$135.69	$135.69

WMWD Scenario: Projected Total Water Cost, Commercial, 2" Meter, 125 ccf/month, Power Zone 7, 1 acre

	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
Total Water Cost	$569.45	$588.18	$607.54	$627.53	$648.18	$669.51	$691.55	$714.31	$737.82	$737.82

Table B-6
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
Graph Data and Graphs





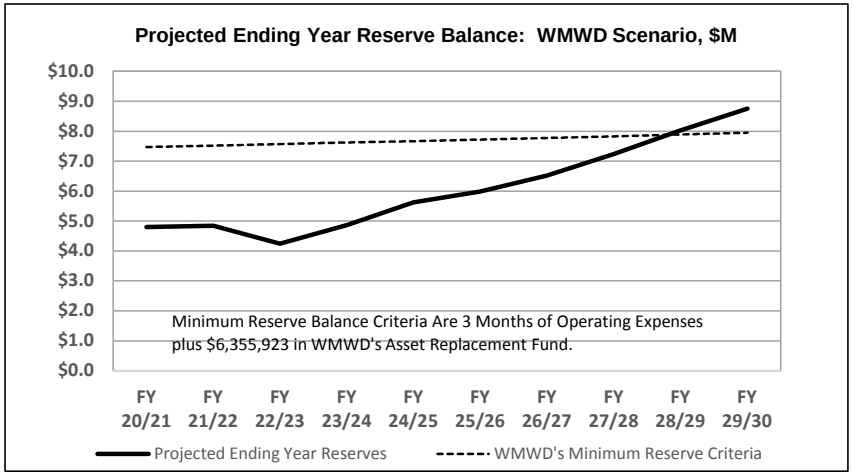
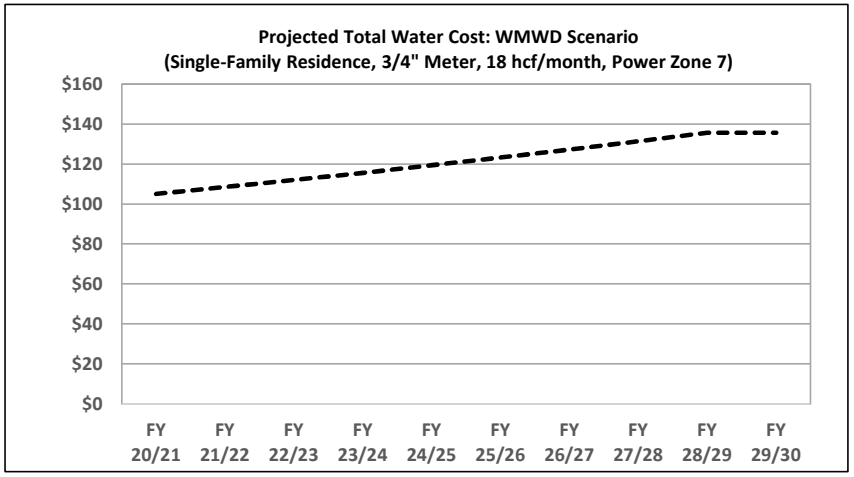


Table B-6
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
Graph Data and Graphs



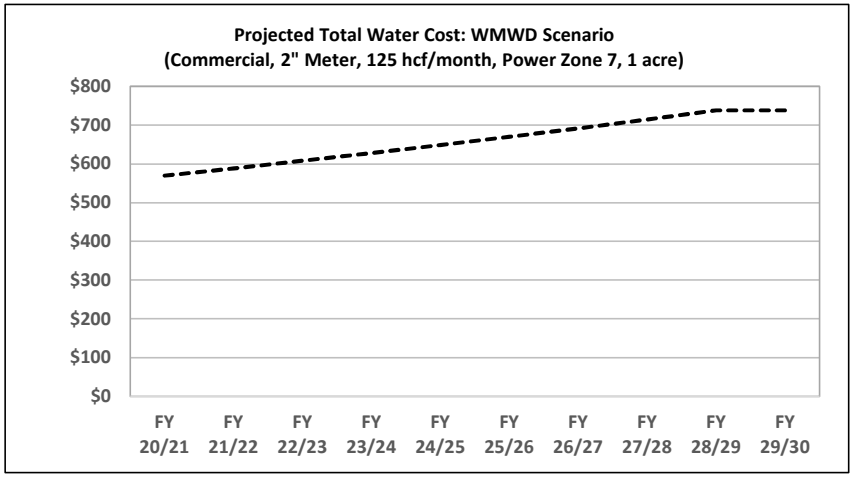


Table B-6
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
Graph Data and Graphs

EMWD Scenario: Projected Revenues, $M

	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
Water Rate Revenues	$5.26	$5.55	$5.86	$6.18	$6.52	$6.87	$7.25	$7.65	$7.92	$8.05
Standby Charges	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Interest Income	0.03	0.03	0.04	0.06	0.07	0.08	0.09	0.11	0.13	0.15
Other Non-Rate Revenues	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Total	$5.44	$5.74	$6.05	$6.38	$6.73	$7.10	$7.50	$7.91	$8.20	$8.34
math check, should = $0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00

EMWD Scenario: Projected Expenses, $M

	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
Paydown of Acquisition Balance	$0.64	$0.69	$0.77	$0.85	$0.94	$1.03	$1.14	$1.25	$1.21	$1.02
Study Area Share of EMWD Expenses	$4.37	$4.55	$4.74	$4.94	$5.14	$5.36	$5.58	$5.81	$6.05	$6.31
Total	$5.01	$5.24	$5.51	$5.79	$6.08	$6.39	$6.72	$7.06	$7.27	$7.33

EMWD Scenario: Projected Ending Year Reserves, $M

	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
Projected Ending Year Reserve Balance	$1.75	$2.24	$2.78	$3.38	$4.03	$4.74	$5.52	$6.38	$7.31	$8.32

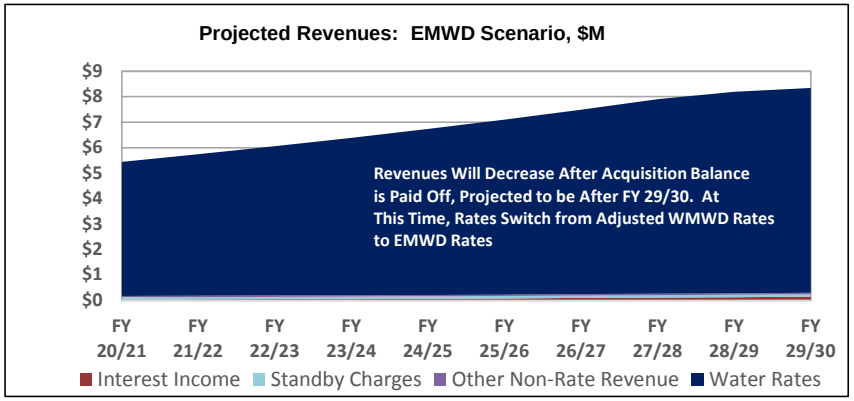
EMWD Scenario: Projected Total Water Cost, SFR, 3/4" Meter, 17 ccf/month

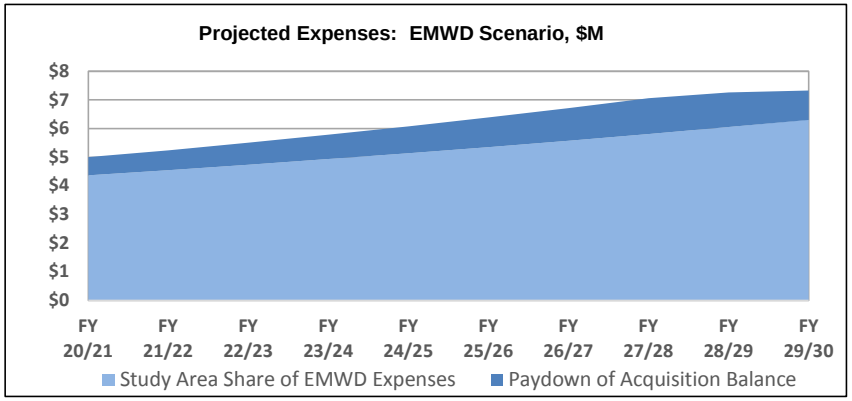
	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
Total Water Cost	$95.59	$99.17	$102.90	$106.76	$110.78	$114.94	$119.27	$123.75	$123.75	$123.75

EMWD Scenario: Projected Total Water Cost, Commercial, 2" Meter, 125 ccf/month

	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
Total Water Cost	$537.97	$558.37	$579.54	$601.52	$624.33	$648.01	$672.59	$698.10	$698.10	$698.10

Table B-6
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
Graph Data and Graphs





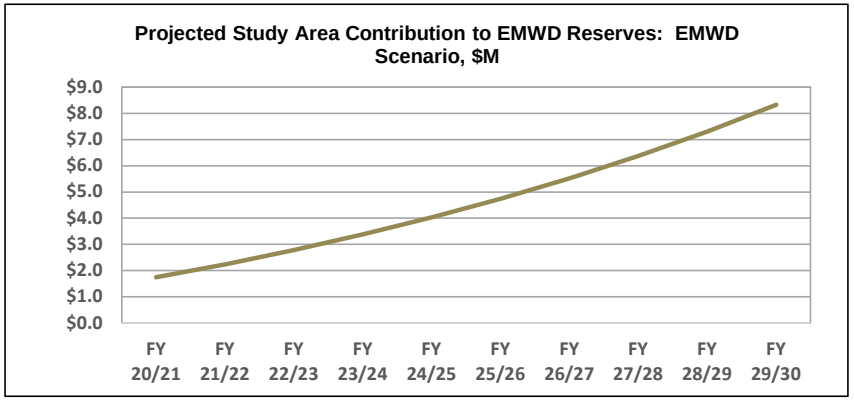
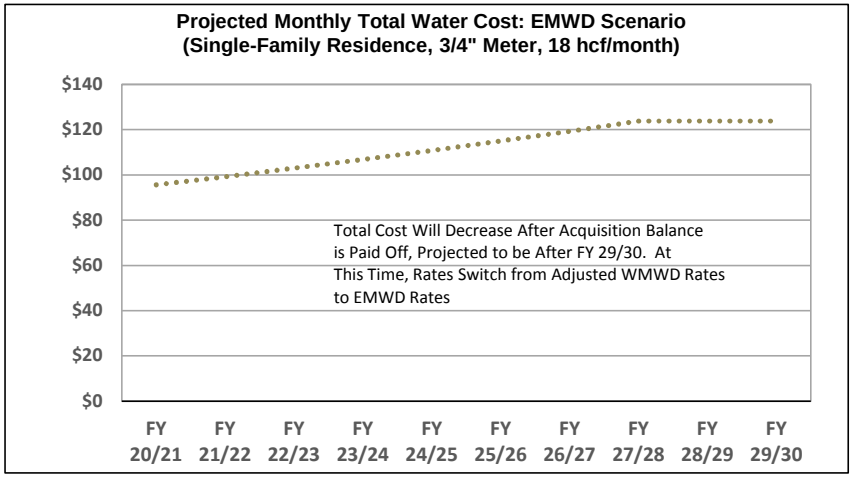


Table B-6
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
Graph Data and Graphs



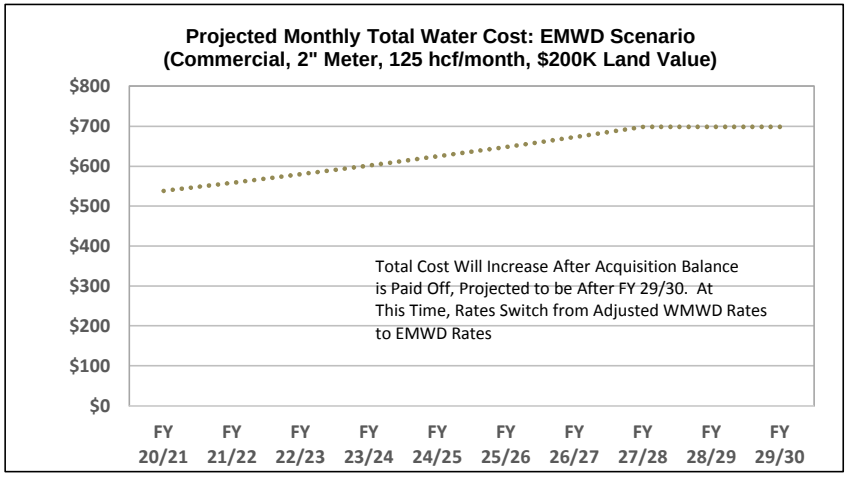


Table B-6
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
Graph Data and Graphs

RCWD Scenario: Projected Revenues, $M

	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
Water Rate Revenues	$4.06	$4.21	$4.36	$4.52	$4.68	$4.86	$5.03	$5.22	$5.30	$5.39
Ad Valorem or Equivalent Rate Surcharge	2.09	2.14	2.20	2.25	2.31	2.37	2.42	2.48	2.55	2.61
Standby Charges	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Interest Income	0.03	0.03	0.04	0.03	0.04	0.05	0.06	0.07	0.09	0.10
Other Non-Rate Revenues	0.22	0.23	0.23	0.24	0.25	0.25	0.26	0.27	0.28	0.28
Total	$6.86	$7.08	$7.29	$7.50	$7.74	$7.99	$8.24	$8.51	$8.68	$8.85
% from Ad Valorem	30%	30%	30%	30%	30%	30%	29%	29%	29%	30%
math check, should = $0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

RCWD Scenario: Projected Expenses, $M

	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
Purchased Water	$1.14	$1.24	$1.35	$1.45	$1.55	$1.65	$1.75	$1.86	$1.98	$2.11
Other O&M	3.13	3.22	3.30	3.39	3.48	3.57	3.66	3.76	3.86	3.96
WMWD-Initiated Capital and Repair/Replacem	1.54	1.39	2.14	1.04	1.04	1.04	1.04	1.04	1.04	1.04
FMSR Capital Excluding Improvement Districts	0.61	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
Total	$6.43	$6.94	$7.89	$6.98	$7.16	$7.36	$7.55	$7.76	$7.97	$8.21
math check, should = $0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

RCWD Scenario: Projected Reserves, $M

	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
Projected Ending Year Reserve Balance	$1.75	$1.88	$1.29	$1.81	$2.38	$3.01	$3.70	$4.45	$5.15	$5.80
RCWD's Minimum Reserve Balance	$3.73	$3.85	$3.97	$4.09	$4.22	$4.34	$4.47	$4.60	$4.74	$4.88

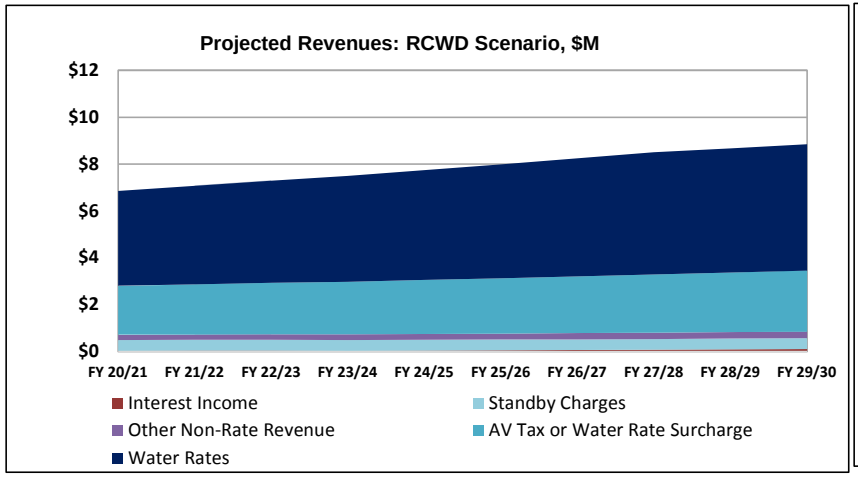
RCWD Scenario: Projected Total Water Cost, SFR, 3/4" Meter, 18 ccf/month, $80,000 land value

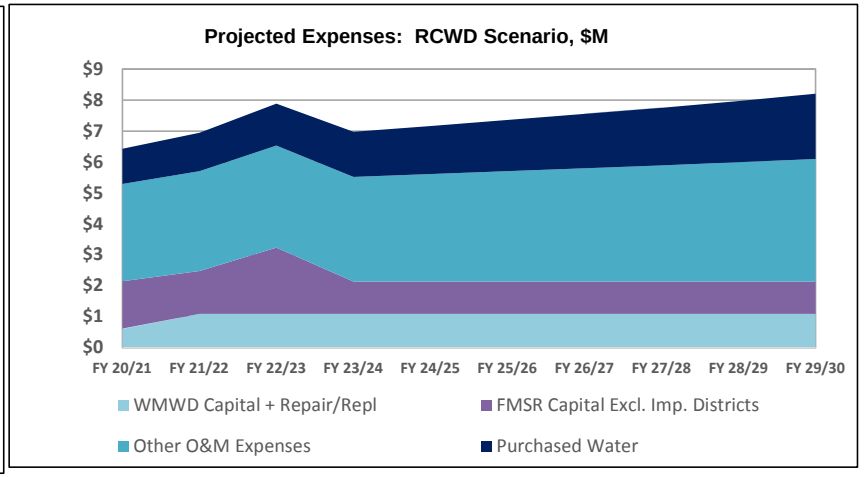
	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
Total Water Cost										
Revenue Neutral Surcharge	$124.44	$127.01	$129.64	$132.33	$135.08	$137.88	$140.75	$143.68	$144.88	$146.10
Ad Valorem Tax	$117.58	$119.98	$122.43	$124.94	$127.50	$130.12	$132.79	$135.52	$136.51	$137.53

RCWD Scenario: Projected Total Water Cost, Commercial, 2" Meter, 125 ccf/month, $200,000 land value, 1 acre

	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30
Total Water Cost										
Revenue Neutral Surcharge	$678.97	$693.57	$708.49	$723.74	$739.33	$755.26	$771.54	$788.18	$794.96	$801.90
Ad Valorem Tax	$534.18	$545.16	$556.37	$567.82	$579.51	$591.44	$603.63	$616.07	$618.54	$621.08

Table B-6
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
Graph Data and Graphs





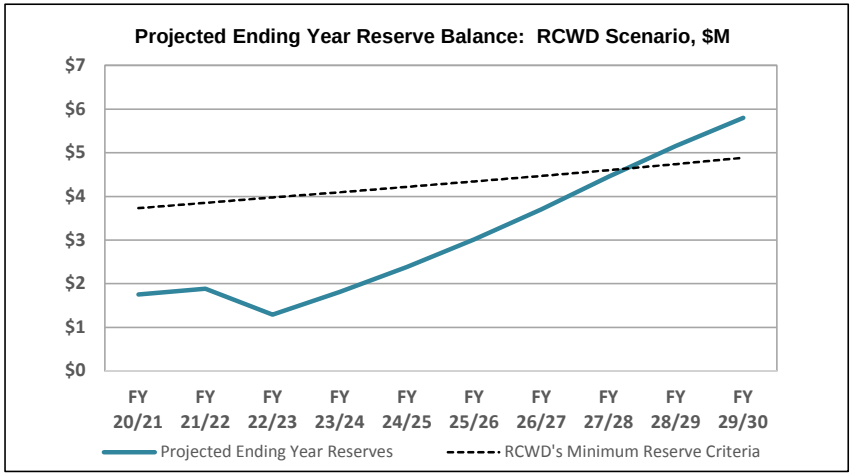


Table B-6
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
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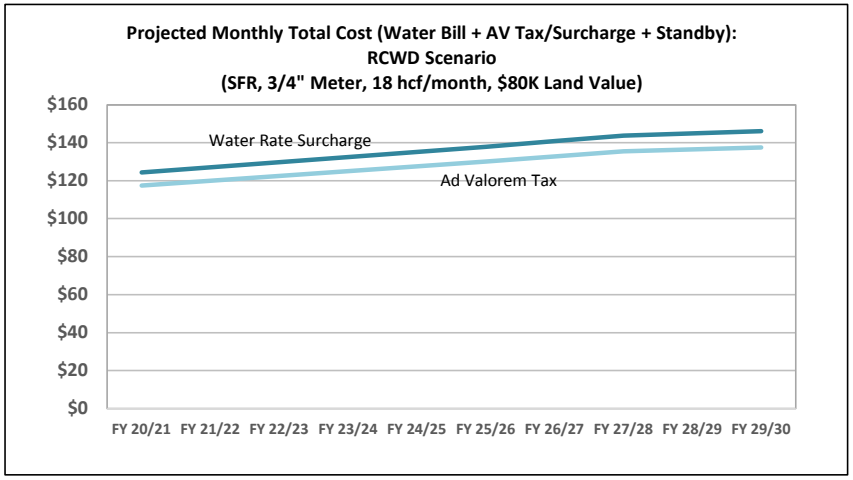
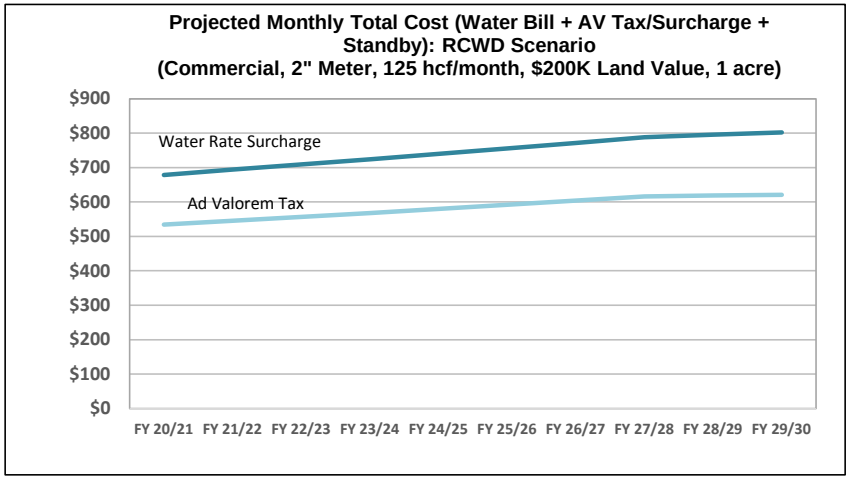
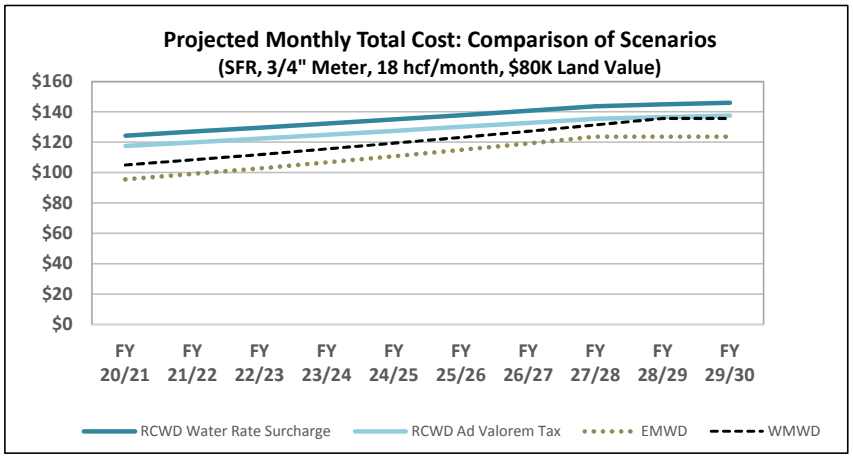






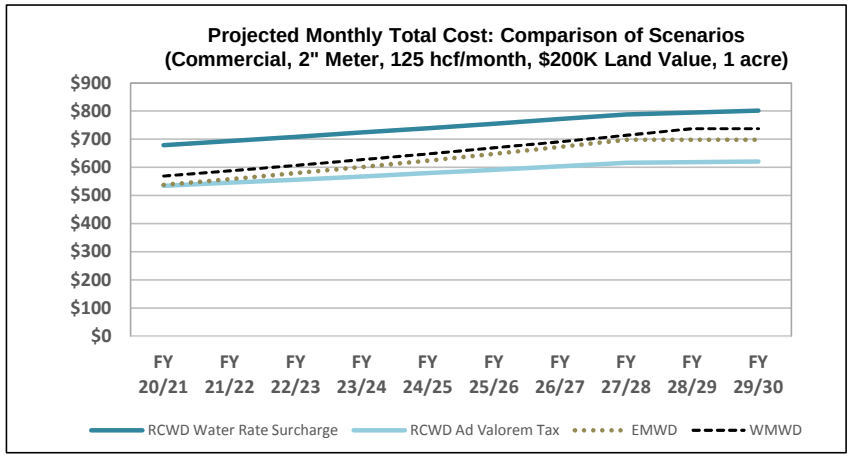
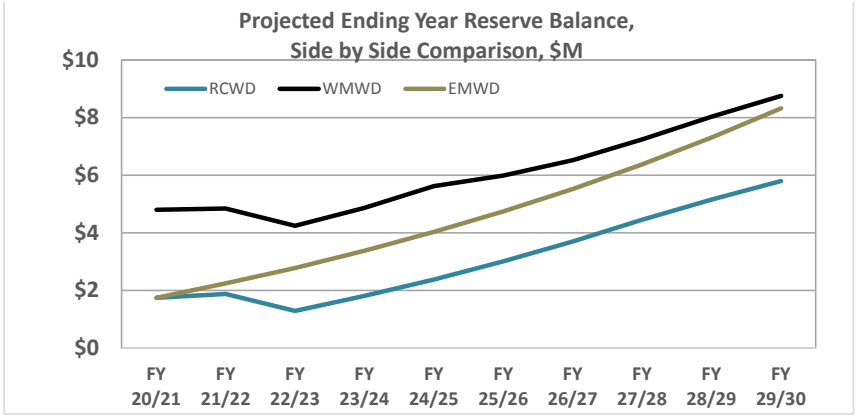
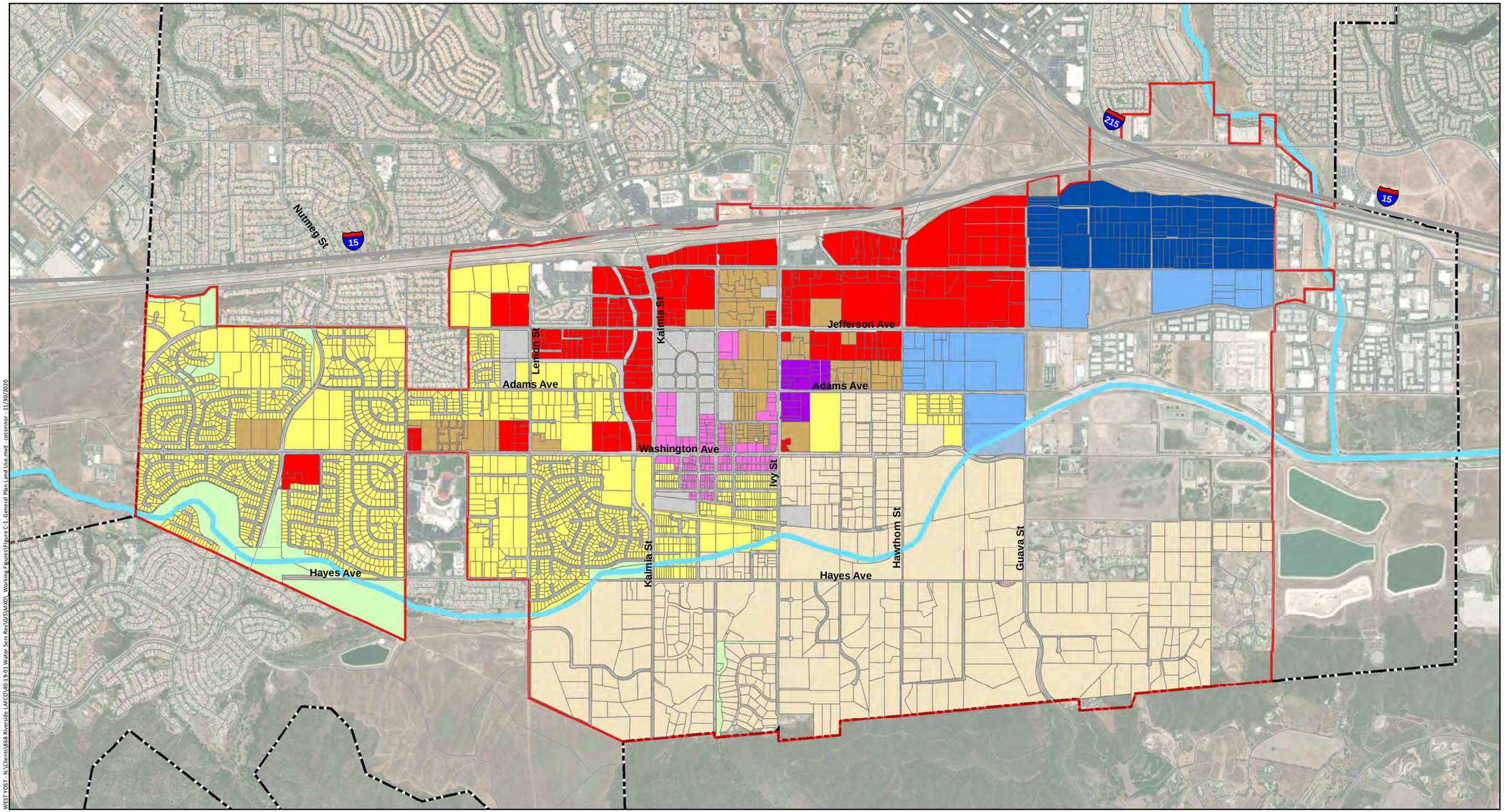


Table B-6
RIVERSIDE LAFCO - Murrieta Focused Municipal Service Review: Financial Analysis
Graph Data and Graphs



Appendix C

Infrastructure and Land Use



Study Area
County Boundary
City Boundary
Interstate Highway
State Highway
Local Roads
Murrieta Creek

General Plan Land Use

- Business Park
- Civic/Institutional
- Commercial
- Industrial
- Innovation
- Large Lot Residential
- Mixed Use
- Multiple Family Residential
- Parks and Open Space
- Professional and Office
- Single Family Residential

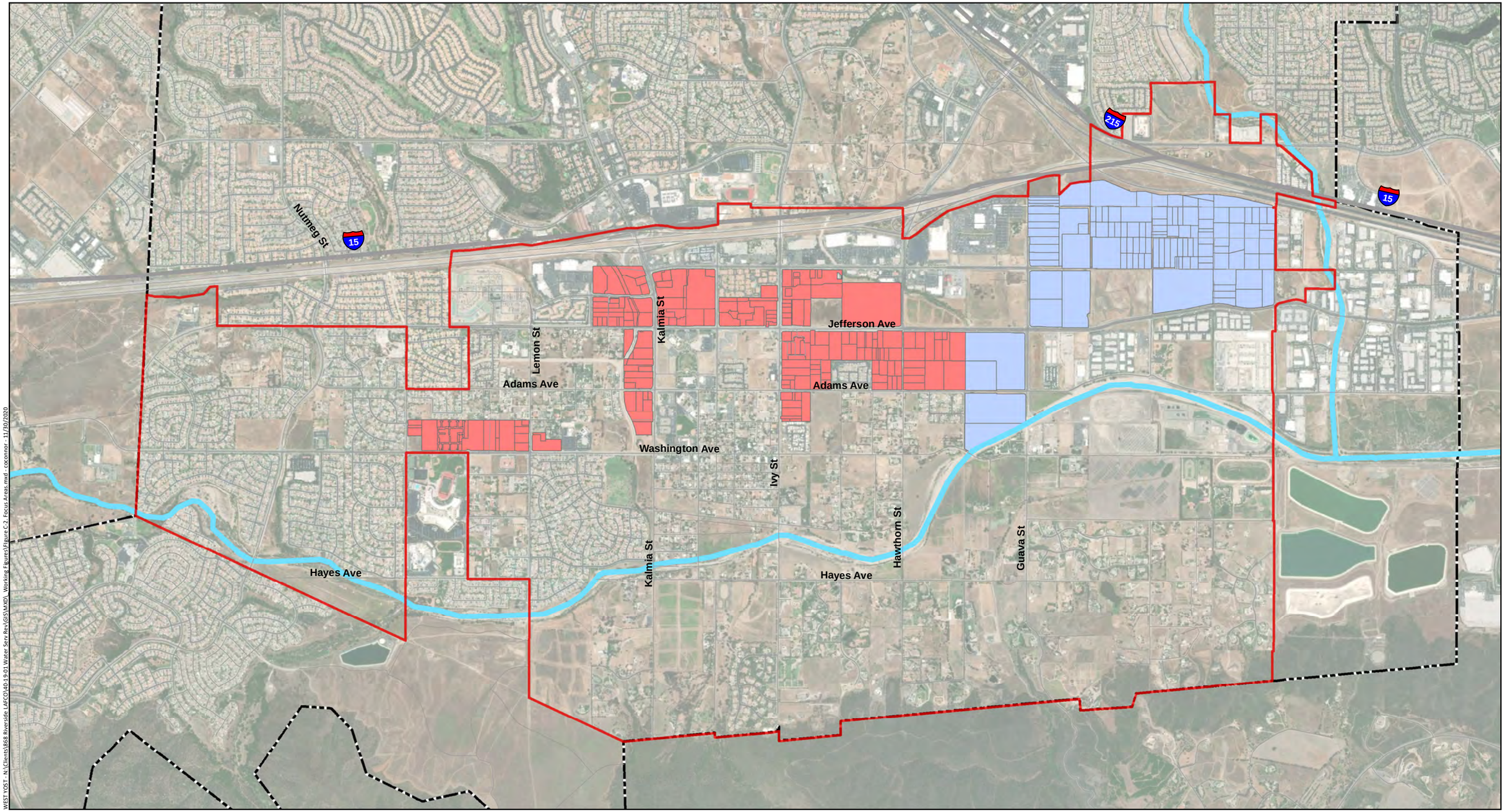
0 1,000 2,000
Scale in Feet

RIVERSIDE LAFCO
fgSolutions
WEST YOST

Figure C-1

Land Use
2035 General Plan

Riverside LAFCO
Focused Water Municipal
Service Review Murrieta Area



Study Area
County Boundary
City Boundary
Interstate Highway
State Highway
Local Roads
Murrieta Creek

Focus Area
Mutliple Use Areas (MU-3)
South Murrieta Business Corridor

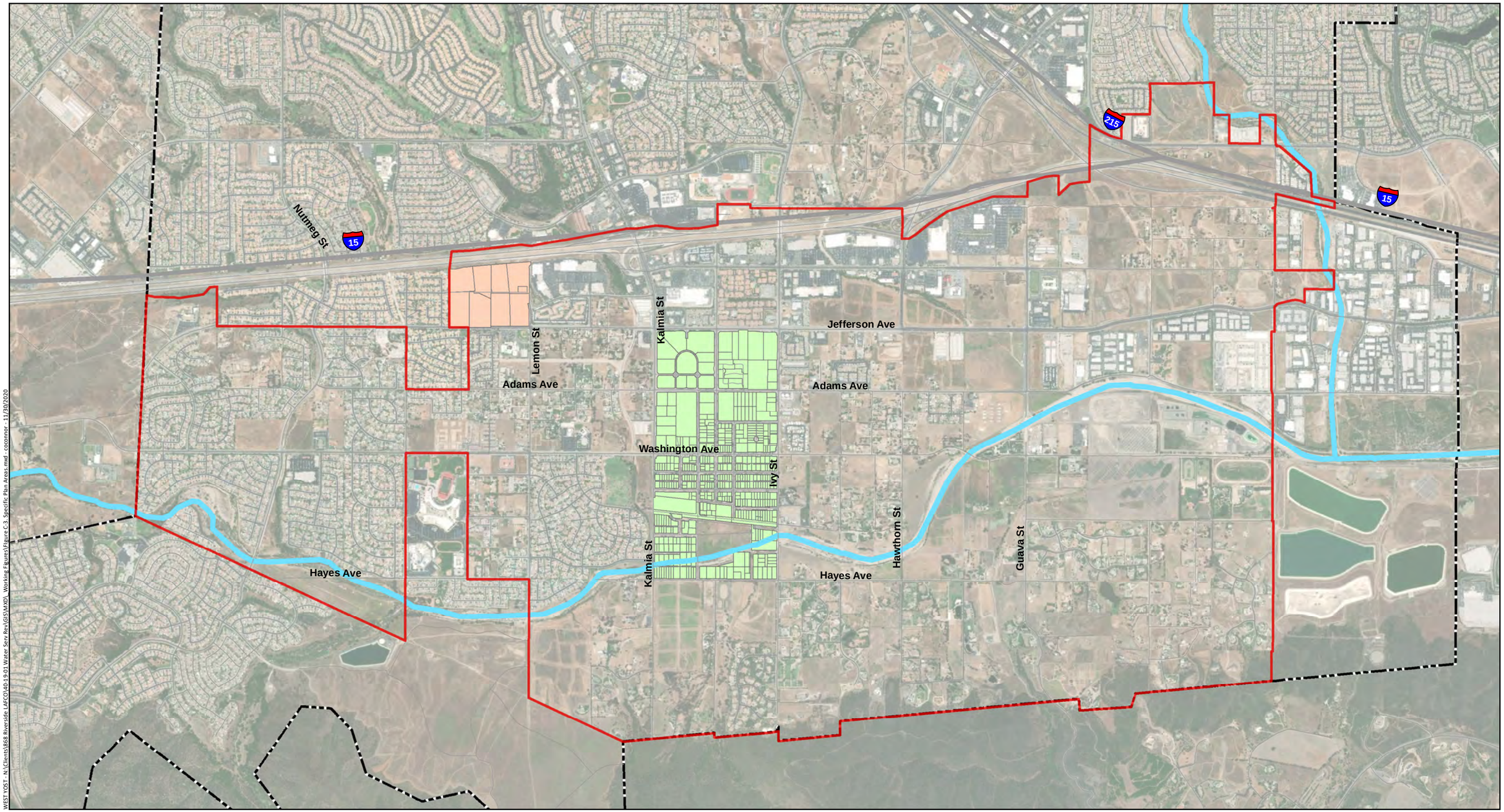
0 1,000 2,000
Scale in Feet

RIVERSIDE LAFCO
fgSolutions
WEST YOST

Figure C-2

Focus Areas
2035 General Plan

Riverside LAFCO
Focused Water Municipal
Service Review Murrieta Area



Study Area
County Boundary
City Boundary
Interstate Highway
State Highway
Local Roads
Murrieta Creek

Specific Plan
Downtown Murrieta
Santa Rosa Highlands

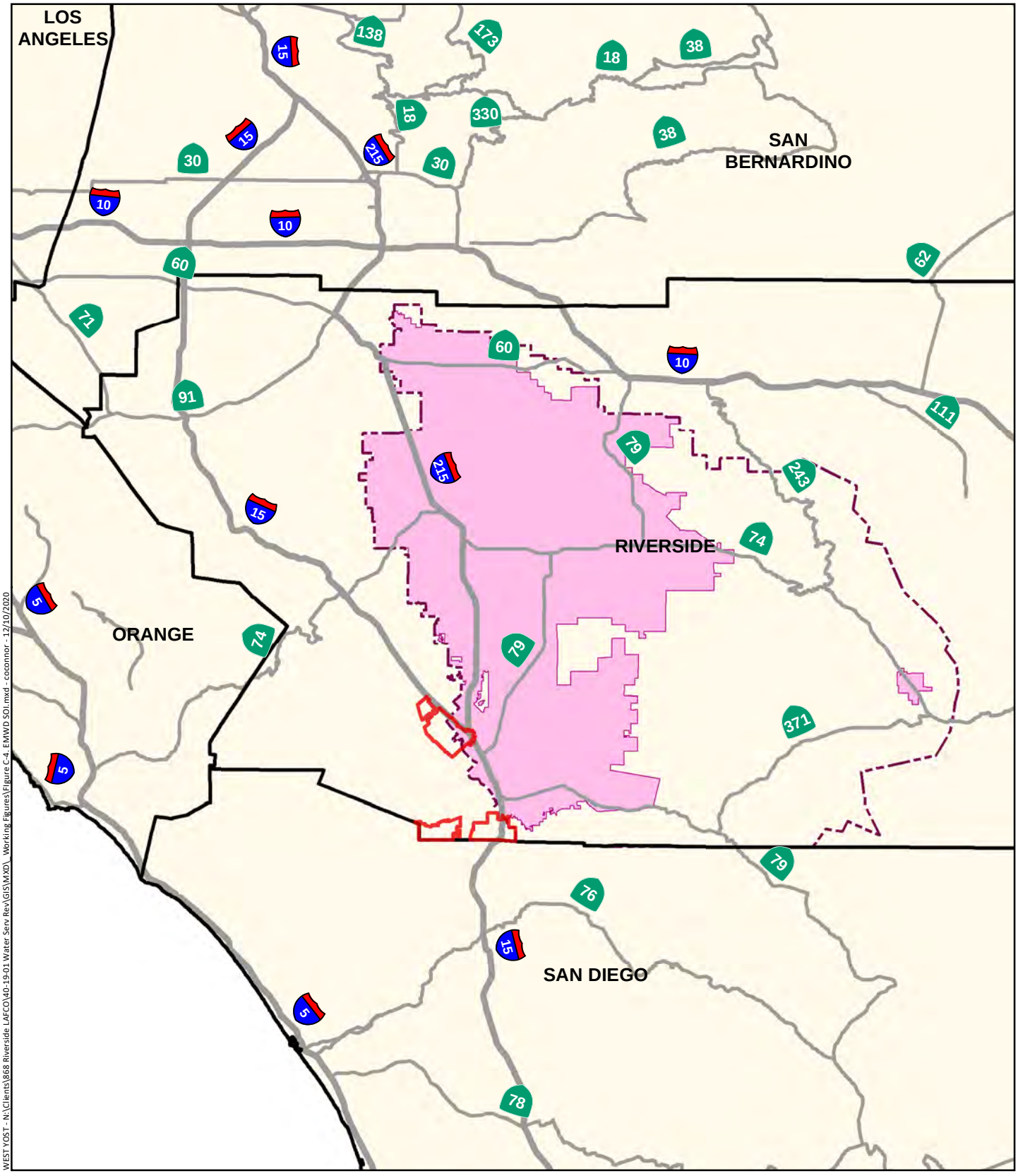
0 1,000 2,000
Scale in Feet

RIVERSIDE LAFCO
fgSolutions
WEST YOST

Figure C-3

Specific Plan Areas
2035 General Plan

Riverside LAFCO
Focused Water Municipal
Service Review Murrieta Area



Study Areas
County Boundary
Interstate Highway
State Highway
EWWD Service Area
EMWD SOI

N

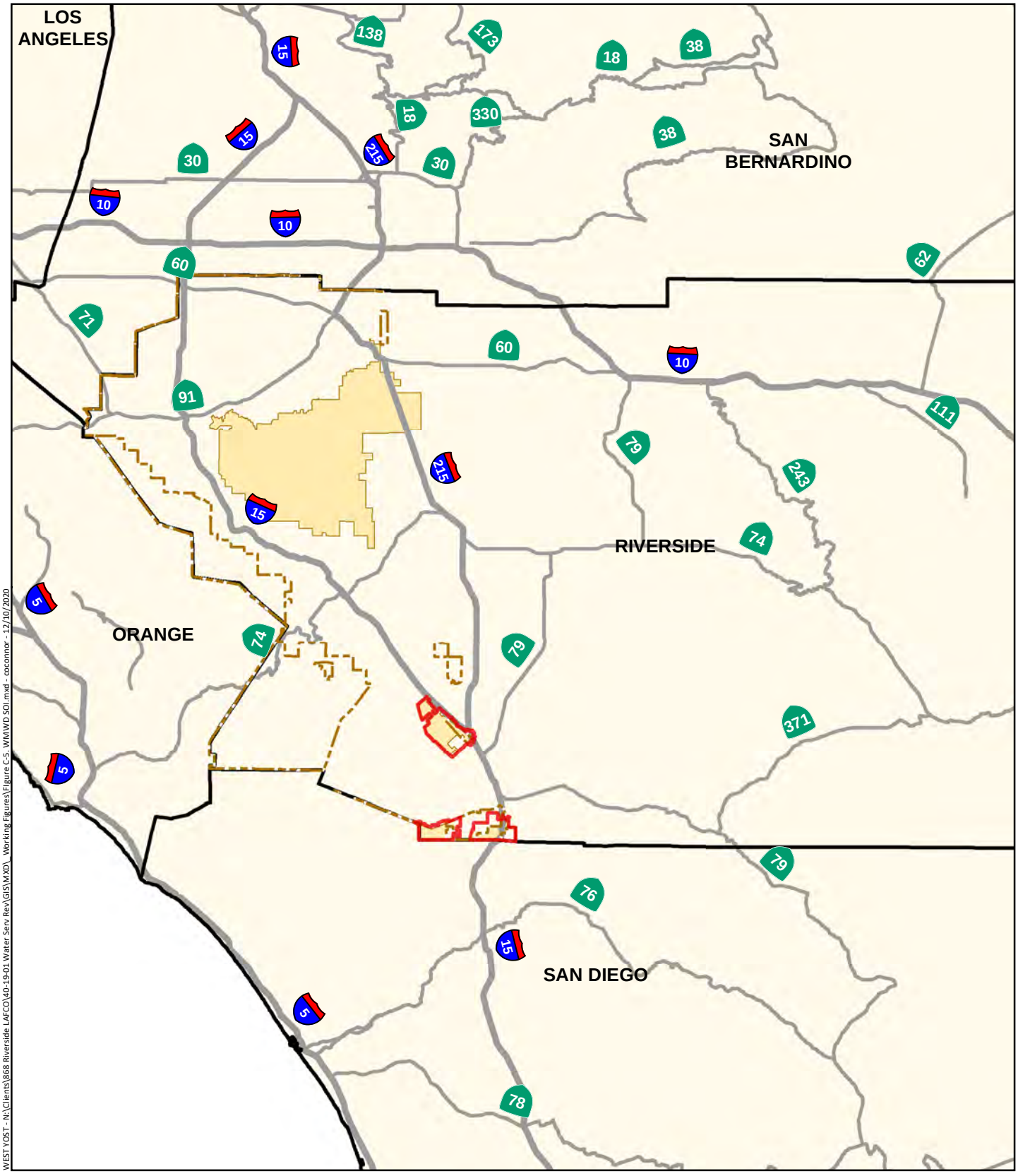
0 5 10
Miles

RIVERSIDE LAFCO
fgSolutions
WEST YOST

Figure C-4

EMWD
Service Area & SOI

Riverside LAFCO
Focused Water MSR
Murrieta Area



Study Areas
County Boundary
Interstate Highway
State Highway
WMWD Service Area
WMWD SOI

N

0 5 10
Miles

RIVERSIDE LAFCO
fgSolutions
WEST YOST

Figure C-5

WMWD
Service Area & SOI

Riverside LAFCO
Focused Water MSR
Murrieta Area

WEST YOST - N:\Clients\868 Riverside LAFCO\40-19-01 Water Serv Rev\GIS\MXD_Working Figures\FIgure C-6. RCWD SOI.mxd - coconnor - 12/10/2020

RIVERSIDE

SAN DIEGO

Study Areas
County Boundary
Interstate Highway
State Highway
RCWD Service Area
RCWD SOI

N

0 1.5 3
Miles

Figure C-6

RCWD
Service Area & SOI

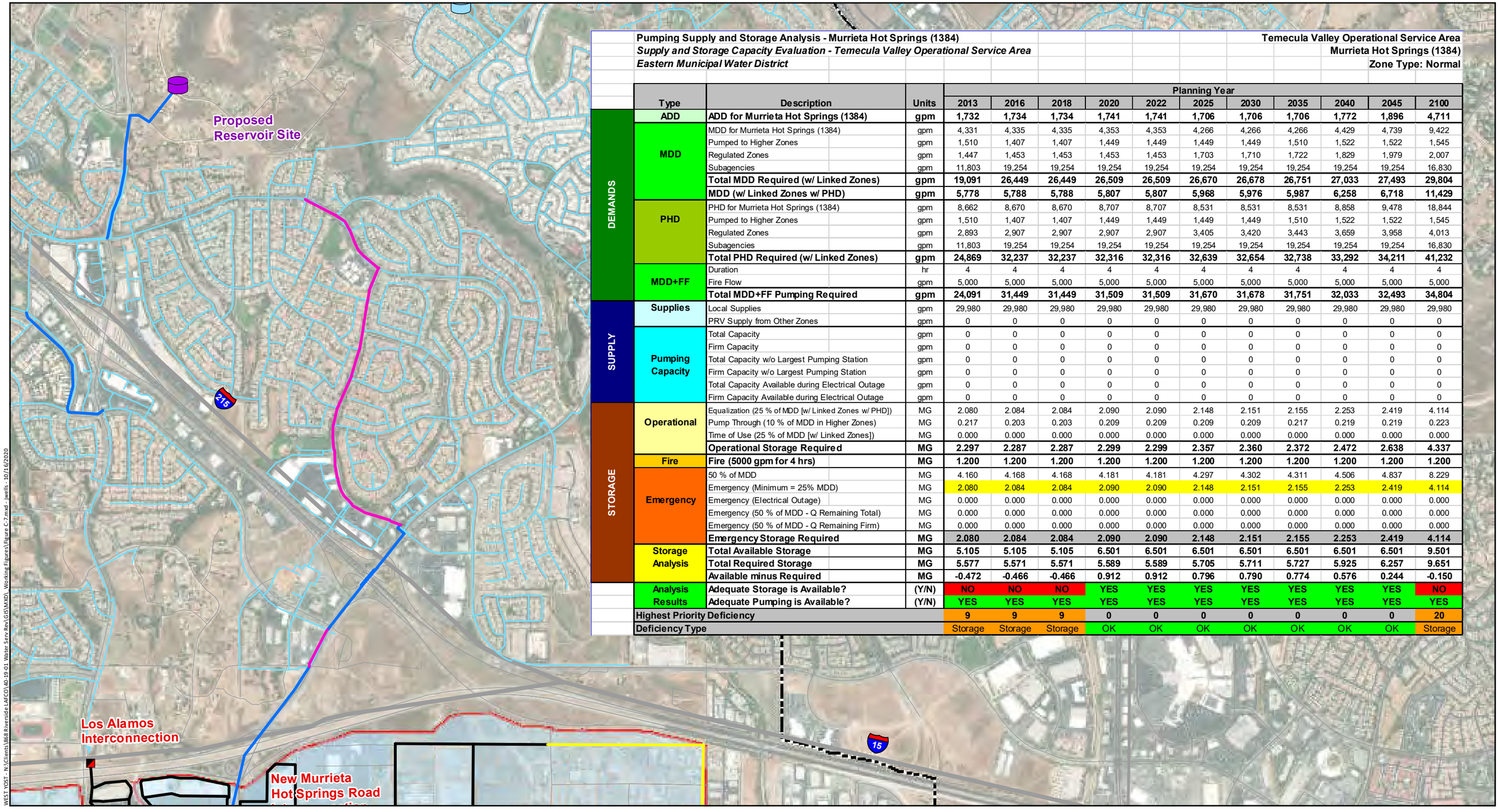
Riverside LAFCO
Focused Water MSR
Murrieta Area

Pumping Supply and Storage Analysis - Murrieta Hot Springs (1384) — **Temecula Valley Operational Service Area**

Supply and Storage Capacity Evaluation - Temecula Valley Operational Service Area — **Murrieta Hot Springs (1384)**

Eastern Municipal Water District — **Zone Type: Normal**

	Type	Description	Units	Planning Year 2013	2016	2018	2020	2022	2025	2030	2035	2040	2045	2100
DEMANDS	ADD	**ADD for Murrieta Hot Springs (1384)**	**gpm**	**1,732**	**1,734**	**1,734**	**1,741**	**1,741**	**1,706**	**1,706**	**1,706**	**1,772**	**1,896**	**4,711**
	MDD	MDD for Murrieta Hot Springs (1384)	gpm	4,331	4,335	4,335	4,353	4,353	4,266	4,266	4,266	4,429	4,739	9,422
		Pumped to Higher Zones	gpm	1,510	1,407	1,407	1,449	1,449	1,449	1,449	1,510	1,522	1,522	1,545
		Regulated Zones	gpm	1,447	1,453	1,453	1,453	1,453	1,703	1,710	1,722	1,829	1,979	2,007
		Subagencies	gpm	11,803	19,254	19,254	19,254	19,254	19,254	19,254	19,254	19,254	19,254	16,830
		Total MDD Required (w/ Linked Zones)	**gpm**	**19,091**	**26,449**	**26,449**	**26,509**	**26,509**	**26,670**	**26,678**	**26,751**	**27,033**	**27,493**	**29,804**
		MDD (w/ Linked Zones w/ PHD)	**gpm**	**5,778**	**5,788**	**5,788**	**5,807**	**5,807**	**5,968**	**5,976**	**5,987**	**6,258**	**6,718**	**11,429**
	PHD	PHD for Murrieta Hot Springs (1384)	gpm	8,662	8,670	8,670	8,707	8,707	8,531	8,531	8,531	8,858	9,478	18,844
		Pumped to Higher Zones	gpm	1,510	1,407	1,407	1,449	1,449	1,449	1,449	1,510	1,522	1,522	1,545
		Regulated Zones	gpm	2,893	2,907	2,907	2,907	2,907	3,405	3,420	3,443	3,659	3,958	4,013
		Subagencies	gpm	11,803	19,254	19,254	19,254	19,254	19,254	19,254	19,254	19,254	19,254	16,830
		Total PHD Required (w/ Linked Zones)	**gpm**	**24,869**	**32,237**	**32,237**	**32,316**	**32,316**	**32,639**	**32,654**	**32,738**	**33,292**	**34,211**	**41,232**
	MDD+FF	Duration	hr	4	4	4	4	4	4	4	4	4	4	4
		Fire Flow	gpm	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
		Total MDD+FF Pumping Required	**gpm**	**24,091**	**31,449**	**31,449**	**31,509**	**31,509**	**31,670**	**31,678**	**31,751**	**32,033**	**32,493**	**34,804**
SUPPLY	Supplies	Local Supplies	gpm	29,980	29,980	29,980	29,980	29,980	29,980	29,980	29,980	29,980	29,980	29,980
		PRV Supply from Other Zones	gpm	0	0	0	0	0	0	0	0	0	0	0
	Pumping Capacity	Total Capacity	gpm	0	0	0	0	0	0	0	0	0	0	0
		Firm Capacity	gpm	0	0	0	0	0	0	0	0	0	0	0
		Total Capacity w/o Largest Pumping Station	gpm	0	0	0	0	0	0	0	0	0	0	0
		Firm Capacity w/o Largest Pumping Station	gpm	0	0	0	0	0	0	0	0	0	0	0
		Total Capacity Available during Electrical Outage	gpm	0	0	0	0	0	0	0	0	0	0	0
		Firm Capacity Available during Electrical Outage	gpm	0	0	0	0	0	0	0	0	0	0	0
STORAGE	Operational	Equalization (25 % of MDD [w/ Linked Zones w/ PHD])	MG	2.080	2.084	2.084	2.090	2.090	2.148	2.151	2.155	2.253	2.419	4.114
		Pump Through (10 % of MDD in Higher Zones)	MG	0.217	0.203	0.203	0.209	0.209	0.209	0.209	0.217	0.219	0.219	0.223
		Time of Use (25 % of MDD [w/ Linked Zones])	MG	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		Operational Storage Required	**MG**	**2.297**	**2.287**	**2.287**	**2.299**	**2.299**	**2.357**	**2.360**	**2.372**	**2.472**	**2.638**	**4.337**
	Fire	**Fire (5000 gpm for 4 hrs)**	**MG**	**1.200**	**1.200**	**1.200**	**1.200**	**1.200**	**1.200**	**1.200**	**1.200**	**1.200**	**1.200**	**1.200**
	Emergency	50 % of MDD	MG	4.160	4.168	4.168	4.181	4.181	4.297	4.302	4.311	4.506	4.837	8.229
		Emergency (Minimum = 25% MDD)	MG	2.080	2.084	2.084	2.090	2.090	2.148	2.151	2.155	2.253	2.419	4.114
		Emergency (Electrical Outage)	MG	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		Emergency (50 % of MDD - Q Remaining Total)	MG	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		Emergency (50 % of MDD - Q Remaining Firm)	MG	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		Emergency Storage Required	**MG**	**2.080**	**2.084**	**2.084**	**2.090**	**2.090**	**2.148**	**2.151**	**2.155**	**2.253**	**2.419**	**4.114**
	Storage Analysis	**Total Available Storage**	**MG**	**5.105**	**5.105**	**5.105**	**6.501**	**6.501**	**6.501**	**6.501**	**6.501**	**6.501**	**6.501**	**9.501**
		Total Required Storage	**MG**	**5.577**	**5.571**	**5.571**	**5.589**	**5.589**	**5.705**	**5.711**	**5.727**	**5.925**	**6.257**	**9.651**
		Available minus Required	**MG**	**-0.472**	**-0.466**	**-0.466**	**0.912**	**0.912**	**0.796**	**0.790**	**0.774**	**0.576**	**0.244**	**-0.150**
	Analysis Results	**Adequate Storage is Available?**	**(Y/N)**	**NO**	**NO**	**NO**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**NO**
		Adequate Pumping is Available?	**(Y/N)**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**
	Highest Priority Deficiency			**9**	**9**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**20**
	Deficiency Type			Storage	Storage	Storage	OK	OK	OK	OK	OK	OK	OK	Storage



Study Area
County Boundary
City Boundary
Interstate Highway
State Highway
Local Roads

Booster Pump Station
Existing Reservoir Site
Propsoed Reservoir Site
Production Well
Interconnection Point

EMWD Existing Pipeline
EMWD CIP (Murrieta)
EMWD CIP (Water Facilities Master Plan)
Existing Water Main
Expansion Pipe - North of Murrieta Creek
Expansion Pipe - South of Murrieta Creek
Required CIP

Pressure Zone
1280
1430

Notes:
1. Production Wells are labeled in green text.
2. Booster Pump Stations are leabeled in gray text.
3. Reservoirs are labeled in blue text.
4. Interconnections are labeled in red text.
5. Proposed facilities are labeled in purple text.

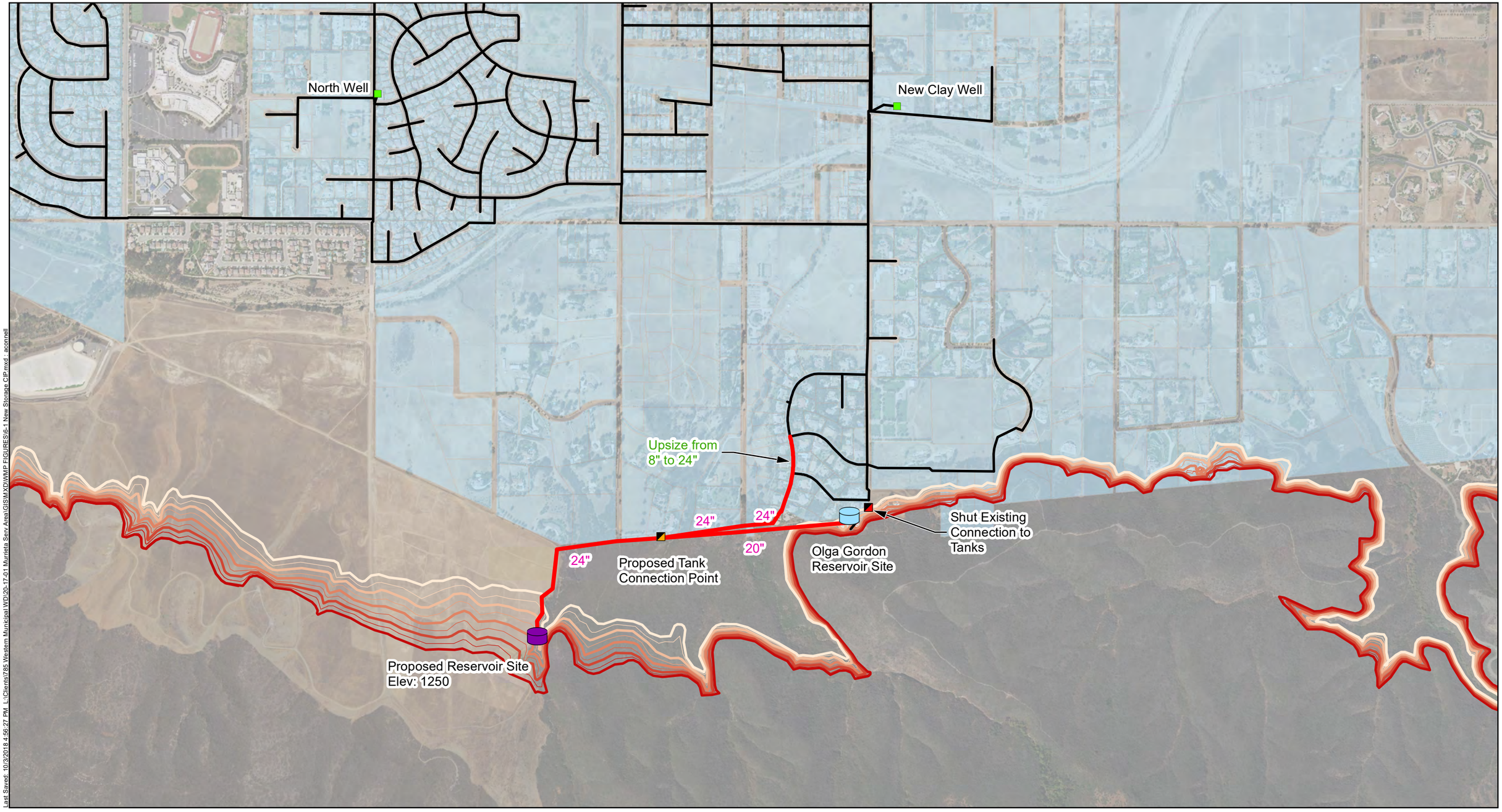
0 1,250 2,500
Scale in Feet

RIVERSIDE LAFCO
fgSolutions
WEST YOST

Figure C-7

EMWD Ownership Scenario Hydraulic Details

Riverside LAFCO
Focused Water Municipal Service Review Murrieta Area



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Symbology

- Proposed Reservoir Site
- Existing Reservoir Site
- Production Well
- Existing Connection to Tanks
- Proposed Connection to Tanks
- Required Pipe to Proposed Reservoir
- Existing Pipe

Pressure Zone	Elevation
1280	1240
1430	1245
	1250
	1255
	1260
	1265
	1270
	1275
	1280

0 500 1,000
Scale in Feet

WEST YOST ASSOCIATES

Figure C-8

Detailed WMWD Proposed Storage

Riverside LAFCO
Focused Water Mun. Service Review MSA

Upsize 939 ft from 6" and 4" to 12" and construct 239 ft of 8" pipe

Upsize 320 ft from 8" to 12"

Upsize 100 ft from 4" to 8"

Construct 610 ft of 12" Pipe to RCWD Connection

Upsize 3190 ft from 8" to 12"

Grizzly Ridge Reservoir Site

Upsize 610 ft from 6" to 10"

Alson Booster Pump Station

Upsize 1400 ft from 6" and 4" to 12"

Proposed RCWD Connection

Upsize 3910 ft from 4" and 6" to 8"

North Well

New Clay Well

Olga Gordon Reservoir Site

Proposed Reservoir Site

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Symbology

- Proposed Reservoir Site
- Existing Reservoir Site
- Interconnection
- Production Well
- Booster Pump Station
- Existing Water Main
- Pipe to Proposed Storage
- Expansion Pipe - North of Murrieta Creek
- Expansion Pipe - South of Murrieta Creek
- Fire Flow CIP Pipe
- Murrieta Creek

Pressure Zone

- 1280
- 1430

0 1,000 2,000

Scale in Feet

WEST YOST ASSOCIATES

Figure C-9

Fire Flow Upgrades

Riverside LAFCO
Focused Water Municipal Service Review MSA

Jefferson Ave

P3 & P4

P1, P2, P3, and P4 have hydraulic restrictions both before and after serving the MSA. Service to the MSA does not significantly exacerbate the hydraulic restrictions.

RCWD's WR26/28 Connection

P1 & P2

15

79

15

WEST YOST - N:\Clients\868 Riverside LAFCO\40-19-01 Water Serv Rev\GIS\MXD_Working Figures\Figure C-6.mxd - jwells - 10/16/2020

LOS ANGELES
SAN BERNARDINO
RIVERSIDE
ORANGE
SAN DIEGO

Study Area
County Boundary
City Boundary

Interstate Highway
State Highway
Local Roads
RCWD Pipeline
RCWD Pipeline with Capacity Constraint (With and Without Murrieta Service)

Pressure Zone
1280

0 1,000 2,000
Scale in Feet

RIVERSIDE LAFCO
fgSolutions
WEST YOST

Fig. C-10

RCWD Ownership
Hydraulic Restriction Details

Riverside LAFCO
Focused Water Municipal Service Review Murrieta Area

Concord

1001 Galaxy Way, Suite 310
Concord CA 95420
925-949-5800

Davis

2020 Research Park Drive, Suite 100
Davis CA 95618
530-756-5905

Eugene

1650 W 11th Ave. Suite 1-A
Eugene OR 97402
541-431-1280

Irvine

6 Venture, Suite 290
Irvine CA 92618
949-517-9060

Lake Oswego

5 Centerpointe Drive, Suite 130
Lake Oswego OR 97035
503-451-4500

Oceanside

804 Pier View Way Suite 100
Oceanside CA 92054
760-795-0365

Phoenix

4505 E Chandler Boulevard, Suite 230
Phoenix AZ 85048
602-337-6110

Pleasanton

6800 Koll Center Parkway, Suite 150
Pleasanton CA 94566
925-426-2580

Sacramento

8950 Cal Center Drive, Bldg. 1, Suite 363
Sacramento CA 95826
916-306-2250

San Diego

11939 Rancho Bernardo Road Suite 100
San Diego CA 92128
858-505-0075

Santa Rosa

2235 Mercury Way, Suite 105
Santa Rosa CA 95407
707-543-8506