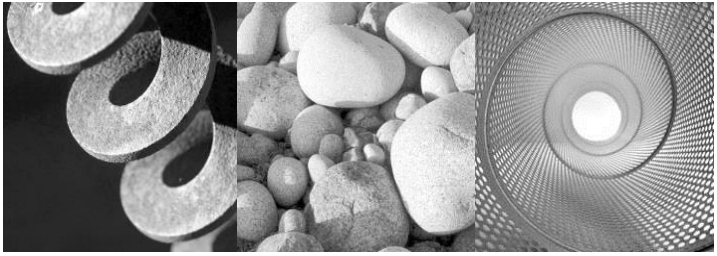


Consulting
Engineers and
Scientists

Sewer and Water Utility Rate Analysis

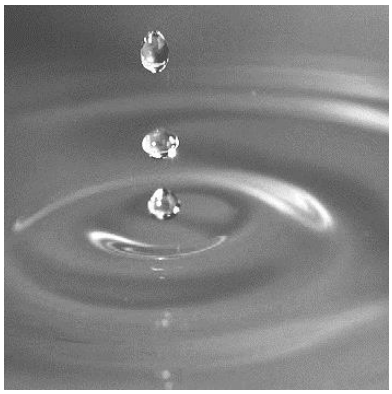
Rosamond Community Services District

Submitted to:
Rosamond Community Services District
3179 35th Street West
Rosamond, CA 93560

Submitted by:
GEI Consultants, Inc.
101 North Brand Blvd, Suite 1780
Glendale, CA 91203

August 31, 2016

Project No. 1509840



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1. Executive Summary

Rosamond Community Services District ("RCSD" or "District") contracted with GEI to perform a comprehensive analysis of utility rates for both its water and sewer funds. The analysis considers customer types and usages, and projected future expenses, to develop recommended rate structures that will cover expenses and that will distribute the burden of cost proportionately to the cost of providing service. This analysis is provides the District with recommended rate structures that will meet the requirements of California Proposition 218 and the California Constitution.

The last Water and Sewer Rate Study was completed in 2009. Significant changes have occurred since the last study which have impacted RCSD's cost to provide water and sewer service to its customers. These changes include the following:

- Adjudication of the Antelope Valley Groundwater Basin, which will result in a court mandated precipitous ramp down of the District's groundwater pumping allowances from 2885 acre-feet/year (afy) to 404 afy. This reduction in groundwater pumping will be offset by costly imported water from the State Water Project.
- The need to establish a fund for groundwater banking to meet RCSD's water demands during dry years.
- Incorporating new Capital Improvement & Replacement program into rates for the study period.
- New requirements for Chromium 6 which may require blending with purchased (imported) water.

The impact of these changes has been projected based on the best information available, however if the variables involved in these changes are significantly different from the assumptions in the study, it would be prudent to revisit the rates before the next 5-year period has expired.

Certain other agencies are able to impose cost increases upon RCSD with short notice. Since these costs are outside the control of RCSD, it is difficult or impossible for RCSD to include the cost increases in a multi-year rate study. RCSD does not want to overestimate future costs as this may unnecessarily raise rates. State Law (AB3030) allows for a remedy for this situation. RCSD will create and authorize a Pass-Through Charge when the multi-year rate study is implemented. RCSD will inform customers about the Pass-Through Charge and what conditions will necessitate the charge being billed to customers.

GEI has not had independent review of this study performed by any Certified Public Accountant nor Attorney. While the model of expenses and revenues were performed with engineering principles, we expect that both the District's financial advisor and legal advisor will provide a review of any proposed rate increases before putting them into effect. In addition, we have been

informed that the revisions made to the calculations used for this study have been reviewed by both the District's financial advisor and legal advisor.

This study was originally created in 2015 using data available from that period. The study was originally submitted in the fall of 2015. Since that time, the study has been revised multiple times to include expense modifications as suggested by the District's financial advisor and public works staff. While 2017 will now be the first year that new rates are adopted, the study still assumes a 2016 baseline to avoid major reworking and recreation of the model.

2. Introduction

2.1 Background

RCSD is a special District located in southeast Kern County, California that was created in 1966 by a vote of the citizens of the Rosamond community to provide water, sewer, and street lighting services. In 1998 voters added graffiti abatement and parks and recreation to the District's services, and in 2009, RCSD constructed a wastewater collection system and treatment plant to produce and provide tertiary water. As of its most recent budget, the District served an approximate population of 19,400 people. The water and sewer systems are operated as separate utilities with separate enterprise funds.

The District serves approximately 5,000 sewer and water customers. In 2014, the District's customers consumed approximately 2,540 acre-feet of water, which follows a general downward trend aligned with conservation efforts and increased water costs. In 2009, prior to the institution of new rates, that consumption was approximately 3,100 acre-feet.

As mentioned in the Executive Summary, a number of factors will increase the District's cost to provide water service to its customers. The most significant contributor is the adjudication of the Antelope Valley Groundwater Basin. Groundwater is RCSD's lowest-cost water supply, which will be substantially reduced due to "rampdown" of the District's groundwater production rights, forcing the District to use more costly sources of supply.

The cost to provide sewer service to RCSD's customers has been relatively stable over the past five years, and is anticipated to remain stable over the next five years, with moderate increases due to inflation.

This rate study includes recommendations to allocate rates based on the reasonable cost to serve each customer in the system, as required by California State Law.

2.2 General Rate Policies

The rates being put forth in this study have been developed using a cost-of-service model. These costs were broken down into fixed costs to operate and maintain the water and sewer system, the fixed costs to provide water to individual customers, and the variable costs of providing quantities of water to (and accommodating sewage flows of) each user. Cost categorizations were made by RCSD financial and public works staff.

2.3 Financial Reserves

Currently, District policy recommends the set aside of reserves for four major categories, which are:

- General operating reserves for unexpected loss, or to demonstrate fiscal strength for financing, etc. Since 2009, sufficient revenues have not been available to fund this reserve.

- Capital reserves for capital improvements and emergency maintenance. This fund was started in fiscal year 2014/2015 and continues to grow as a percentage of depreciation, annually.

- Rate stabilization reserve to avoid large disruptions to rates due to large increases in the cost of service. To date, sufficient revenues have not been available to fund this reserve.

- Debt reserve fund required by most long term debt, to provide a reserve that will ensure payment

Reserves for these funds have been included within the proposed 2015 budget, and are reflected in the costs of service used to calculate rates.

2.4 Inflation

An inflation rate of 3% was used in this study to project increases in most cost categories of the systems for future years. This number is intended to cover the increased costs of materials, personnel, administration, and other similar costs. Electric prices and purchased (imported) water costs were inflated at 8% per year, which reflects the trend in price increases for these items over the last several years. The Antelope Valley East Kern Water Agency (AVEK), which imports water to the region from the State Water Project (SWP) has seen a year over year increase in pricing averaging 7.4% from 2012 to 2016, with the most recent pricing going up by 8%. AVEK also projected future increases to be around 8% annually over the next several years.

2.5 Population Changes

In reviewing customer data for both the water and sewer customers, RCSD has seen an increase of approximately 80 customers per year for both systems. This represents an approximate 1.6% year over year increase in the population served. Over that same time period, water usage has decreased or remained relatively flat, even with the increase in users.

It is difficult to determine the exact reason for the reduction in demand, which may be attributable to permanent changes in water use behavior or to temporary conservation measures due to State mandates related to the current drought. For the purposes of the model, the same 1.6% increase in population was used for the recommended scenario, along with a corresponding 1.6% increase in customer water use. Additional alternative scenarios were evaluated with varying population and demand projections to illustrate the "worst case" possibilities and determine their effect on net revenue. The results are discussed later in this report.

3. Water System

3.1 Water Supply

RCSD's current water supply comes from local groundwater. The District also has the option to purchase imported State Water Project (SWP) water from AVEK. Currently, RCSD has the capability to pump groundwater without restriction. However, due to the recent adjudication, RCSD's groundwater pumping allowance will be significantly reduced in comparison to its consumption requirements, and as such, it will have to purchase a significant amount of water from AVEK in the future. The adjudication takes effect with 2016 considered the first year, and with subsequent "rampdowns" of RCSD's groundwater production rights occurring from 2018 to 2022. RCSD's anticipated groundwater production rights for the following 7 years are reflected in the table below:

Table 3.1.1: Allowable Pumping Volumes

Annual Pumping Allowance by Adjudication								
Year	2015	2016	2017	2018	2019	2020	2021	2022
Allowable Pumping Rate (AF)	2,885	2,885	2,885	2,389	1,893	1,397	901	404

RCSD has historically budgeted each year for groundwater banking to increase water reliability. The District has an agreement in place with the Semitropic-Rosamond Water Bank Authority to provide "First Priority Right" to specific interests in the stored water recovery unit, as well as rights in Willow Springs Water Bank for delivery, storage, and recovery and return capacity.

During the current drought period, due to reduced surface water supplies from the SWP, it was not feasible to bank water. However the District will continue to budget for water banking each year in order to have funds set aside to bank water in years that it is available. While banking of water will help to prevent spikes in purchase costs, it should be noted that the cost to deliver banked water, which includes the original purchase price, put fees, take fees, and pumping costs, is higher than the standard AVEK treated water rate. Where banked water will be of use to the District is to help avoid the replenishment scenario discussed in Section 3.5.2.

3.2 Existing Water Rates

The existing water rates for the District were developed based on the recommendations in the 2009 Rate Study, and are as shown in the table below:

Table 3.2.1: Existing RCSD Service Charge

Service Charge	
Meter Size	Base Rate
5/8"	$ 20.00
3/4"	$ 20.68
1"	$ 31.20
1.5"	$ 51.16
2"	$ 82.49
3"	$ 210.46
4"	$ 225.09
6"	$ 247.68

Table 3.2.2: Existing RCSD Water Commodity Rates

Commodity Rates		
Tier	Max HCF	Cost/HCF
Tier 1	15	$ 2.24
Tier 2	30	$ 2.37
Tier 3	50	$ 2.55
Tier 4	>50	$ 2.74

3.3 Historical Water Use

The District has seen a reduction in water use over the past five years, which is likely due in part to internal conservation efforts, and in part from an external State mandate for conservation to address the current drought conditions. Below is a table showing the historical water use for the past 6 years.

Table 3.3.1: Historical Water Use

Year	Water Pumped (AF)	Percent Change
2009	3,173	
2010	3,022	(4.8)
2011	2,873	(4.9)
2012	2,976	3.6
2013	2,998	0.7
2014	2,885	(3.8)

For the purposes of this study, water use was increased proportional to the increase in customer base. Because the costs of supplying water are directly passed on through the commodity rates, fluctuations in water usage will have less of a financial impact on the water fund moving forward. More information on demand projection is provided in Section 3.6.

3.4 Cost of Service

To determine the cost of service now and over the next 5 years, multiple sources of data were used. These included past audits of the District, the current annual budget (fiscal year 2016), consideration of the groundwater adjudication, and research into imported water costs. These data sources were combined to create an estimate of the different system costs moving forward. There are three types of costs to service a water system. These costs are as follows:

- Fixed Costs – These costs are the same for each customer and generally include items such as administration, meter reading, and billing

- Capacity Costs – These costs are affected by the capacity requirements of each customer based on water meter size, and include repair and maintenance costs, a portion of the capital improvement/depreciation costs, and meter repair costs.

- Commodity Costs – These costs are directly affected by the amount of water consumed by the customers and include electrical costs, pumping costs, a portion of the deprecation costs, and water purchase costs.

Table 3.4.1 outlines the actual water system costs for 2015. As shown in the table, these costs have been allocated into one or more of the three categories listed above, per the direction of RCSD finance and public works staff.

Table 3.4.1: RCSD Water System Costs (2015 Audited Figures)

	Fixed	Capacity	Commodity	Purchase	Total
Expenses					
Salaries and Wages	752,816	-	422,487	-	1,175,302
Holiday, sick, and vacation pay	(54,449)	-	-	-	(54,449)
Repairs and Maintenance	-	169,777	606,848	-	776,625
Utility and Business Expenses	-	65,155	9,138	-	74,293
General and Administrative Expenses	16,875	211,360	-	-	228,235
Office and employment expenses	2,287	376,952	-	-	379,239
Office Supplies	6,008	19,350	-	-	25,358
Outside Services	5,015	24,750	-	-	29,765
Principal Expense	-	-	-	-	-
Interest Expense	-	40,061	-	-	40,061
Depreciation	-	362,599	1,087,796	-	1,450,394
Total Expenses	728,552	1,270,004	2,126,268	-	4,124,823
Total Service Revenue Required	728,552	1,270,004	2,126,268	-	4,124,823

3.4.1 Fixed and Capacity Costs

As shown above, the fixed costs are split into two categories, the first being a non-scaling cost that is apportioned equally to each customer, and the second scaling based on capacity. The

commonly accepted method for scaling capacity costs is through the use of the meter capacity ratio. The ratio of capacity is calculated by dividing the large meter capacity by the base meter capacity. This results in a hydraulic capacity ratio that is used to calculate equivalent meters. The actual number of meters by size is multiplied by the corresponding capacity ratio to arrive at the number of equivalent meters.

Table 3.4.2 shows the equivalent capacity for the different meter sizes in use within the District, as well as the number of meters and meter equivalents for each category. As noted previously, a population increase of 1.6%, or approximately 80 customers per year, was used to project the system users for 2020.

Table 3.4.2: Existing and Projected Water Meters in RCSD System

			2015	2015	2016	2016
Meter Size	Capacity - GPM	Meter Cap Ratio	No. Meters	No. Equivalent Meters	No. Meters	No. Equivalent Meters
5/8" METER	15	1	4634	4634	4714	4714
3/4" METER	30	1	33	33	33	33
1" METER	50	1.67	68	113.56	68	113.56
1 1/2" METER	100	3.33	25	83.25	25	83.25
2" METER	160	5.33	44	234.52	44	234.52
3" METER	500	10	7	70	7	70
4" METER	1000	16.66	10	166.6	10	166.6
6" METER	1600	33.33	5	166.65	5	166.65
		Total	**4826**	**5502**	**4906**	**5582**

Customer related costs are fixed expenses that relate to operational support activities including accounting, water billing, customer service and administrative and technical support. The customer related costs are essentially common-to-all costs that are independent of user class characteristics. The base service charge provides a mechanism for recovering a portion of the fixed costs and ensures a stable source of user revenues for the utility. Between the 2009 rate study and now, more detailed cost analysis has been performed to determine the effect of a reduction in usage on costs. From that analysis, a more functional approach to cost allocation and recovery was used for this rate study. The effect of this analysis is that the base service cost to cover fixed costs is higher, while the commodity cost per unit of water used is lower.

For the purposes of this model, a standard inflation rate of 3% was used to project future cost increases for both the fixed and capacity costs. In addition to these costs, the District has historically seen an average capital improvement investment of $750,000 per year into its water system, resulting in additional depreciation of $37,500 per year.

The fixed costs in the system are apportioned equally to each metered customer, while the capacity costs are apportioned based on the meter capacity ratio of each customer. The fixed and capacity charges are added together to establish the monthly "Base Rates" for each meter size. In order to maintain revenues commensurate with expenses, the base 2016 rates were established and then an inflationary factor of 3% was used to set rates for years 2017-2020, as shown in Table 3.4.3.

Table 3.4.3: Existing and Proposed Base Service Charges

Service Charge		Proposed Service Charge Base Rates				
Meter Size	Current	2016	2017	2018	2019	2020
5/8"	$ 20.00	$ 33.02	$ 33.53	$ 34.06	$ 34.63	$ 35.16
3/4"	$ 20.68	$ 33.02	$ 33.53	$ 34.06	$ 34.63	$ 35.16
1"	$ 31.20	$ 46.59	$ 47.33	$ 48.10	$ 48.92	$ 49.69
1.5"	$ 51.16	$ 80.23	$ 81.53	$ 82.87	$ 84.33	$ 85.67
2"	$ 82.49	$ 120.75	$ 122.73	$ 124.77	$ 126.99	$ 129.03
3"	$ 210.46	$ 215.36	$ 218.93	$ 222.61	$ 226.60	$ 230.28
4"	$ 225.09	$ 350.29	$ 356.13	$ 362.14	$ 368.66	$ 374.67
6"	$ 247.68	$ 688.03	$ 699.53	$ 711.37	$ 724.23	$ 736.07

It is noted that this is a relatively major increase in the charges for the lowest use customers. This is in response to the requirements of the State of California, as interpreted during recent lawsuits including Capistrano Taxpayers Association, Inc. v. City of San Juan Capistrano, which found that water rates must correspond to the actual cost of providing service at a given level of usage.

3.4.2 Commodity Costs

As a result of the proposed increase in fixed costs, the current commodity costs would be reduced for some users. The highest tier users will see an increase in commodity costs as a result of the increased cost of water from AVEK.

Commodity costs as determined by RCSD staff include the costs of pumping and electrical, as well as a portion of the system depreciation. Over the next seven years that cost will gradually increase to reflect the additional cost of imported SWP water, as RCSD's groundwater production rights are reduced. The unit cost of pumped groundwater has been projected to increase eight percent (8%) annually, in keeping with escalating electric utility costs.

The cost of imported SWP water was set based on AVEK's treated water rate of $485 per acre-foot for calendar year 2016. Based on historical trends over the past 5 years, as well as AVEK's predicted future rate increases, an 8% annual increase was used to predict future pricing. It should be noted that this pricing is for treated, delivered water. In addition to the increase in unit cost for imported water, the share of imported water will increase as the district shifts from groundwater to SWP water as its majority source of supply. The table below shows the anticipated demand for imported water and the associated costs.

Table 3.4.4: Existing and Proposed Pumping Requirements and Costs

Annual Pumping Allowance by Adjudication								
Year	2015	2016	2017	2018	2019	2020	2021	2022
Allowable Pumping Rate (AF)	2,885	2,885	2,885	2,389	1,893	1,397	901	404
Acre Feet Needed per year	2,440	2,489	2,539	2,590	2,642	2,695	2,749	2,804
Number of AF to buy	-	-	-	201	749	1,298	1,848	2,400
Cost per AF	485	524	566	611	660	713	770	832
Total Purchase Price	-	-	-	122,811	494,340	925,474	1,422,960	1,996,800

Other situations were evaluated as well during the study, including the purchase of replenishment water to cover over pumping, as well as the delivery of untreated water to the water banks, and

the additional fees required to cover the water banking costs. The results were not fiscally prudent and were discarded.

Using the assumptions listed above to maintain the same tiers, each individual user is given credit for their portion of the water rights to be pumped from the system. Users in Tier 1 are assumed to obtain water at the lowest purchase price (i.e. pumped groundwater) and users in Tiers 2, 3, and 4 incrementally use more higher-cost SWP water, as their higher demand results in the need for SWP water. The projected commodity rates for 2016-2020 were determined by allowing for the projected 2020 pumping allowance. Each user is allocated costs based on tier for the overall commodity costs. In addition each user in the upper tiers is allocated additional purchase costs to cover the additional expense incurred for the AVEK water purchases. The inflation factor used to project the expenses involved with water delivery was used to compute rates for the remaining years.

Table 3.4.5: Proposed Commodity Charge

Proposed Commodity Rate Structure ($/HCF)						
Tier	**Current**	**2016**	**2017**	**2018**	**2019**	**2020**
Tier 15	2.24	2.13	2.16	2.19	2.42	2.91
Tier 30	2.37	2.49	2.55	2.80	3.08	3.40
Tier 50	2.55	2.83	2.91	3.11	3.34	3.59
Tier >50	2.74	3.32	3.45	3.58	3.72	3.88

As noted, these commodity rates are lower at the lowest tier, because a larger portion of the cost of service has been designated as fixed costs than in prior studies. Also note that the first three hundred cubic feet (3 HCF) for each user are included in the base charge, which continues the existing practice by RCSD.

3.5 Revenue vs. Expenses

3.5.1 Standard Scenario

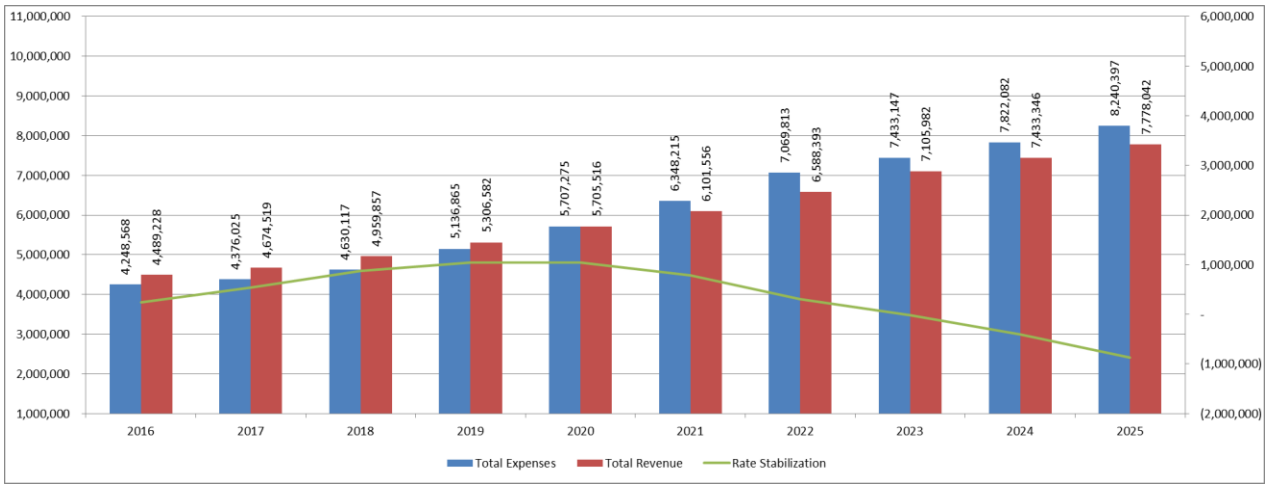
Based on the rates shown above, expected rampdown due to adjudication, the required blending to meet Chromium 6 requirements and assumed AVEK pricing at today's rates for supply with an 8% annual increase, the projected revenues and expenses for the next 5 years would be as shown in Table 3.5.1:

Table 3.5.1: Projected Revenue vs Expenses, 2016-2020

	2016	2017	2018	2019	2020
Fixed Expenses	2,058,512	2,120,267	2,183,875	2,249,391	2,316,873
Commodity Expense - Pumped	2,190,056	2,255,758	2,323,431	2,393,134	2,464,928
Commodity Expense - Purchased	-	-	122,811	494,340	925,474
Total Expenses	4,248,568	4,376,025	4,630,117	5,136,865	5,707,275
Revenue - Base Rate	2,106,624	2,170,764	2,237,556	2,308,500	2,378,616
Revenue - Usage	2,339,995	2,461,018	2,679,436	2,955,089	3,283,778
Revenue - Other	42,609	42,737	42,865	42,993	43,122
Total Revenue	4,489,228	4,674,519	4,959,857	5,306,582	5,705,516
Net Revenue	240,660	298,494	329,740	169,717	(1,759)
Rate Stabilization	240,660	539,154	868,894	1,038,611	1,036,852

As seen in Figure 3.5.1, the effect of setting rates based on actual costs to deliver water results in a surplus that diminishes as changes in cost structure are realized due to the adjudication.

Figure 3.5.1: Revenue vs. Expense

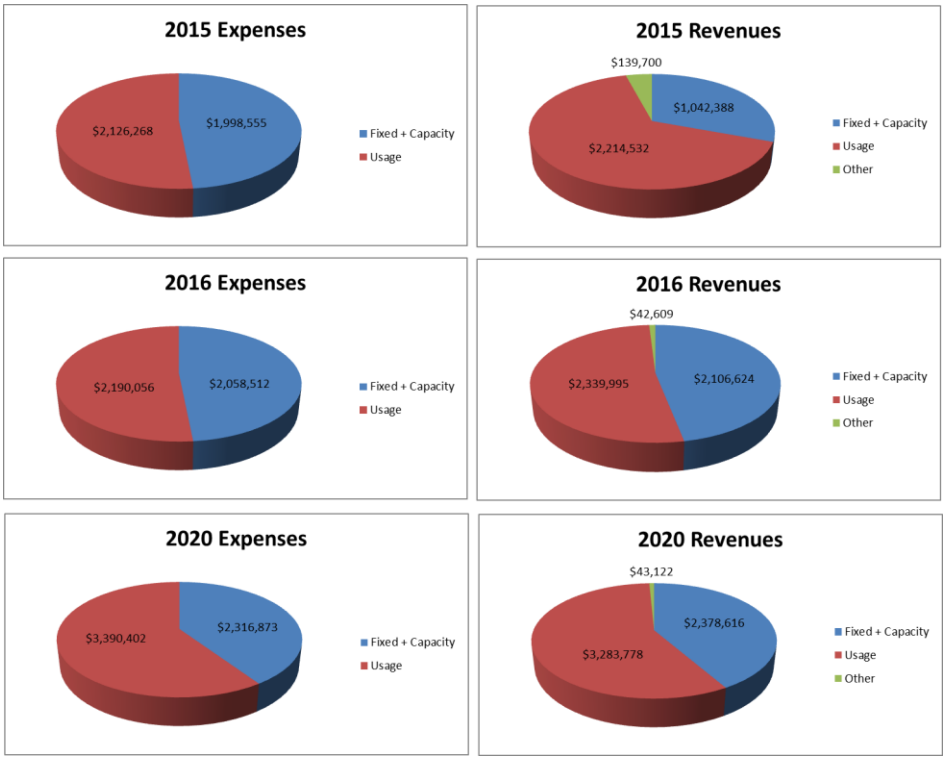


Because the forecasted cost of purchased water over pumped water starting in 2018 is significantly higher, the first few years allow the District to build up a sizeable cushion to protect itself against a worst case scenario (See below for a breakdown of that scenario). Assuming the variables continue, by 2020 the costs of purchasing water at the projected rates (not shown) would cause the system to return to a negative annual net revenue. A new rate study should be scheduled in 2020 for implementation in 2021 to properly adjust to trends in water costs.

Assumptions for this scenario include a 1:1 pumped groundwater-to-imported water blending ratio beginning in 2020, with water purchased from AVEK for all needs at $485/acre-foot, increasing with inflation of 8%, while fixed expenses were increased at 3%.

The combination of charts below show how the adjustment to the 2020 adjudication levels for commodity costs affects the distribution of revenues over time, with original revenues outweighing those costs, but reaching equivalency in 2020. It can be seen how the projected 2015 revenue and expense categories did not match up. This resulted in the larger users paying a greater share of the costs, in proportion to their expense to the system.

Figure 3.5.2: Revenue and Expense Categories - 2016 and 2020



3.5.2 Replenishment Scenario

In evaluating the District's net revenues for the next 5 years and beyond, it must be recognized that the District must project a great deal of unknown variables. The District has multiple facilities and water delivery vehicles that may be online within the next couple of years, which would help to assuage cost increases, while at the same time, the District will be subject to the constraints of the water that AVEK is capable of delivering. If it is found that AVEK does not have the water available for blending and/or for consumption in the long term as the adjudication begins to impact RCSD, then the District would have to pump and replenish the aquifer at a premium rate, currently $700 per acre foot. In addition, prices for 2015 saw an 8% increase year over year. Water purchase costs have historically increased at a rate well above inflation.

To determine the impact of a worst-case scenario, an evaluation was done using the proposed water rates, with assumptions of $700 initial reimbursement price, increased 8% annually. The results of this scenario are shown in the table below:

Table 3.5.2: Projected Revenue vs Expenses, 2016-2024, Replenishment Case

	2016	2017	2018	2019	2020
Fixed Expenses	2,058,512	2,120,267	2,183,875	2,249,391	2,316,873
Commodity Expense - Pumped	2,190,056	2,255,758	2,323,431	2,393,134	2,464,928
Commodity Expense - Purchased	-	-	177,081	712,299	1,333,046
Total Expenses	4,248,568	4,376,025	4,684,387	5,354,824	6,114,847
Revenue - Base Rate	2,106,624	2,170,764	2,237,556	2,308,500	2,378,616
Revenue - Usage	2,339,995	2,461,018	2,679,436	2,949,064	3,283,778
Revenue - Other	42,609	42,737	42,865	42,993	43,122
Total Revenue	4,489,228	4,674,519	4,959,857	5,300,557	5,705,516
Net Revenue	240,660	298,494	275,470	(54,267)	(409,331)
Rate Stabilization	240,660	539,154	814,624	760,357	351,026

This scenario shows how much more quickly the costs to provide water accelerate if these less optimistic scenarios are realized. As seen in the table, expenses begin to exceed revenues in this scenario by 2019. However, this scenario does allow for the buildup of the rate stabilization fund in the initial years while the District is still allowed to pump groundwater from the aquifer. In 2020, the overall fund still projects a positive balance. The expenses of purchased water in the worst case scenario would use up the remainder of the surplus some time in 2021, wherein a new study should have been completed and rate revisions implemented.

While the recommended water rates were not set based on a worst case scenario, it should provide some confidence that the proposed rates accurately reflect a reasonable reflection of costs, while still allowing the District to protect against insolvency even in less favorable conditions.

3.6 Growth Scenarios

In order to determine the validity of the model and rates for different population and usage projections, multiple scenarios were run with different water usage growth projections. Table 3.6.1 below shows the results of some different scenarios:

Table 3.6.1: Effect on Revenues from Demand Growth or Reductions

Water Use Variance Check				
Annual Water Demand Growth Rate	1.65%	0%	5%	-5%
2020 Projected Net Revenue	$ (1,759.00)	$ (27,963.00)	$ 34,880.00	$ (99,836.00)
Change in Revenue from 1.65% Growth	$ -	$ (26,204.00)	$ 36,639.00	$ (98,077.00)
Change as a percentage of Revenue	0%	-0.46%	0.64%	-1.72%

As can be seen in the table, even a 5% increase or decrease each year (which would be approximately 28% increase/decrease over those 5 years) in system demand will have a

relatively minor effect on the overall revenues of the system. This provides further evidence that the rates will now be tied to the costs of providing service to each customer.

3.7 Customer Effects

As is the case in most areas, a majority of the District's customers are residential users. Through analyzing the function of each cost, it was determined that system costs were mostly fixed and that as a result the overall cost increases necessary to continue providing water to the District will fall on those customers. However, this represents the methodology that most closely ties rates to the reasonable costs of supplying water to each customer.

The Table below shows a selection of existing customers representing various meter sizes and usages, to show how different customer classes would be affected under the proposed 2016 rates, as compared to the current rates.

Table 3.7.1: Change in Water Bill Various Customers

Meter Size	Average Usage	2016 Base Rate (Monthly)	2016 Consumption Charge	Total Bill (Monthly)	Current Consumption Charge	Current Service Charge	Current Monthly Bill	2016 Change
5/8" METER	3	33.02	-	33.02	-	20.00	20.00	13.02
3/4" METER	8	33.02	10.65	43.67	17.92	20.00	37.92	5.75
1" METER	15	46.59	25.56	72.15	33.60	20.00	53.60	18.55
1 1/2" METER	33	80.23	84.78	165.01	76.16	31.20	107.36	57.65
2" METER	53	120.75	165.93	286.68	266.06	82.49	348.55	(61.87)
3" METER	126	215.36	408.20	623.56	466.12	82.49	548.61	74.95
4" METER	251	350.29	823.04	1,173.33	808.58	225.09	1,033.67	139.66
6" METER	1040	688.03	3,441.49	4,129.52	2,970.21	247.68	3,217.89	911.63

1. Note that Capacity Charges for larger meters were modified due to a mathematical error in the 2009 study, resulting in lower costs for 2" meters and above.

4. Wastewater System

4.1 Sewer Collection and Treatment

Costs to operate and maintain the sewer system are much less dynamic and more predictable than that of the water system. The existing sewer system contains approximately 70 miles of collection and transmission piping. The treatment facility is a series of evaporation ponds. The mechanical portions of the system include a bar screen and grinder, influent pumps and an automatic sampler. The process has continued to function within regulatory requirements, and no changes to the treatment methods are planned at this time.

4.2 Existing Sewer Rates

Currently, the base rate for all customers is $39.80 per month. There is also an HCF charge, based on metered water usage. For those customers that are not metered through RCSD's water system, estimated usage rates are used to determine the HCF charge. Customers are categorized within three categories: Residential, Commercial I, and Commercial II. Commercial II customers are identified as those classes of customers that discharge Fat, Oil, and Grease (FOG), which increase the costs of maintenance on the sewer system. The HCF charges range from $0.13/HCF for the Residential and Commercial I users to $0.52/HCF for the Commercial II users.

Overall costs to the sewer system users are relatively low, due to the ability of the District to use ponds as the treatment method, which are a low cost method of treatment.

4.3 Cost of Service

As outlined in the previous study, a majority of the sewer system costs are fixed, including administration and the costs of maintaining the system and funding repair and replacement. Commodity based costs, that are based on usage, include the costs of maintenance items such as cleaning of the sewers.

4.3.1 Fixed Costs

Because of the treatment method for the wastewater within the District, a large portion of the costs of the system are fixed. These costs include administrative costs as well as the costs to fund repair and replacement initiatives. The fixed costs are apportioned equally to each user group.

A breakdown of the 2015 actual costs for the sewer fund illustrates the apportionment of fixed costs versus commodity costs, as provided by RCSD staff:

Table 4.4.1: 2015 Sewer System Costs (2015 Audited Figures)

	Fixed	Variable	Total
Expenses			
Salaries and Wages	703,514		703,514
Holiday, sick and vacation pay	86,418		86,418
Repairs and Maintenance	98,812	116,750	215,562
Utilities and Business Expenses	70,701		70,701
General and Administrative Expenses	131,963		131,963
Office and employment expenses	306,825		306,825
Office Supplies	19,882		19,882
Outside Services	21,804		21,804
Interest Expense	175,061		175,061
Depreciation	674,151		674,151
Total Expenses	2,289,129	116,750	2,405,879
Total Service Revenue Required	2,289,129	116,750	2,405,879

Upon review of the prior study, and reviews of revenues collected since the enactment of the recommended rates, it was discovered that the previous fixed rates had been set based on the number of connections, without factoring in that some residential connections are charged for multiple accounts (i.e. duplexes or apartments). Upon accounting for these additional accounts, the fixed costs per customer are reduced.

4.3.2 Commodity Costs

The commodity costs for the system include those costs that vary based on the discharge to the system. Those costs include pumping costs as well as the cleaning of the sewer system. Because of the additional FOG loading from the Commercial II group, that group creates a higher cost of maintenance. Per previous studies,[1] the estimated impact of that group is four (4) times that of a typical residential or standard Commercial I user; therefore, the commodity cost charged to that user group has been set at four times the commodity cost for the other user types.

The District makes a reasonable effort to determine the wastewater discharge from each customer. Where water meters are available, the District uses water meter data to estimate the discharge. Where there is no meter data available, the District has estimates based on the user category.

The District has consistently seen approximately 13 Commercial II users over the past 5 years. For the past 3 years, those users have been billed approximately 10,944 HCF. Overall billed flow for low strength users (Residential and Commercial I) has increased proportionately to the

[1] 2009 Rosamond CSD Rate Study

increase in users, and the same increase of approximately 80 users per year is reflected in the projected revenues for the sewer system.

Since the time of the last study, commodity costs for the sewer system have risen approximately 50%. Because these costs are mostly in the electric and chemical category, and the historical increase outpaces inflation, we would expect the same approximate 8% annual increase that was used in the water rate scenarios to hold true for commodity costs. In order to continue to collect fees reflective of these costs, we recommend an adjustment of the collected rates to match the projected 2020 costs of service. The table below illustrates that projected fixed and commodity rates for the sewer system over the next 5 years.

Table 4.5.1: Proposed Sewer Rates, 2016-2020

Proposed Sewer Rate Schedule						
	Current	2016	2017	2018	2019	2020
	Base Rate					
Residential	39.80	33.81	35.12	36.47	37.87	39.31
Commercial I	39.80	33.81	35.12	36.47	37.87	39.31
Commercial II	39.80	33.81	35.12	36.47	37.87	39.31
Commodity Charge ($/HCF)						
Residential	0.13	0.23	0.24	0.26	0.28	0.29
Commercial I	0.13	0.23	0.24	0.26	0.28	0.29
Commercial II	0.52	0.92	0.96	1.04	1.12	1.16

As mentioned above, fixed costs per customer have been reduced from the prior rates, due to the multi-user connections throughout the system.

4.4 Revenues vs. Expenses

The table below shows the projected revenues, expenses, and net revenue for each year through 2020 based on the rates proposed above.

Table 4.5.2: Sewer Revenue vs. Expenses

	2016	2017	2018	2019	2020
Fixed Expenses	2,417,459	2,552,282	2,693,927	2,842,740	2,999,083
Variable Expense	126,090	136,177	147,071	158,837	171,544
Total Expenses	2,543,549	2,688,459	2,840,998	3,001,577	3,170,627
Revenue - Base Rate	2,417,688	2,552,244	2,693,664	2,842,524	2,998,728
Revenue - Usage	126,402	133,826	147,103	160,743	168,931
Revenue - Other	46,603	46,743	46,883	47,024	47,165
Total Revenue	2,590,693	2,732,813	2,887,650	3,050,291	3,214,824
Net Revenue	47,144	44,354	46,652	48,714	44,197
Total Position	47,144	91,499	138,150	186,864	231,062

Future years for sewer expenses and revenue include a 2% projected increase to cover system expansion, including reclaimed water.