

SAN JUAN WATER DISTRICT

Retail Financial Plan and Water Rate Update Study

January 26, 2017



THE REED GROUP, INC.

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SECTION I. SUMMARY

INTRODUCTION AND BACKGROUND

In early 2016, the San Juan Water District retained The Reed Group, Inc. to update the District's ten-year wholesale and retail financial plans and develop recommendations for updating water rates for a five-year period from 2017 through 2021. The purpose of the study was to ensure that the District's wholesale and retail water systems continue to meet financial obligations for ongoing operation and maintenance, debt service, and capital improvements while maintaining prudent reserves. This report contains analyses and recommendations related to the District's retail operations. A separate report contains analyses and recommendations related to the District's wholesale operations.

One focus of this retail financial plan is to help ensure adequate funding of the District's retail capital improvement program. The retail capital improvement program includes about \$46.7 million (in future dollars) in capital improvements over the ten-year planning period extending through FY 25-26. The financial plan presented herein indicates that undertaking this capital program, as planned and scheduled, will require the issuance of an estimated \$12.75 million in new long-term debt in 2019 in order to fund two needed transmission pipelines and replace the cover of Kokila reservoir. Based on financial plan analyses, all other planned retail capital improvement projects can be funded on a pay-as-you-go basis.

A second focus of this retail financial plan is to address the outstanding unfunded accrued liability (UAL) associated with the District's retirement programs. Based on the most recent actuarial analysis, the retail water system has an outstanding UAL of about \$3.177 million as of June 30, 2016. The District is paying interest on this accrued liability of 7.5 percent while its financial reserves are earning about 0.5 percent. The financial plan includes a strategy for paying off 75 percent of this outstanding liability using available financial reserves; this is a more economically efficient use of the District's financial resources.

In other respects, the retail financial plan provides a strategy and recommendations for annually adjusting water rates in order to meet financial and service obligations while maintaining prudent reserves. While the financial plan covers a ten-year planning period, water rate recommendations cover five years. It is recommended that the District update the financial plan analysis at least once every three to five years, as warranted. In particular, the District should plan on updating the wholesale and retail financial plans prior to issuing new long-term debt.

Retail water rate calculations were updated based on the revenue needs developed through the financial planning process. The rate structure and cost allocation methodology used in the rate calculations are generally the same as in past studies. Proposed rates continue to include a uniform water usage rate for all water usage. One change, however, is a shift in the overall rate structure to place greater emphasis on daily fixed base charges with a corresponding reduction in the reliance on water usage revenue. This change is intended to help improve revenue stability.

During the course of this study, preliminary results and recommendations were presented to the District's Board of Directors in a workshop on June 29 and a board meeting on November 9. Following those meetings changes were made with regards to the UAL issue, as well as other refinements.

This report summarizes the analyses and recommendations of the retail financial plan and water rate study. It includes a financial strategy that relies upon ongoing revenues as well as available reserves to meet all financial obligations, including the planned capital improvement program.

FINANCIAL PLAN AND REVENUE NEEDS

The financial plan model covers the ten-year planning period from FY 16-17 through FY 25-26. The plan reflects estimated operation and maintenance costs, debt service obligations, and capital improvement needs of the retail water system. The financial plan is a cash-flow model, and differs from standard accounting income statements and balance sheets. The financial plan also separately reflects ongoing operation and maintenance, debt service payment obligations, and the capital improvement program, with separate revenue sources reflected for each. Financial reserves are also reflected in the financial planning model.

During the past couple of years, the District's operations have been impacted by the sustained drought that has affected all of California. Reduced water sales to retail customers has resulted in reduced revenues without a corresponding reduction in costs. As a result, the District cut costs, where possible, deferred capital improvement projects, relied more heavily on available financial reserves, and implemented a temporary 10 percent water shortage surcharge on water usage. The 10 percent water shortage surcharge was insufficient to address financial needs¹. As a result, property tax revenue and capital program reserves normally dedicated to capital improvement projects have been needed to help cover operating, maintenance, and debt service costs. At the present time, the financial condition of the retail water system is more financially stressed than it has been in a number of years.

Details of the financial plan assumptions, findings, and recommendations are presented in Section II of this report. However, the analysis indicates that the District needs to increase retail water rates each year for the next five years. The District's Board of Directors has approved the FY 16-17 budget without a rate increase, however that budget requires a dramatic use of reserves and would leave the District in greater financial stress. Primary findings and recommendations stemming from the retail financial plan analysis include:

- Annual water sales have declined in recent years likely due to the slowdown in the economy, the recent drought, and water conservation efforts by the District's customers. The financial plan assumes there will be a modest rebound in water demand beginning in FY 16-17 that then continues and extends over several years.

¹ Based on the severity of the drought, a 30 percent water shortage surcharge was authorized, but the District's Board of Director opted to only implement a 10 percent surcharge.

- Based on the most recent actuarial estimates, the retail water system has an outstanding unfunded accrued liability under its Public Employee Retirement System (PERS) retirement programs of about \$3.177 million. It is recommended that the District utilize available financial reserves to pay off 75 percent of this liability in FY 16-17, thereby significantly reducing the 7.5 percent annual interest cost on the UAL.
- The District should anticipate issuing about \$12.75 million in new long-term debt for the retail water system in 2019 in order to finance two needed transmission pipelines and replace the cover of Kokila Reservoir². It is anticipated that all other retail capital improvement projects can be funded on a pay-as-you-go basis thereby avoiding additional interest expenses.
- The District's financial reserve policies have served and continue to serve the District well. However, changes in certain reserves and reserve policies are recommended in order to provide greater economic efficiency and cost savings. A summary of reserve policy recommendations include:
 - Maintain the 20 percent operating reserve for working capital and emergency purposes
 - Eliminate the compensated absence reserve as it is unnecessary
 - Use funds from the PERS stabilization reserve, the Kokila reservoir reserve, and a portion of the general CIP reserve to payoff \$2.387 million (75 percent) of the retail PERS UAL balance
 - Maintain required and restricted debt service reserves
 - Continue to utilize the general CIP reserve to help fund planned capital improvement projects
 - Within the planning period, begin to fund an emergency CIP reserve to help provide flexibility in funding needed capital projects.
- It is recommended that the overall level of retail water rates be increased on an annual basis, as follows:

○ May 2017	8%
○ January 2018	9%
○ January 2019	9%
○ January 2020	9%
○ January 2021	6%

As with past practice, the District should monitor financial conditions and needs on an ongoing (annual) basis and update the financial plan model and future estimates at least every three to five years, or when conditions or plans changes sufficiently to warrant an update. Actual future conditions, such as water supply conditions, water deliveries, water sales revenue, operating and maintenance expenses, CIP project costs/timing, project financing, etc., may differ from the financial plan assumptions reflected herein. Material

² An estimated additional \$29.0 million may be needed to fund planned wholesale capital improvement projects. A single issue for both wholesale and retail projects is anticipated.

differences affecting the overall financial condition of the retail water system may warrant closer review and/or an earlier update. The need and magnitude of annual retail water rate increases may also be affected by differences between assumed and actual conditions, including the potential refunding of existing debt and the issuance of new debt.

PROPOSED RETAIL WATER RATES

Exhibit I-1 presents proposed retail water rates to be implemented beginning in May 2017, and continuing each January through 2021. The proposal includes holding the uniform water usage rate at the current \$0.92 per CCF, and meets all revenue needs through increases in the daily fixed base charges. The rate schedules for 2017 through 2021 reflect annual overall water rate increases of 8 percent, 9 percent, 9 percent, 9 percent, and 6 percent, respectively. At present, about 41 percent of retail water rate revenue is derived from water usage charge. By FY 20-21, water usage charge revenue will decline to about 37 percent of the total, even with a rebound in water demand.

The bottom portion of Exhibit I-1 summarizes the amount of a typical single family residential water bill under each of the proposed rate schedules. Residential customers with a 1" water meter will see water bill increases of \$0.18 per day with the rates proposed for May 2017, regardless of water usage. With the proposed 5-year rate plan, after five years of annual rate adjustments water bills for residential customers will have increased by a total of \$1.05 per day.

**Exhibit I-1
San Juan Water District
Current and Proposed Retail Water Rates**

	Current	Jan. 2017	Jan. 2018	Jan. 2019	Jan. 2020	Jan. 2021
Overall Water Rate Increase -->		8%	9%	9%	9%	6%
Daily Base Charges						
Up to 1" meter	\$ 1.24	\$ 1.42	\$ 1.63	\$ 1.86	\$ 2.11	\$ 2.29
1 1/2" meter	\$ 3.31	\$ 3.68	\$ 4.22	\$ 4.81	\$ 5.46	\$ 5.93
2" meter	\$ 5.28	\$ 5.85	\$ 6.72	\$ 7.66	\$ 8.69	\$ 9.44
3" meter	\$ 10.50	\$ 10.90	\$ 12.51	\$ 14.27	\$ 16.19	\$ 17.58
4" meter	\$ 16.36	\$ 18.12	\$ 20.80	\$ 23.72	\$ 26.91	\$ 29.23
6" meter	\$ 32.73	\$ 36.18	\$ 41.54	\$ 47.38	\$ 53.74	\$ 58.36
8" meter	\$ 58.83	\$ 57.85	\$ 66.42	\$ 75.76	\$ 85.94	\$ 93.34
Fire District	\$ 6.36	\$ 7.28	\$ 8.36	\$ 9.54	\$ 10.82	\$ 11.75
Water Usage Charge (\$/CCF)						
All water usage	\$ 0.92	\$ 0.92	\$ 0.92	\$ 0.92	\$ 0.92	\$ 0.92
Daily Private Fire Line Charges						
4" meter	\$ 0.53	\$ 0.57	\$ 0.62	\$ 0.68	\$ 0.74	\$ 0.78
6" meter	\$ 0.78	\$ 0.84	\$ 0.92	\$ 1.00	\$ 1.09	\$ 1.16
8" meter	\$ 1.05	\$ 1.14	\$ 1.24	\$ 1.35	\$ 1.47	\$ 1.56
10" meter	\$ 1.26	\$ 1.36	\$ 1.48	\$ 1.61	\$ 1.75	\$ 1.86
Hinkle PS Pumping Surcharge (\$/AF)						
Wholesale deliveries to City of Folsom	\$ 68.87	\$ 74.38	\$ 81.07	\$ 88.37	\$ 96.32	\$ 102.10
Typical Monthly Residential Bill (@ 30 CCF/mo.)	\$ 64.80	\$ 70.20	\$ 76.50	\$ 83.40	\$ 90.90	\$ 96.30
		\$ 5.40	\$ 6.30	\$ 6.90	\$ 7.50	\$ 5.40
		8.3%	9.0%	9.0%	9.0%	5.9%

SECTION II. RETAIL FINANCIAL PLAN

This section of the report describes the financial plan for the District's retail water system. The ten-year financial plan is used to determine annual retail water rate revenue requirements. The annual rate revenue requirement is the amount of revenue needed from water rates to cover planned operating, maintenance, debt service, and capital program costs with consideration of other revenues and financial reserves.

FUND STRUCTURE AND CASH FLOWS

The financial plan is an annual cash flow model. As a cash flow model, it differs from standard accounting income statements, and balance sheets. The financial plan models sources and uses of funds into, out of, and between the various funds and reserves of the water utility.

The financial plan model is based on a fund, reserve, and account structure that separately addresses operating, debt service, and capital program needs, with three funds for these three purposes. This presentation helps provide transparency as to the sources and uses of funds for each type of obligation. The District recently replaced and upgraded its financial accounting system. This financial plan was developed based on the new account structure reflected in the District's financial accounting software.

An understanding of the fund/reserve structure is helpful in understanding the financial plan worksheets that model annual cash flows through the retail water system from one year to the next. The fund/reserve structure is comprised of:

- ***Retail Operating Fund*** – The retail operating fund is the primary fund within the retail water system. Most retail revenues, including water rate revenues, flow into the operating fund and all operating and maintenance costs, including debt service payments, are paid out of this fund. Funds are also transferred from the operating fund to the retail capital fund to help pay for capital projects intended to rehabilitate and upgrade facilities. Five separate reserves are reflected in the operating fund.
 - *Operating Reserve* – The District maintains an operating reserve within the operating fund equal to 20 percent of annual retail operating and maintenance costs. The purpose of the operating reserve is to provide working capital and funds for unplanned operating and maintenance expenditures. At the end of FY 15-16, the retail operating reserve had an estimated \$1,997,000, based on the budgeted operating and maintenance costs budgeted for the upcoming fiscal year.
 - *Compensated Absence Reserve* – The District has maintained a separated reserve to fund its liability for compensated absences. At the end of FY 15-16 this reserve had an estimated balance of about \$348,000. The need to maintain the reserve has been under review by District staff and Board. A policy recommendation to eliminate this reserve is supported by staff and incorporated in the financial plan analyses.

- *PERS Stabilization Reserve* - A separate Public Employee Retirement System (PERS) stabilization reserve is shown as a part of the operating fund, and reflects the balance of funds set aside to meet PERS UAL obligations. At the end of FY 15-16, the PERS stabilization reserve had an estimated balance of about \$411,000. At present, the retail water system is responsible for about \$3.177 million of the UAL obligation. Because this obligation is carried with a 7.5 percent interest rate, and the District only earns about 0.5 percent on its total investment pool, it would be advantageous to use this reserve to reduce the UAL obligation. This matter is discussed in greater detail later in this section.
- *Customer Deposits* - Money on deposit with the District as security is maintained in a separate reserve account. At the end of FY 15-16 the District held about \$47,000 in customer deposits. This reserve is not available for general purposes and does not affect the financial plan analysis.
- *EDA Loan Reserve* - Consistent with the requirements of a loan from the Economic Development Agency, the District has maintained a loan reserve equal to one annual loan payment. The EDA loan will be fully repaid in FY 16-17, and the loan reserve can be used to make the final payment. This reserve will no longer exist following payoff of the loan.
- *Uncommitted Fund Balance* - The balance in the operating fund in excess of the target amount for the operating reserves, as well as the other operating fund reserves, is shown in the financial plan as uncommitted fund balance. After all other obligations are met the uncommitted fund balance is available to offset rate increases, and the financial plan model generally seeks to reduce any uncommitted fund balance over time. **Negative amounts for the uncommitted fund balance indicate the degree to which the minimum operating reserve is not met.** To prevent a significant negative uncommitted balance at the end of FY 15-16 the financial plan model includes a transfer of funds from the capital fund to the operating fund of \$1,850,000.
- *Retail Capital Fund* - The retail capital fund is used to account for capital project expenditures, as well as related funding sources. The District applies property tax revenues (the 1 percent increment taxes) to the capital program. In addition, it is recommended that a portion of revenues from the retail water rates be transferred annually to the capital fund, in support of the long-term capital program. While current revenues are insufficient for this transfer, this should be an objective to help minimize or reduce the amount of debt that may be required in the future. Capital projects funded from the retail capital fund are intended to rehabilitate, upgrade, and expand the retail water system to meet current and future needs of the utility. The financial plan model generally seeks to maintain a positive balance in the capital fund while also covering the costs of planned capital improvement projects. The capital fund is comprised of five separate reserves.

- *General CIP Reserve* – This reserve reflects the capital fund balance that is generally available for retail capital improvement purposes. At the end of FY 15-16, this reserve had an estimated balance of about \$6.81 million.
- *Vehicle/Equipment Reserve* – This reserve is intended to provide funds for the replacement of vehicles and major equipment. At the end of FY 15-16 the reserve had an estimated balance of about \$315,000. District staff and the Board of Directors are currently reviewing the need to maintain this as a separate reserve, and it may be rolled into the general CIP reserve.
- *Kokila Reservoir Reserve* – The District maintains a sinking fund for the eventual replacement and upgrade of Kokila Reservoir. The sinking fund has a FY 15-16 year-end balance of about \$393,000. The District adds \$10,000 annually to this reserve, plus accrued interest. The District plans to replace the cover of Kokila reservoir in FY 20-21 for an estimated cost of about \$9.5 million (in future dollars). As presently funded, the Kokila reservoir reserve would only cover a small fraction of the total cost of this major project.
- *Emergency CIP Reserve* – The emergency CIP reserve currently has a zero balance. The reserve is intended to be available for emergency capital improvement projects at the Board’s discretion. The financial plan includes gradual funding of the emergency CIP reserve during the later half of the planning period. However, it could also be consolidated into the general CIP reserve.
- *Project Fund* – The financial plan includes the issuance of new long-term debt in 2019 to finance the Kokila reservoir cover project, as well as two transmission pipelines. The financial plan model includes a project fund as part of the capital fund as a means of accounting for the use of debt proceeds.
- ***Debt Service Fund*** – The financial plan model also includes a debt service fund as the mechanism for tracking debt service obligations and payments. Outstanding debt was issued in 2009 and in 2012. Restricted debt service reserves are required under the terms of the 2009 COPs, and it is anticipated that similar reserve may be required as part of the anticipated 2019 debt issue.
 - *2009 COP Debt Service Reserves* – The 2009 certificates of participation (COPs) requires the District to maintain certain debt service reserves. These reserves are shown as part of the overall debt service fund balance. Retail 2009 COP debt service reserves total about \$1.033 million as of the end of FY 15-16. Money in this reserve is restricted and can only be used for specific purposes related to the 2009 COPs.
 - *2019 Debt Service Reserves* – Estimated costs for the 2019 debt issue include providing money from the issuance to fund a debt service reserve. Such a reserve has been included in the financial plan model.

FINANCIAL PLAN ASSUMPTIONS

The financial plan was created to reflect the FY 15-16 estimated actual revenues, expenses, and year-end financial position, as well as the FY 16-17 adopted budget, ten-year capital improvement program, and existing debt service schedules. The financial plan also reflects estimates of future operating and maintenance costs, revenues based on a number of assumptions, potential future debt service obligations, and information provided by the District.

The process used to develop the financial plan involved estimating future revenues and expenditures based on inflation and interest rates, water supply costs and demand projections, anticipated capital improvement needs, and other information. The District does not have formal estimates of future operating and maintenance costs, and capital improvement needs are defined at a planning level. The financial plan is based on the best available information and assumptions are believed to be reasonable; however, no assurance can be provided as to the accuracy and completeness of the estimates.

Primary assumptions reflected in financial plan analyses are summarized below. Many of the assumptions used in both retail and wholesale financial plans are summarized in **Exhibit II-1**.

- *Interest Rates* – The District invests most of its available funds in the Local Agency Investment Fund (LAIF), which has been earning less than 0.5 percent for the past several years. A small portion of the District’s available assets is invested in other securities that have recently yielded about 1.5 percent. In aggregate, in FY 14-15 the District’s invested funds returned about 0.5 percent. The financial plan model incorporates an assumed 0.5 percent rate of return on all funds. This interest rate is assumed to gradually increase to 1.0 percent by the end of the ten-year planning period. Interest calculations are based on beginning-of-year balances and interest accrues to each of the funds. The District also pays interest on outstanding long-term debt obligations. The interest payments on outstanding debt are those contained in existing contracts and repayment schedules.
- *Inflation Rates* – Annual inflation rates for general operating and maintenance costs is 3.0 percent per year throughout the planning period. Inflation for chemical and energy costs is assumed 5.0 percent per year. Inflation on retiree medical costs and other post-employment benefit (OPEB) obligations is assumed at 6.0 percent per year. Finally, construction costs are assumed to increase 3.0 percent annually.
- *Retail Customer Base and Water Demand* – Modest growth in the District’s retail customer base is incorporated for financial planning purposes based on information contained in the 2015 *Urban Water Management Plan* (UWMP). Annual growth of the District’s retail customer base is slightly more than 1 percent per year during the planning period. Retail water demand is estimated to rebound toward historic levels over the next several years, based on the assumed return to normal water supplies in 2016 and demand rebound over several years reaching normal demand by 2020. Retail water demands in 2020 and 2025 are based on estimates included in the District’s 2015 UWMP.

Exhibit II-1
San Juan Water District
Financial Plan Assumptions

	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26
Financial Assumptions											
Interest Earnings		0.5%	0.5%	0.5%	0.5%	0.75%	0.75%	0.75%	1.0%	1.0%	1.0%
General Inflation		3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Energy/Chem. Inflation		5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Retiree Med. & OPEB Infl.		6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
Construction Inflation		3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Wholesale Operating Fund Reserve		20% of annual O&M expenses									
Retail Operating Fund Reserve		20% of annual O&M expenses									
Wholesale Water Service											
No. Retail Connections	50,863	51,253	51,643	52,034	52,424	52,814	53,156	53,498	53,840	54,182	54,524
% Change		0.8%	0.8%	0.8%	0.7%	0.7%	0.6%	0.6%	0.6%	0.6%	0.6%
Total Ann. Deliv. (AF)	30,637	35,858	41,110	43,949	46,765	48,592	48,938	49,285	49,630	49,977	50,184
% Change		17.0%	14.6%	6.9%	6.4%	3.9%	0.7%	0.7%	0.7%	0.7%	0.4%
Folsom Pumping Charge	\$ 68.87	\$ 71.63	\$ 77.73	\$ 84.72	\$ 92.35	\$ 97.89	\$ 101.81	\$ 105.88	\$ 110.12	\$ 114.52	\$ 119.10
Folsom Deliveries (AF)	963	1,060	1,272	1,305	1,338	1,370	1,370	1,370	1,370	1,370	1,370
Retail Customer Accounts and Water Usage											
No. of Customer Accounts											
Residential	10,105	10,224	10,343	10,462	10,581	10,700	10,823	10,946	11,069	11,192	11,315
Non-Residential	477	483	489	495	501	507	513	519	525	531	537
Total Accounts	10,582	10,707	10,832	10,957	11,082	11,207	11,335	11,464	11,592	11,721	11,849
% Change		1.2%	1.2%	1.2%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%
No. of Equiv. Mtrs.	8,586	8,711	8,836	8,961	9,086	9,211	9,339	9,468	9,596	9,724	9,853
Water Sales (CCF)	3,803,000	4,509,000	5,171,000	5,511,000	5,850,000	6,104,000	6,226,000	6,351,000	6,477,000	6,603,000	6,680,000
Water Sales (AF)	8,730	10,351	11,871	12,652	13,430	14,013	14,293	14,580	14,869	15,158	15,335
Water Demand Factor		19%	15%	7%	6%	4%	2%	2%	2%	2%	1%
Water Purchases (AF)	10,213	12,177	13,846	14,627	15,395	15,928	16,112	16,295	16,479	16,663	16,773
Unacct. Loss Rate	-15%	-15%	-14%	-14%	-13%	-12%	-11%	-11%	-10%	-9%	-9%
Connection Fees											
Wholesale Conn. Fee	\$ 391	\$ 403	\$ 415	\$ 427	\$ 440	\$ 453	\$ 467	\$ 481	\$ 495	\$ 510	\$ 525
Retail Conn. Fee	\$ 14,910	\$ 15,357	\$ 15,818	\$ 16,293	\$ 16,782	\$ 17,285	\$ 17,804	\$ 18,338	\$ 18,888	\$ 19,455	\$ 20,039
2019 Debt Issue											
Par Amount	Total	Wholesale	Retail								
41,750,000	29,000,000	12,750,000									
Interest Rate	4.0%										
Term (Years)	30										
Funded DS Reserve	Yes										
Issuance Costs	2.0%										
Net Proceeds	38,501,000	26,743,000	11,758,000								
Est. Annual Payment	2,414,000	1,677,000	737,000								

- *Cost of Water Supplies* – The cost of water supplies is reflected as the amount the retail water system pays the wholesale water system for water deliveries. This is comprised of quarterly fixed service charges, debt service charges, and capital facilities charges, as well as a water usage charge for each acre-foot of delivered water. The retail financial plan uses information from the *2017 Wholesale Financial Plan and Water Rate Update Study* as the basis for water supply costs to the retail water system.
- *Other Operation and Maintenance Costs* – Beyond water purchases costs, the financial plan model is based on current operating and maintenance costs as reflected in the FY 16-17 operating budget. Future operating and maintenance costs are estimated based on assumed inflation rates, as previously described. Energy costs for pumping are also adjusted based on changes in water demands.
- *Staff Additions* – The retail financial plan incorporates the following new staff positions, based on needs identified by District staff.
 - Human Resources Specialist – This position is added mid-year in FY 16-17 at a total annual cost of \$125,000. The position has been split equally between the wholesale and retail water systems, and has been included in the District’s FY 16-17 budget.
 - Administrative Assistant - This position is added in FY 17-18 at a total annual cost of \$80,000. The position has been split equally between the wholesale and retail water systems.
 - Customer Services Representative – This position is added in FY 17-18 at a total annual cost of \$90,000, and is included entirely as a cost to the retail water system.
- *Large Non-Capital Projects* – Large non-capital projects, such as studies, assessments, and large maintenance items had previously been included in the District’s capital improvement program. Beginning in FY 16-17 these items are being included in the operating budget, and treated as operating and maintenance expenses (rather than capitalized and expensed over time). The retail financial plan includes the budgeted FY 16-17 large non-capital items totaling about \$157,000. For future years, this amount is escalated at the pace of inflation to account for most ongoing non-capital project needs. Four additional items have also been explicitly added to the retail financial plan. They include:
 - New GIS implementation with an estimated cost of \$123,000 in FY 17-18
 - A retail master plan with an estimated cost of \$338,000 in FY 18-19
 - AMR feasibility study with an estimated cost of \$68,000 in FY 18-19
 - Bacon 33” and Sierra 30” pipeline condition assessments with estimated costs of \$52,000 and \$160,500 in FY 17-18 and FY 18-19, respectively.

It is believed that these estimates and allowances conservatively reflect future non-capital project needs.

- *Debt Obligations* – The District’s retail debt obligations are currently limited to repayment of 2009 COPs and 2012 refunding revenue bonds. The retail portion

of annual debt service on the 2009 COPs totals about \$757,000, and is about \$257,000 on the 2012 refunding revenue bonds.

The financial plan model includes estimates related to the issuance of additional long-term debt in 2019 in order to fund major capital improvement projects. The 2019 new debt issue is estimated with a total par amount of \$41.75 million (\$29.0 million for wholesale projects and \$12.75 million for retail projects). Estimated terms include a 4.0 percent interest rate, 30-year repayment term, issuance costs of 2.0 percent of the par amount, funding of a debt service reserve, and approximately equal annual principal and interest payments throughout the repayment period. Actual terms would be determined at the time of debt issuance and will reflect market conditions at that time. The actual allocation of debt service obligations to each wholesale customer will also be determined at the time of issuance.

Exhibit II-2 provides details on current actual and estimated future debt service obligations, including the distribution of debt service costs to each wholesale customer. The District is currently meeting debt service coverage obligations, and financial plan analyses consider this requirement in developing estimates for future annual water rate adjustments.

The District has considered refunding the 2009 COPs in order to take advantage of current low interest rates. However, because of pre-payment penalties, financial advisors have indicated that it will likely be more feasible to refund the COPs in 2018 when pre-payment penalties no longer apply. Financial plan analyses do not reflect any potential cost savings associated with refunding of the 2009 COPs.

- *Capital Improvement Program* – The District’s retail 10-year capital improvement program includes about 75 projects totaling about \$46.7 million in future dollars, averaging about \$4.7 million annually. **Exhibit II-3** lists the planned projects, as well as estimated cost and timing. Costs in Exhibit II-3 have been escalated each year based on a 3.0 percent annual construction inflation factor.

The capital improvement program has a concentration of project expenditures in FY 19-20 and FY 20-21. This concentration primarily includes two major transmission pipeline projects and a new cover for Kokila reservoir, which together total about \$12.1 million. Because of their size, and the District’s current financial condition, it is virtually impossible to undertake these projects without issuing new long-term debt.

Financial plan analyses suggest that with the exception of the two transmission pipelines and the Kokila reservoir cover project, the entire capital improvement program can be financed on a pay-as-you-go basis using capital program revenues, transfers from the operating fund, and available reserves.

Annual transfers from the operating fund to the capital fund range from zero dollars initially (due to inadequacy of water rate revenues) to \$2.0 million toward the end of the planning period. By establishing rates sufficient to support a portion of the capital program the District may be able to avoid the need for additional long-term debt beyond 2019. This has been an objective of the financial plan, and the proposed rates help to achieve this objective.

Exhibit II-2
San Juan Water District
Summary of Wholesale and Retail Debt Service Obligations

	Alloc. %	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26
2009 Certificates of Participation												
Principal		430,000	450,000	475,000	500,000	525,000	550,000	580,000	615,000	650,000	690,000	725,000
Interest		1,672,400	1,653,050	1,630,550	1,606,800	1,580,550	1,551,675	1,521,425	1,488,075	1,452,713	1,415,338	1,379,113
Total Payment		2,102,400	2,103,050	2,105,550	2,106,800	2,105,550	2,101,675	2,101,425	2,103,075	2,102,713	2,105,338	2,104,113
Outstanding Balance		28,825,000	28,375,000	27,900,000	27,400,000	26,875,000	26,325,000	25,745,000	25,130,000	24,480,000	23,790,000	23,065,000
Retail Share	36%	756,900	757,100	758,000	758,400	758,000	756,600	756,500	757,100	757,000	757,900	757,500
Wholesale Share	64%	1,345,500	1,346,000	1,347,600	1,348,400	1,347,600	1,345,100	1,344,900	1,346,000	1,345,700	1,347,400	1,346,600
SJWD-RSA	31.59%	425,000	425,200	425,700	426,000	425,700	424,900	424,900	425,200	425,100	425,600	425,400
Citrus Heights WD	33.63%	452,500	452,700	453,200	453,500	453,200	452,400	452,300	452,700	452,600	453,100	452,900
Fair Oaks WD	20.93%	281,600	281,700	282,100	282,200	282,100	281,500	281,500	281,700	281,700	282,000	281,800
Orange Vale WC	10.57%	142,200	142,300	142,400	142,500	142,400	142,200	142,200	142,300	142,200	142,400	142,300
City of Folsom	3.28%	44,100	44,100	44,200	44,200	44,200	44,100	44,100	44,100	44,100	44,200	44,200
Total	100.00%	1,345,400	1,346,000	1,347,600	1,348,400	1,347,600	1,345,100	1,345,000	1,346,000	1,345,700	1,347,300	1,346,600
2012 Refunding Revenue Bonds												
Principal		440,000	450,000	465,000	485,000	500,000	530,000	555,000	580,000	610,000	630,000	650,000
Interest		539,200	526,000	508,000	487,075	472,525	447,525	421,025	393,275	364,275	345,975	327,075
Total Payment		979,200	976,000	973,000	972,075	972,525	977,525	976,025	973,275	974,275	975,975	977,075
Outstanding Balance		11,285,000	10,835,000	10,370,000	9,885,000	9,385,000	8,855,000	8,300,000	7,720,000	7,110,000	6,480,000	5,830,000
Retail Share	26.39%	258,400	257,600	256,800	256,600	256,700	258,000	257,600	256,900	257,100	257,600	257,900
Folsom Share	8.80%	86,100	85,900	85,600	85,500	85,600	86,000	85,900	85,600	85,700	85,900	86,000
Wholesale Share	64.81%	634,600	632,500	630,600	630,000	630,300	633,500	632,600	630,800	631,400	632,500	633,200
SJWD-RSA	29.82%	189,200	188,600	188,000	187,900	188,000	188,900	188,600	188,100	188,300	188,600	188,800
Citrus Heights WD	34.81%	220,900	220,200	219,500	219,300	219,400	220,500	219,400	219,600	219,800	220,200	220,400
Fair Oaks WD	25.58%	162,300	161,800	161,300	161,200	161,200	162,000	161,800	161,400	161,500	161,800	162,000
Orange Vale WC	7.85%	49,800	49,700	49,500	49,500	49,500	49,700	49,700	49,500	49,600	49,700	49,700
City of Folsom	1.94%	12,300	12,300	12,200	12,200	12,200	12,300	12,300	12,200	12,200	12,300	12,300
Total	100.00%	634,500	632,600	630,500	630,100	630,300	633,400	632,600	630,800	631,400	632,600	633,200
2019 New Debt Issue - Wholesale												
Principal			515,000				535,000	555,000	580,000	600,000	625,000	650,000
Interest			1,160,000				1,139,000	1,118,000	1,096,000	1,073,000	1,049,000	1,024,000
Total Payment			1,675,000				1,674,000	1,673,000	1,676,000	1,673,000	1,674,000	1,674,000
Outstanding Balance			29,000,000				27,950,000	27,395,000	26,815,000	26,215,000	25,590,000	24,940,000
SJWD-RSA	32.5%		544,375				544,050	543,725	544,700	543,725	544,050	544,050
Citrus Heights WD	30.3%		507,525				507,222	506,919	507,828	506,919	507,222	507,222
Fair Oaks WD	23.0%		385,250				385,020	384,790	385,480	384,790	385,020	385,020
Orange Vale WC	10.9%		182,575				182,466	182,357	182,684	182,357	182,466	182,466
City of Folsom	3.3%		55,275				55,242	55,209	55,308	55,209	55,242	55,242
Total	100.0%		1,675,000				1,674,000	1,673,000	1,676,000	1,673,000	1,674,000	1,674,000
2019 New Debt Issue - Retail												
Principal			225,000				235,000	245,000	255,000	265,000	275,000	285,000
Interest			510,000				501,000	492,000	482,000	472,000	461,000	450,000
Total Payment			735,000				736,000	737,000	737,000	737,000	736,000	735,000
Outstanding Balance			12,525,000				12,290,000	12,045,000	11,790,000	11,525,000	11,250,000	10,965,000

Exhibit II-3
SAN JUAN WATER DISTRICT
TEN-YEAR RETAIL CAPITAL IMPROVEMENT PROGRAM - SUMMARY TABLE

Line	Construction Inflation Factor	Project Name	Cost Est. 1	Total Cost 1a	1.03	1.06	1.09	1.13	1.16	1.19	1.23	1.27	1.30	1.34	1.38
					FY15-16	FY16-17	FY17-18	FY18-19	FY19-20	FY20-21	FY21-22	FY22-23	FY23-24	FY24-25	FY25-26
Engineering Department Equipment															
1		Replace Survey Equipment	\$ 16,000	\$ 38,000			\$ 17,000						\$ 21,000		
Vehicle Replacements and Reserve															
2		Vehicles (roll-up from detail below)	\$ 1,000,900	\$ 1,717,000	\$ 111,000	\$ 349,000	\$ 78,000	\$ 212,000	\$ 163,000	\$ 78,000	\$ 123,000	\$ 127,000	\$ 130,000	\$ 149,000	\$ 197,000
		Field Operations - Vehicle #18 Replacement	\$ 35,000	\$ 41,000					\$ 41,000						
		Conservation - Vehicle #1 Replacement	\$ 28,000	\$ 32,000					\$ 32,000						
		Pool - Retail Share of Vehicle #30 (Jeep) Replacement	\$ 14,000	\$ 34,000		\$ 15,000									
		Field Operations - Vehicle #9 Replacement	\$ 45,000	\$ 48,000		\$ 48,000									
		Field Operations - Vehicle #21 Replacement	\$ 60,000	\$ 64,000		\$ 64,000									
		Field Operations - Ditch Witch (Victor) Replacement	\$ 92,500	\$ 95,000	\$ 95,000										
		Conservation - Vehicle #27 Replacement	\$ 29,000	\$ 71,000		\$ 31,000									\$ 40,000
		Field Operations - Vehicle E86 (backhoe) Replacement	\$ 110,000	\$ 117,000		\$ 117,000									
		Field Operations - Transport (Trailer) Replacement	\$ 85,000	\$ 96,000		\$ 117,000		\$ 96,000							
		Customer Service - Vehicle #2 (GEM) Replacement	\$ 11,400	\$ 27,000	\$ 12,000									\$ 15,000	
		Engineering - Vehicle #22 Replacement	\$ 31,500	\$ 34,000		\$ 34,000									
		Engineering - Vehicle #23 Replacement	\$ 31,500	\$ 35,000			\$ 71,000								
		Field Operations - Vehicle #5 Replacement	\$ 65,000	\$ 73,000			\$ 7,000								
		Field Operations - Vehicle #125 (Mud Trailer) Replacement	\$ 6,500	\$ 7,000											
		Field Operations - Vehicle #E30 (Mud Trailer) Replacement	\$ 7,500	\$ 8,000		\$ 8,000									
		Field Operations - Vehicle #24 Replacement	\$ 50,000	\$ 58,000					\$ 58,000						
		Field Operations - Vehicle #28 Replacement	\$ 50,000	\$ 60,000						\$ 60,000					
		Field Operations - Vehicle #E59 (Compressor) Replacement	\$ 30,000	\$ 32,000		\$ 32,000									
		Customer Service - Vehicle #13 Replacement	\$ 28,000	\$ 32,000					\$ 32,000						
		Safety Trailer (Night Work, SVPPP Response)	\$ 15,000	\$ 18,000						\$ 18,000					
		Field Operations - Vehicle #E70 (Mud Trailer) Replacement	\$ 7,500	\$ 8,000						\$ 8,000					
		Vehicle #10 - Retail Share General Mgr. Assigned Car	\$ 3,500	\$ 4,000	\$ 4,000										
		Future Vehicle Replacements	\$ 100,000	\$ 652,000							\$ 123,000	\$ 127,000	\$ 130,000	\$ 134,000	\$ 138,000
Distribution Mainline Replacements															
3		Erwin Avenue (Entire Alignment; Steel)	\$ 78,500	\$ 81,000	\$ 81,000										
4		Peerless Ave 12" - North Main Replacement	\$ 44,200	\$ 46,000	\$ 46,000										
5		Telegraph Ave Re-connect (7616-7626, Creek King)	\$ 92,300	\$ 95,000	\$ 95,000										
6		Oak Ave & Cardwell 12" Main (Santa Juanita to Cardwell)	\$ 132,700	\$ 132,700	\$ 132,700										
7		Oak Avenue 12" Main (9151-9219, Casa Robles H.S.)	\$ 328,500	\$ 328,500	\$ 5,500	\$ 323,000									
8		Douglas Blvd. (Joe Rodgers to Luth. Church; Steel)	\$ 30,600	\$ 30,600	\$ 30,600										
9		Dambacher Dr (7225-7355)	\$ 178,000	\$ 189,000	\$ 189,000										
10		Douglas Blvd. (6990 to 7767; Steel) and assoc. small mains	\$ 1,362,000	\$ 1,445,000	\$ 1,445,000										
11		Main Avenue (5700-5708 & 5640-5682)	\$ 334,900	\$ 355,000	\$ 4,000	\$ 351,000									
12		Lou Place 8" Troy Way to Crown Point Vista	\$ 111,600	\$ 122,000		\$ 122,000									
13		Telegraph Ave. (7406 to 7453; Steel)	\$ 151,000	\$ 156,000	\$ 156,000										
14		Sierra College & Douglas 12" (Eastern Crossing)	\$ 150,000	\$ 164,000	\$ 164,000					\$ 164,000					
15		Spahn Ranch Rd. Main Extension (2,980 LF 8-inch)	\$ 900,000	\$ 983,000	\$ 983,000										
16		Cavitt Stallman 12" (Oak Pines to Sierra Ponds)	\$ 520,000	\$ 585,000	\$ 585,000										
17		Cavitt Stallman 12" (Mystery Creek to Oak Pines, w/ PRS)	\$ 325,000	\$ 366,000	\$ 366,000										
18		Edward Court 8" (South of Lou Place)	\$ 90,000	\$ 104,000	\$ 104,000					\$ 104,000					
19		Peerless Ave. 8" - South Main Replacmt	\$ 252,000	\$ 292,000	\$ 292,000					\$ 292,000					
20		Excelsior 12" Main Extension	\$ 280,000	\$ 334,000	\$ 334,000					\$ 334,000					
21		Skyway Ln to Mooney Ridge 8"	\$ 106,000	\$ 127,000	\$ 127,000					\$ 127,000					
22		Oak Hill to Barton 8" (CP/Bacon Zone Intersect w/ CV)	\$ 67,000	\$ 82,000	\$ 82,000						\$ 82,000				
23		Orangeville Avenue & Bridge Crossing (Bridge section)	\$ 45,000	\$ 48,000	\$ 48,000										
24		Orangeville Avenue & Bridge Crossing (Main line)	\$ 250,000	\$ 307,000	\$ 307,000										
25		Auburn-Folsom Road (Bentley to Joe Rodgers Rd.)	\$ 250,000	\$ 317,000	\$ 317,000							\$ 317,000			
26		Bentley Place to Folsom Oaks Ct.	\$ 50,000	\$ 65,000	\$ 65,000								\$ 65,000		
27		Barton Road Intersect	\$ 310,000	\$ 319,000	\$ 319,000										
28		Future Main Replmt's (TBD w/ Master Plan Update)	\$ 3,000,000	\$ 5,154,844,000							\$ 1,845,000	\$ 1,900,000	\$ 3,914,000	\$ 4,032,000	\$ 4,153,000

Exhibit H-3 -- Continued
SAN JUAN WATER DISTRICT
TEN-YEAR RETAIL CAPITAL IMPROVEMENT PROGRAM - SUMMARY TABLE

Line	Construction Inflation Factor	Project Name	Cost Est. 1	Total Cost 1a	1.03 FY15-16	1.06 FY16-17	1.09 FY17-18	1.13 FY18-19	1.16 FY19-20	1.19 FY20-21	1.23 FY21-22	1.27 FY22-23	1.30 FY23-24	1.34 FY24-25	1.38 FY25-26
Transmission Pipelines															
29	ARR - North Phase 24" T-main		\$ 650,000	\$ 678,000	\$ 678,000										
30	Twin Rocks Road 18" (Vogal Valley to Sierra Ponds)		\$ 2,200,000	\$ 2,787,000								\$ 2,787,000			
31	Barton Rd 18" T-main (2710-LF, Eureka to Douglas)		\$ 840,000	\$ 974,000					\$ 974,000						
32	Eureka Rd. 18" T-main (3925-LF, Barton to Aub-Fols; Steel)		\$ 1,500,000	\$ 1,734,000				\$ 169,000	\$ 1,565,000						
33	Gravity Zone CTP to Gravity/Sierra Zone Intertie		\$ 500,000	\$ 580,000					\$ 580,000						
Storage Tanks															
34	4.0 MG Kokila Reservoir (Replace Hypalon w/ Steel)*		\$ 8,000,000	\$ 9,524,000					\$ 927,000	\$ 8,597,000					
35	Los Lagos Tank Recoating (Interior & Exterior)		\$ 724,000	\$ 767,500	\$ 7,500	\$ 760,000									
36	Los Lagos Tank Mixing System and Residual Test Ports		\$ 20,000	\$ 21,000	\$ 21,000										
37	Mooney Ridge Hydro-Tank Recoating (Inside & Outside)		\$ 100,000	\$ 119,000					\$ 119,000						
38	Mooney Tank Building New Roof		\$ 20,000	\$ 22,000		\$ 22,000									
Pressure Reducing Stations															
39	Oak Ave ARC North/South PRS		\$ 200,000	\$ 212,000	\$ 212,000										
40	Bacon/B2 PRS's		\$ 300,000	\$ 318,000	\$ 318,000										
41	Canyon Falls Village PRS Replacement		\$ 150,000	\$ 164,000		\$ 164,000									
42	Bacon/Sierra PRS Improvements (3 Stations Identified)		\$ 335,000	\$ 355,000		\$ 355,000									
43	LGB/UGB Control Valves (Bronson Valve)		\$ 150,000	\$ 159,000		\$ 159,000									
Pump Stations															
44	Generator Replacements (Bacon & UGB)		\$ 425,000	\$ 473,000		\$ 42,000	\$ 186,000	\$ 287,000							
45	LGB/CP Emergency Intertie (MOV)		\$ 40,000	\$ 42,000	\$ 42,000										
46	Bacon CP Cooling Improvements (HVAC)		\$ 20,000	\$ 22,000		\$ 22,000									
47	Bacon PS - new roof		\$ 20,000	\$ 22,000		\$ 22,000									
48	Bacon Painting & Repairs		\$ 3,000	\$ 3,000				\$ 3,000							
49	Bacon Manifold Piping Modifications		\$ 10,000	\$ 12,000					\$ 12,000						
50	UGB & LGB Low Flow Pumps		\$ 140,000	\$ 162,000					\$ 162,000						
51	Douglas PS Pump, Motors, HVAC		\$ 375,000	\$ 448,000						\$ 448,000					
52	ARC-S PS Building, Piping, HVAC Improvements		\$ 18,000	\$ 20,000			\$ 20,000								
53	Bacon Intrusion Alarms		\$ 30,000	\$ 32,000		\$ 32,000									
54	Lower Granite Bay PS Construction		\$ 245,000	\$ 245,000	\$ 245,000										
55	Upper Granite Bay PS Construction		\$ 1,020,000	\$ 1,020,000	\$ 1,020,000										
Miscellaneous CIP Items															
56	Water Quality Sample Stations		\$ 75,000	\$ 75,000											
57	Utility Locator (Replacement)		\$ 6,000	\$ 15,000			\$ 7,000					\$ 8,000			
58	Security Improvements (Bacon)		\$ 150,000	\$ 169,000			\$ 169,000								
59	Field & Engr Building Roof Replacement (RSA Share)		\$ 50,000	\$ 55,000		\$ 55,000									
60	Field & Engr Building HVAC Replacement		\$ 19,000	\$ 33,500		\$ 21,000							\$ 12,500		
61	Portable Generator - Trailer Mounted		\$ 5,000	\$ 5,000		\$ 5,000									
62	SCADA Radio Replacements (RSA Share)		\$ 25,000	\$ 29,000			\$ 5,000		\$ 29,000						
63	SCADA System Improvements (RSA Share)		\$ 300,000	\$ 369,000			\$ 169,000			\$ 369,000					
64	Corp. Site Paving Improvements (RSA Share)		\$ 150,000	\$ 169,000			\$ 169,000								
65	Electrical Equipment R&R		\$ 30,000	\$ 33,000		\$ 33,000									
66	Administration Building Imprvm't/Repr'm't		\$ 1,875,000	\$ 2,232,000					\$ 217,000	\$ 2,015,000					
67	Unidentified or Emergency Projects		\$ 50,000	\$ 607,000		\$ 53,000	\$ 55,000	\$ 56,000	\$ 58,000	\$ 60,000	\$ 61,000	\$ 63,000	\$ 65,000	\$ 67,000	\$ 69,000
Information Technology															
68	Retail Share of Engineering Copier		\$ 16,500	\$ 17,500		\$ 17,500									
69	Replace Engineering Plotter/Scanner		\$ 10,000	\$ 11,000		\$ 11,000									
70	New Servers		\$ 12,500	\$ 30,000			\$ 14,000						\$ 16,000		
71	New Switches		\$ 8,000	\$ 9,000					\$ 9,000						
72	Baracuda Backup Appliance		\$ 7,250	\$ 8,000		\$ 8,000									
73	New Appliances		\$ 5,000	\$ 13,000			\$ 6,000								\$ 7,000
74	WaterSmart Program		\$ 55,000	\$ 131,000											\$ 76,000
75	Tyler Billing Module		\$ 126,900	\$ 126,900		\$ 126,900									
Capital Improvement Program Totals 1			\$31,467,350	\$49,726,200	\$ 5,061,300	\$ 4,820,400	\$ 1,956,000	\$ 2,053,000	\$ 5,095,000	\$ 11,776,000	\$ 2,787,000	\$ 5,202,000	\$ 4,223,500	\$ 4,248,000	\$ 4,502,000

Notes:

- All estimated costs are shown in Feb 2014 dollars, ENR Index 9681.
- Total costs include construction inflation factors applied in year of project implementation.
- The timing and approach to replacing the Kokila Reservoir will be determine as part of the FY 15-16 condition assessment/replacement evaluation.
- Where appropriate, IT costs split between wholesale and retail.

- *New Administration Building* – An estimated cost of nearly \$4.5 million (in future dollars) for a new administration building is included in financial plan analyses, and equally split between the wholesale and retail capital improvement programs, with construction in FY 20-21. Financial plan analyses indicate that this project can be funded at that time on a pay-as-you-go basis from available capital program revenues and reserves. Prior to completion of a new building the financial plan assumes the District will add temporary trailers to provide additional space from FY 17-18 through FY 20-21.
- *PERS UAL Obligations* – Based on the most recent actuarial analysis (completed in 2015) the District has a total estimated unfunded accrued liability (UAL) associated with its retirement programs of about \$5.477 million. The wholesale water system is responsible for about \$2.3 million of this amount; \$3.177 million is the responsibility of the retail water system. Interest accrues on the UAL at a rate of 7.5 percent annually, which is significantly greater than the 0.5 percent the District earns of its investments. The current practice of holding reserves while this liability grows is economically inefficient and costly to the District. Financial plan analyses suggest it is possible for the retail water system to pay off 75 percent of its UAL obligation from existing reserves. This will result in net annual cost savings to the District. The financial plan assumes that \$2,387,000 (75 percent) of the retail portion of the current UAL will be paid off with funds from the following retail reserves:
 - PERS stabilization reserve \$411,000
 - Kokila reservoir reserve \$393,000
 - General CIP reserve \$1,583,000

While the District has been gradually accumulating the Kokila reservoir reserve to help fund major improvements to that facility in a few years, it will only provide a modest amount toward the total cost, and the District will be required to fund most of the project in new long-term debt. It is economically more efficient to use the available reserve funds to pay off the UAL than to hold it for the Kokila reservoir project. The District’s Board of Directors generally supported this use of funds during the workshop held on June 29.

FINANCIAL PLAN RESULTS

Details of the financial plan analyses are presented in **Exhibits II-4, II-5, and II-6** reflecting the retail operating fund, capital fund, and debt service fund, respectively. The financial plan is also presented graphically in **Exhibit II-7**. The colored bands in Exhibit II-7 show retail operating and maintenance costs, debt service payments, and pay-as-you-go capital program expenditures. Debt-financed capital expenditures are not reflected, although the associated debt service is. The dashed line in the exhibit show minimum target reserves, and the solid black line shows estimated total year-end reserves. The financial plan analysis seeks to keep the solid line above the dashed line throughout the planning period.

Results of the financial plan analyses are summarized below.

- The recent multi-year drought has created financial stress for the retail water system resulting in a significant decline in total financial reserves over the past two years.
- Current retail water rate revenues are insufficient to fully cover ongoing operating and maintenance costs and debt service payment obligations. As a result, a portion of capital fund revenues and reserves are being used for operating purposes. The current net operating loss and existing capital program revenues do not adequately support the capital improvement program. Because of the costs and timing of planned projects, the District will need to issue new long-term debt. It is not practical to avoid new debt unless the Kokila reservoir cover replacement project is postponed for a significant period of time.
- The pace and extent of rebound in retail water demand is uncertain and will have an impact on annual water rate revenues. The rebound trajectory has been reviewed with staff and is believed reasonable. Nevertheless it is an area of potential financial risk, which should be monitored.
- The District is meeting debt service coverage obligations, and is expected to continue to meet this requirement throughout the planning period even with new debt issued in 2019.
- In 2016, the District's financial advisors suggested that refunding of the 2009 COPs is possible at this time (with certain pre-payment penalty associated costs), but that it may be more advantageous to refund the COPs in 2018 when the pre-payment penalties no longer apply. Because future market conditions cannot be known, financial plan analyses do not reflect any cost savings associated with refunded COPs. The District should closely monitor interest rate trends and consider the refunding of the 2009 COPs at an opportune time.
- The compensated absence reserve does not need to be maintained as a separate reserve, as it is unlikely that it would ever need to be paid out in lump sum. It would be advantageous to the District to eliminate this reserve. Money currently designated to this reserve could be used to help reduce the magnitude of the needed water rate increase for 2017. District staff supports this change, and it has been incorporated in the financial plan analyses.
- Maintaining the PERS stabilization reserve, the Kokila reservoir reserve, and the full amount of the general CIP reserve while the entire \$3.177 million PERS UAL remains outstanding is economically inefficient and results in unnecessary interest costs to the District. The District should pay off 75 percent of this obligation using available reserves, as summarized previously.
- Retail water rate increases are required over the next several years in order to meet current and future financial and service obligations, as well as to position the District for issuing new long-term debt in 2019. Estimated annual increases in the overall level of retail water rates for each year (beginning in 2017) of the ten-year planning period are 8 percent, 9 percent, 9 percent, 9 percent, 6 percent, 4 percent, 4 percent, 4 percent, 4 percent, and 4 percent, respectively.

Exhibit II-4 San Juan Water District Retail Financial Plan -- Operating Fund											
	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26
	Calendar Year Retail Rate Increases -->										
	8%	8%	9%	8%	8%	6%	4%	4%	4%	4%	4%
RETAIL OPERATIONS											
Beginning Balance	2,624,300	2,859,301	2,212,701	2,394,601	2,501,201	2,830,201	3,522,501	4,026,201	4,227,301	4,112,401	4,093,501
Sources of Funds											
Daily Base Charge Revenue	4,851,000	5,603,000	6,468,000	7,431,000	8,435,000	9,403,000	10,186,000	10,878,000	11,607,000	12,373,000	13,179,000
Usage Charge Revenue	3,488,000	4,143,000	4,751,000	5,070,000	5,382,000	5,615,000	5,728,000	5,843,000	5,959,000	6,075,000	6,145,000
Fire Service Fees	26,800	30,800	33,000	36,000	39,000	41,000	43,000	45,000	47,000	49,000	51,000
Hinkle PS Surcharge	53,300	76,000	99,000	110,000	122,000	132,000	138,000	143,000	149,000	155,000	161,000
Grant Revenue (RWA)	26,500	-	-	-	-	-	-	-	-	-	-
Other Operating Revenue	103,000	50,200	52,000	54,000	56,000	58,000	60,000	62,000	64,000	66,000	68,000
CFC Storage Bldg. Reimb.	133,000	133,000	133,000	133,000	133,000	133,000	133,000	133,000	133,000	133,000	133,000
Interest Earnings	4,000	15,100	11,100	12,000	12,500	21,200	26,400	30,200	42,300	41,100	40,900
Total Sources of Funds	8,552,600	10,051,100	11,414,100	12,713,000	14,046,500	15,270,200	16,181,400	17,001,200	17,868,300	18,759,100	19,644,900
Uses of Funds											
Source of Supply	2,055,600	2,553,800	2,974,800	3,297,800	3,666,000	3,971,000	4,240,500	4,587,600	4,962,800	5,316,900	5,478,100
Capital Facilities Charge	475,900	426,600	230,600	34,600	34,600	17,300	-	-	-	-	-
Field Services	2,927,800	3,152,600	3,247,000	3,344,000	3,444,000	3,547,000	3,653,000	3,763,000	3,876,000	3,992,000	4,112,000
Energy Costs	221,000	199,800	241,000	290,000	349,000	420,000	506,000	609,000	733,000	883,000	1,063,000
Executive & Board of Directors	236,100	296,200	305,000	314,000	323,000	333,000	343,000	353,000	364,000	375,000	386,000
Administration & Info. Tech.	452,800	742,200	764,000	787,000	811,000	835,000	860,000	886,000	913,000	940,000	968,000
Customer Service	635,800	723,700	838,000	863,000	889,000	916,000	943,000	971,000	1,000,000	1,030,000	1,061,000
Finance	420,000	389,800	401,000	413,000	425,000	438,000	451,000	465,000	479,000	493,000	508,000
Human Resources	104,900	105,200	173,000	178,000	183,000	188,000	194,000	200,000	206,000	212,000	218,000
Retiree Medical and OPEB	310,000	291,500	309,000	327,500	347,200	368,000	390,100	413,500	438,300	464,600	492,400
PERS UAL Req'd Payment	161,700	195,100	41,000	76,000	113,000	127,000	144,000	163,000	184,000	206,000	229,000
PERS UAL Reduction	2,387,000	2,387,000	2,387,000	2,387,000	2,387,000	2,387,000	2,387,000	2,387,000	2,387,000	2,387,000	2,387,000
Engineering	325,300	378,200	390,000	402,000	414,000	426,000	439,000	452,000	466,000	480,000	494,000
Master Plan, Studies, Etc.	-	-	175,000	566,500	-	-	-	-	-	-	-
Conservation & Outreach	795,300	658,100	678,000	698,000	719,000	741,000	763,000	786,000	810,000	834,000	859,000
Transfers for Debt Service	-	-	-	-	-	-	-	-	-	-	-
2009 COP DS Transfer	756,900	757,100	758,000	758,400	758,500	756,600	756,500	757,100	757,000	757,900	757,500
2012 Bond DS Transfer	258,400	257,600	256,800	256,600	256,700	258,000	257,600	256,900	257,100	257,600	257,900
2019 New Debt DS Transfer	-	-	-	-	735,000	736,000	737,000	737,000	737,000	736,000	735,000
EDA Loan Payment	30,100	29,200	-	-	-	-	-	-	-	-	-
Transfer to Capital Fund	(1,850,000)	(2,846,000)	(550,000)	-	250,000	500,000	1,000,000	1,400,000	1,800,000	1,800,000	1,800,000
Total Uses of Funds	8,317,600	10,697,700	11,232,200	12,606,400	13,717,500	14,577,900	15,677,700	16,800,100	17,983,200	18,778,000	19,418,900
Ending Balance	2,859,301	2,212,701	2,394,601	2,501,201	2,830,201	3,522,501	4,026,201	4,227,301	4,112,401	4,093,501	4,319,501
Operating Reserve (20%)	1,997,355	2,153,000	2,318,000	2,344,000	2,465,000	2,585,000	2,730,000	2,886,000	3,045,000	3,174,000	3,308,000
Comp. Absence Reserve	347,915	-	-	-	-	-	-	-	-	-	-
PERS Stabilization Reserve	410,806	-	-	-	-	-	-	-	-	-	-
Customer Deposits	47,090	47,090	47,090	47,090	47,090	47,090	47,090	47,090	47,090	47,090	47,090
Retail EDA Loan Reserve	30,000	-	-	-	-	-	-	-	-	-	-
Uncommitted Fund Balance	26,135	12,611	29,511	110,111	318,111	890,411	1,249,111	1,294,211	1,020,311	872,411	964,411

Final with Plan B Rates -- 4/24/17

**Exhibit II-5
San Juan Water District
Retail Financial Plan -- Capital Fund**

	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26
RETAIL CAPITAL PROGRAM FUNDING											
Beginning Balance	10,331,773	7,521,573	1,400,973	972,973	1,056,873	10,366,173	3,240,873	3,837,173	2,492,973	2,597,373	2,753,373
Sources of Funds											
Transfer from Operations	(1,850,000)	(2,846,000)	(550,000)	-	250,000	500,000	1,000,000	1,400,000	1,800,000	1,800,000	1,800,000
Property Taxes (50% of 1% Incr)	1,000,000	1,050,000	1,082,000	1,114,000	1,147,000	1,181,000	1,216,000	1,252,000	1,290,000	1,329,000	1,369,000
Retail Connection Fees	410,000	450,000	989,000	1,018,000	1,049,000	1,080,000	1,143,000	1,177,000	1,213,000	1,249,000	1,287,000
Grant Rev. (Barton Rd. Inter tie)	671,300	-	-	-	-	77,700	24,300	28,800	-	-	-
Interest Earnings	19,800	45,800	7,000	4,900	11,758,000	-	-	-	-	-	-
Debt Proceeds	-	-	-	-	-	-	-	-	-	-	-
Total Sources of Funds	251,100	(1,300,200)	1,528,000	2,136,900	14,209,300	2,838,700	3,383,300	3,857,800	4,327,900	4,404,000	4,483,500
Uses of Funds											
Engineering Dept. Equipment	-	-	17,000	-	-	-	-	-	21,000	-	-
Vehicle/Equip. Replac.	111,000	349,000	78,000	212,000	163,000	78,000	123,000	127,000	130,000	149,000	197,000
Distribution Mainline Replac.	869,800	2,356,000	1,269,000	951,000	396,000	461,000	2,234,000	2,217,000	3,979,000	4,032,000	4,153,000
Transmission Pipelines	678,000	-	-	169,000	3,119,000	-	-	2,787,000	-	-	-
Storage Tanks	7,500	781,000	22,000	-	-	119,000	-	-	-	-	-
Kokila Reservoir Projects	-	-	-	-	927,000	8,597,000	-	-	-	-	-
Pressure Reducing Stations	-	1,044,000	164,000	-	-	-	-	-	-	-	-
Pump Stations	1,265,000	74,000	230,000	307,000	177,000	448,000	-	-	-	-	-
Miscellaneous CIP Items	75,000	53,000	176,000	394,000	109,000	261,000	430,000	71,000	77,500	67,000	69,000
Information Technology	55,000	163,400	-	20,000	9,000	-	-	-	16,000	-	83,000
Total Uses of Funds	3,061,300	4,820,400	1,956,000	2,053,000	4,900,000	9,964,000	2,787,000	5,202,000	4,223,500	4,248,000	4,502,000
Ending Balance	7,521,573	1,400,973	972,973	1,056,873	10,366,173	3,240,873	3,837,173	2,492,973	2,597,373	2,753,373	2,734,873
General CIP Reserve	6,813,959	1,284,973	784,973	930,873	1,461,173	2,555,873	2,875,173	1,507,973	1,592,373	1,497,373	1,525,873
Vehicle/Equip. Reserve	315,000	116,000	188,000	126,000	113,000	185,000	212,000	235,000	255,000	256,000	209,000
Kokila Reserve	392,614	-	-	-	-	-	-	-	-	-	-
CIP Emergency Reserve	-	-	-	-	500,000	500,000	750,000	750,000	750,000	1,000,000	1,000,000
Project Fund (Debt Proceeds)	-	-	-	-	8,292,000	-	-	-	-	-	-

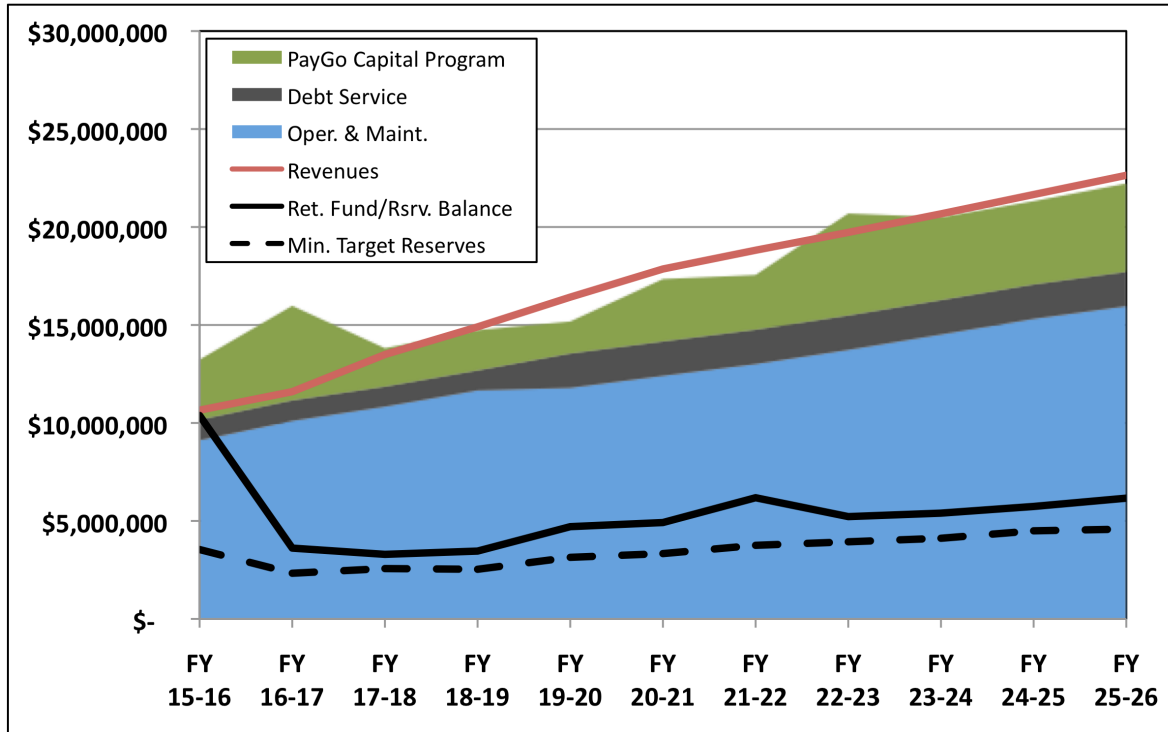
Exhibit II-6
San Juan Water District
Retail Financial Plan -- Debt Service Fund

	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26
DEBT SERVICE FUND											
Beginning Balance	1,033,037	1,036,037	1,035,937	1,772,937	1,773,037	1,773,237	1,773,237	1,773,137	1,773,237	1,773,237	1,773,437
Sources of Funds											
Transfer from Operations											
2009 COPs	756,900	757,100	758,000	758,400	758,000	756,600	756,500	757,100	757,000	757,900	757,500
2012 Refunding Rev. Bond	258,400	257,600	256,800	256,600	256,700	258,000	257,600	256,900	257,100	257,600	257,900
2019 New Debt Issue	-	-	-	-	735,000	736,000	737,000	737,000	737,000	736,000	735,000
Folsom 2012 Direct Portion Pmt	89,100	85,800	85,600	85,600	85,800	86,000	85,800	85,700	85,800	86,000	85,800
Total Sources of Funds	1,104,400	1,100,500	1,100,400	1,100,600	1,835,500	1,836,600	1,836,900	1,836,700	1,836,900	1,837,500	1,836,200
Uses of Funds											
2009 Certificate of Participation											
Principal Payment	154,800	162,000	171,000	180,000	189,000	198,000	208,800	221,400	234,000	248,400	261,000
Interest Payment	602,100	595,100	587,000	578,400	569,000	558,600	547,700	535,700	523,000	509,500	496,500
2012 Refunding Rev. Bond (Incl. Folsom Direct)											
Principal Payment	154,800	158,400	163,600	170,700	176,000	186,500	195,300	204,100	214,700	221,700	228,700
Interest Payment	189,700	185,100	178,800	171,400	166,300	157,500	148,200	138,400	128,200	121,700	115,100
2019 New Debt Issue											
Principal Payment				-	225,000	235,000	245,000	255,000	265,000	275,000	285,000
Interest Payment				-	510,000	501,000	492,000	482,000	472,000	461,000	450,000
Total Uses of Funds	1,101,400	1,100,600	1,100,400	1,100,500	1,835,300	1,836,600	1,837,000	1,836,600	1,836,900	1,837,300	1,836,300
Ending Balance	1,036,037	1,035,937	1,033,037	1,773,037	1,773,237	1,773,237	1,773,137	1,773,237	1,773,237	1,773,437	1,773,337
Retail 2009 DS Reserve	1,033,037	1,033,037	1,033,037	1,033,037	1,033,037	1,033,037	1,033,037	1,033,037	1,033,037	1,033,037	1,033,037
Retail 2019 DS Reserve			737,000	737,000	737,000	737,000	737,000	737,000	737,000	737,000	737,000

Final with Plan B Rates -- 4/24/17

The Reed Group, Inc.

Exhibit II-7
San Juan Water District
Retail Financial Plan Summary



- These annual water rate increases will enable the District to maintain overall reserve levels above minimum target levels throughout the planning period. In addition, the retail financial plan provides for gradual funding of the emergency CIP reserve to a level of \$1 million by the end of the ten-year planning period. Alternatively, the District might consider consolidating the emergency CIP reserve with the general CIP reserve.

The next section of this report includes recommendations for modifying retail water rates including increasing the emphasis on fixed daily base charge revenue and gradually reducing the portion of revenue for water usage charges. This change would help reduce the financial risk associated with variable and uncertain water demands.

At this point in time, it is recommended that the District adopt a five-year retail water rate plan with new rates implemented beginning in May 2017 and continuing each January through 2021. It is also recommended that the District re-evaluate its financial condition and update the financial plan prior to issuing new long-term debt.

As with past practice, the District should monitor financial conditions and needs on an ongoing (annual) basis and update the financial plan model if conditions or plans change sufficiently to warrant an update. Actual future conditions, such as water demand, water sales revenue, operating and maintenance expenses, CIP project costs/timing, project financing, etc., may differ from the financial plan assumptions reflected herein. Material differences affecting the overall financial condition of the retail water system may warrant closer review and/or an earlier update. The need for and magnitude of annual retail water rate increases may also be affected by differences between assumed and actual conditions.

SECTION III. RETAIL WATER RATES

This section of the report describes retail water rate calculations for 2017, and presents a proposed five-year rate plan, including rate schedules through 2021. The water rates include fixed daily base charges and a uniform water usage rate. The proposed retail water rates were developed based on (1) sound cost of service principles, (2) a balancing of rate setting objectives, and (3) revenue needs for the retail water system, as determined from the financial plan.

CURRENT WATER RATES

Exhibit III-1 summarizes the current water rates for the District’s retail water system. The current water rates have been effective since January 1, 2016, when the District implemented a 15 percent adjustment to the level of the water rates. A temporary 10 percent surcharge on the water usage rate was rescinded in early 2016, as state-mandated water conservation requirements were lifted.

For general water service, the water rates include both fixed daily base charges and a uniform water usage rate. The daily base charges vary with the size of the water meter, and are intended to recover a portion of fixed customer and capacity related costs. The water usage rate applies to all units of actual water usage by retail service customers. There are also fixed daily charges for private fire lines, and a special pumping surcharge applicable to wholesale deliveries of water to the City of Folsom.

**Exhibit III-1
San Juan Water District
Current Retail Water Rates**

	Effective Jan. 1, 2016
Daily Base Charges	
Up to 1" meter	\$ 1.24
1 1/2" meter	\$ 3.31
2" meter	\$ 5.28
3" meter	\$ 10.50
4" meter	\$ 16.36
6" meter	\$ 32.73
8" meter	\$ 58.83
Fire District	\$ 6.36
Water Usage Charge (\$/CCF)	
All water usage	\$ 0.92
Daily Private Fire Line Charges	
4" meter	\$ 0.5265
6" meter	\$ 0.7777
8" meter	\$ 1.0529
10" meter	\$ 1.2563
Hinkle PS Pumping Surcharge (\$/AF)	
Wholesale deliveries to City of Folsom	\$ 68.87

The District bills customers for water service on a bi-monthly basis. Therefore, the daily base charge of \$1.24 for a 1" water meter equates to \$74.40 for a 60-day billing cycle. Water use in the past few years has varied due to drought-related water use restrictions. Average residential water use in 2014 was about 65 CCF bi-monthly (about 825 gpd) and about 51 CCF bi-monthly (about 625 CCF) in 2015. Residential water use in 2016 is estimated to partially rebound with an average bi-monthly water use of about 60 CCF (about 750 gpd). This rebound in consumption remains well below pre-drought levels.

In FY 15-16, with restricted water usage, about 41 percent of water rate revenue was generated from water usage charges and about 59 percent from fixed base charges. Under normal water demands about 38.5 percent of water rate revenue can come from water usage charges. Analyses performed in 2012 as part of the District's compliance with water conservation best management practices indicated that at least 29 percent of water rate revenue should be generated from water usage charges to meet requirements of the California Urban Water Conservation Council's (CUWCC) Best Management Practice (BMP) 1.4 regarding water conservation pricing. The District's current water rates exceed this threshold, and therefore the District meets the BMP requirements. However, the District has also become increasingly concerned about the mismatch between variable costs and variable revenues. As a result, proposed water rates presented in this report include a gradually shift to an increased focus on stable fixed charge revenues and away from variable usage-based rate revenue.

As of December 2015, the District's retail water system was comprised of 10,105 single family residential accounts and 477 multi-family and non-residential accounts. In 2015, single family customers used about 3,086,000 CCF (7,084 AF) of water, and multi-family and non-residential accounts used about 479,000 CCF (1,101 AF) of water. Water use in 2016 has been estimated to increase about 13 percent (as a partial rebound in demand), to about 3,497,000 CCF of single family residential water use and about 543,000 CCF of multi-family and non-residential water use.

While the District's residential water use is unusually high for residential areas, the reason is largely due to large parcel sizes typical of the area, as well as land use decisions and community values that are largely outside of the District's direct control. While most suburban communities have lot sizes typically below 10,000 sq. ft., the District's retail service area has a significant number of low density (10,000 sq. ft. to 1 acre) and rural estate (over 1 acre) developments.

WATER RATE CALCULATIONS

Water rates are determined in a three-step process. The first is to determine the annual water rate revenue requirement. The second step is cost of service analysis and the allocation of costs to various customer categories. The third step is water rate design. Each step is address separately below.

Water Rate Revenue Requirements

The retail financial plan includes revenues and expenses for each fiscal year over the ten-year planning period. The District, however, adjusts water rates on a calendar year basis. As a result the financial and rate analyses necessarily involve certain translations

back and forth between fiscal and calendar years. On this basis, the annual water rate revenue requirement for 2017 was determined to be \$9,734,000 for the calculations of water rates. This revenue requirement reflects an 8 percent increase in the overall level of water rates. That is, \$9,734,000 is 8 percent more than the annual water rate revenues as determined based on the current 2016 water rates, estimated water usage for 2016, and the customer base as of December 2015. The revenue requirement for rate calculations reflects a customer base of about 10,582 accounts, and annual water sales of about 4,159,000 CCF (9,548 AF). Actual water rate revenue for 2017 will also be affected by (1) a continued rebound in water demand in the post-drought environment, and (2) modest growth in the customer base.

Water rate calculations contained herein are intended to generate the revenue requirement from rate revenues paid by the District's retail water service customers. The manner in which each retail customer is responsible for the District's costs for operation, maintenance, and replacement is the subject of the cost of service analysis and the cost allocations to each customer.

Cost of Service Analysis

Once the annual water rate revenue requirement has been determined, the next step in the rate setting process is to allocate costs to components for customer, capacity, and commodity costs.

The District incurs certain types of costs associated with making water service available to customers. Other costs are incurred as a direct result of customer water usage. A cost of service analysis is intended to proportionately allocate the costs of providing water service to customers in relation to each customer's water service requirements. There are many approaches to cost of service analysis; some are more complex than others. The approach used herein is the same as that developed in past rate studies for the District.

The cost allocation methodology assigns all costs to one of three different categories. The cost allocation process is performed at the highest level of detail available in the District's budget document. The three cost categories include:

- *Customer Costs* – Customer costs, such as meter reading and billing costs, are fixed costs that tend to vary as a function of the number of customers being served. Customer costs are allocated to customers based on the number of accounts. That is, every customer will pay an equal share of customer-related costs.
- *Capacity Costs* – Capacity costs are also fixed costs; however, these tend to vary in relation to the capacity of the water system. Customers that can place greater or lesser burdens on the capacity of the water system should bear a greater or lesser share of these costs. The sizing of the water system is based on the potential demand that each customer could place on the water system. Capacity costs are allocated to customers in proportion to the hydraulic capacity (as determined by meter size) of each water connection. The hydraulic capacity reflects the potential demand that a customer could place on the water system at any given time. A customer with a larger water meter is assigned a

larger share of fixed capacity-related costs. Capacity costs include fixed costs associated with operating and maintaining the water system, as well as debt service, capital outlay items, and other items related to system capacity.

- *Commodity Costs* – Commodity costs include variable costs that tend to vary with the amount of actual water usage. Examples include water supply costs, energy for pumping, and chemicals for water treatment. Commodity costs can also include a portion of fixed costs that are reasonably allocated to customers on the basis of actual water usage. For example, water conservation program costs are generally considered fixed; however, it is reasonable to recover water conservation costs on the basis of water usage.

Professional judgment and discretion in how costs are assigned to each cost category provides some flexibility in meeting the various rate-setting objectives. For example, shifting costs to the commodity category has the benefit of providing a more conservation-oriented rate structure, whereas shifting costs to the fixed base charges aids in revenue stability.

Current water rates generate about 41 percent of water rate revenue from usage charges and about 59 percent from base charges (based on FY 15-16 water usage characteristics). Drought related water use restrictions resulted in a reduction in water usage as well as a reduction in water sales revenue. The decline in water sales revenue exceeded the decline in water system costs, and this contributed to financial stress for the District. As a result, this water rate study includes gradually modifying the water rate structure to better align fixed and variable costs with fixed and variable revenues. While this shift is counter to a water conservation objective, it is consistent with a financial stability objective.

Using FY 16-17 budget and financial plan information, the cost allocation process resulted in 2.7 percent of costs being allocated to the customer cost category, 58.1 percent to the capacity cost category, and 39.2 percent to the commodity cost category. This represents a modest shift toward fixed base charge revenue and away from variable water usage revenue, and is consistent with the District's objective of increasing revenue stability.

Water Rate Design

The third step in the rate-setting process is water rate design. In 2015 the District modified its residential water rates to eliminate the 3-tier water usage rate structure and replace it with a uniform water usage rate. The current uniform water usage rate will be maintained for all customers. The only change incorporated in this study is to gradually shift the rate structure emphasis away from the variable usage charge to the fixed base charges. This is accomplished over a five-year period by holding the usage rate constant and increasing the base charges to meet revenue needs.

Exhibit III-2 presents retail water rate calculations for 2017. It reflects the revenue requirement, cost allocation, and rate structure shift described above.

**Exhibit III-2
San Juan Water District
2017 Retail Water Rate Calculations (1)**

	Meter Size						Total	Est. CY 2016 Water Use (CCF)
	1"	1 1/2"	2"	3"	4"	6"		
No. of Accounts								
Single Family Resid.	10,091	10	4				10,105	3,599,700
Multi-Fam. & Non-Resid.	209	99	140	27	2		477	559,300
Total Accounts	10,300	109	144	27	2	-	10,582	4,159,000
Hydr. Cap. Factor	0.75	2.0	3.2	6.0	10.0	20.0	32.0	
1" Equiv. Mtrs.	7,725	218	461	162	20	-	8,586	
Daily Base Charges								
Customer Cost	\$ 0.07	\$ 0.07	\$ 0.07	\$ 0.07	\$ 0.07	\$ 0.07	\$ 0.07	\$ 0.07
Capacity Costs	\$ 1.35	\$ 3.61	\$ 5.78	\$ 10.83	\$ 18.06	\$ 36.12	\$ 57.79	
Daily Base Charge	\$ 1.42	\$ 3.68	\$ 5.85	\$ 10.90	\$ 18.12	\$ 36.18	\$ 57.85	
Ann. Rev. (\$1,000s)	\$ 5,343	\$ 146	\$ 307	\$ 107	\$ 13	\$ -	\$ -	\$ 5,917
Water Rate Revenue Requirement								
Customer Costs	\$	258,000	2.7%					
Capacity Costs	\$	5,659,000	58.1%					\$ 3,303,692
Commodity Costs	\$	3,817,000	39.2%					\$ 513,308
Total Rev. Reqmt.	\$	9,734,000					4,159,000	\$ 3,817,000
Notes:								
(1) Water rate calculations are based on the customer base as of December 2015 and estimated CY 2016 water usage. Actual rate revenue in 2017 will be higher due to demand rebound and growth in the customer base. This higher revenue has been reflected in the revenue estimates contained in the financial plan model.								

PROPOSED RETAIL WATER RATES FOR 2017 THROUGH 2021

Exhibit III-3 presents a complete five-year rate plan, including water rate schedules for each of the next five years. The proposed water rate schedules also include two additional elements of the retail water rates. Daily private fire line charges are fixed charges applicable to private fire service connections. These are standby services that are generally only used for fire suppression purposes. The charges are intended to reflect the estimated cost of maintaining these standby service connections, and associated capacity. The rate schedule also includes a pumping surcharge applicable to wholesale water deliveries to the City of Folsom. This is a separate charge than the District's wholesale water rates, and reflects the estimated costs of pumping water through the District's distribution system to the City, including other operating and maintenance costs of pumping facilities.

Prior water rate analyses demonstrated the District's compliance with the California Urban Water Conservation Council's (CUWCC) Best Management Practice (BMP) for conservation pricing (BMP 1.4). That analysis determined that at least 29 percent of the District's water rate revenues be recovered through water usage charges. With the change in the District's water rate structure, and updated financial plan analysis, it is recommended that the District consider updating the BMP 1.4 compliance analysis.

By holding the water usage rate constant, the only changes in customer water bills will be the increase in the fixed daily base charge. The proposed water rates for 2017 include a \$0.18 increase in the daily base charge for a 1" water meter (typical of a residential home). There will be no change in the cost to customers in relation to the water usage charge, as the water usage rate will remain unchanged.

**Exhibit III-3
San Juan Water District
Current and Proposed Retail Water Rates**

	Current	Jan. 2017	Jan. 2018	Jan. 2019	Jan. 2020	Jan. 2021
Overall Water Rate Increase -->		8%	9%	9%	9%	6%
Daily Base Charges						
Up to 1" meter	\$ 1.24	\$ 1.42	\$ 1.63	\$ 1.86	\$ 2.11	\$ 2.29
1 1/2" meter	\$ 3.31	\$ 3.68	\$ 4.22	\$ 4.81	\$ 5.46	\$ 5.93
2" meter	\$ 5.28	\$ 5.85	\$ 6.72	\$ 7.66	\$ 8.69	\$ 9.44
3" meter	\$ 10.50	\$ 10.90	\$ 12.51	\$ 14.27	\$ 16.19	\$ 17.58
4" meter	\$ 16.36	\$ 18.12	\$ 20.80	\$ 23.72	\$ 26.91	\$ 29.23
6" meter	\$ 32.73	\$ 36.18	\$ 41.54	\$ 47.38	\$ 53.74	\$ 58.36
8" meter	\$ 58.83	\$ 57.85	\$ 66.42	\$ 75.76	\$ 85.94	\$ 93.34
Fire District	\$ 6.36	\$ 7.28	\$ 8.36	\$ 9.54	\$ 10.82	\$ 11.75
Water Usage Charge (\$/CCF)						
All water usage	\$ 0.92	\$ 0.92	\$ 0.92	\$ 0.92	\$ 0.92	\$ 0.92
Daily Private Fire Line Charges						
4" meter	\$ 0.53	\$ 0.57	\$ 0.62	\$ 0.68	\$ 0.74	\$ 0.78
6" meter	\$ 0.78	\$ 0.84	\$ 0.92	\$ 1.00	\$ 1.09	\$ 1.16
8" meter	\$ 1.05	\$ 1.14	\$ 1.24	\$ 1.35	\$ 1.47	\$ 1.56
10" meter	\$ 1.26	\$ 1.36	\$ 1.48	\$ 1.61	\$ 1.75	\$ 1.86
Hinkle PS Pumping Surcharge (\$/AF)						
Wholesale deliveries to City of Folsom	\$ 68.87	\$ 74.38	\$ 81.07	\$ 88.37	\$ 96.32	\$ 102.10
Typical Monthly Residential Bill (@ 30 CCF/mo.)	\$ 64.80	\$ 70.20	\$ 76.50	\$ 83.40	\$ 90.90	\$ 96.30
		\$ 5.40	\$ 6.30	\$ 6.90	\$ 7.50	\$ 5.40
		8.3%	9.0%	9.0%	9.0%	5.9%

Each year of the five-year rate plan includes adjustments to the base charges while maintaining the water usage rate. As a result, over time a larger percentage of revenue will come from base charges, rather than usage charges. This is true even as water demands rebound toward pre-drought levels. By FY 20-21 it is estimated that 37 percent of water rate revenue will be derived from usage changes, and if this method of adjusting water rates continues through FY 25-26 then usage-based revenue will decline to an estimated 31 percent of total rate revenue.