



"Preserving Our Past, Enriching Our Present, Building Our Future"

33 Broadway, Jackson, California 95642-2301 • voice (209) 223-1646 • fax (209) 223-3141
E-mail: cinfo@ci.jackson.ca.us • Web site: <http://ci.jackson.ca.us>

May 29, 2018

Dear Jackson Sewer System Customers,

Our sewer system consists of a collection system which includes 24 miles of sewer collection lines, 3 lift stations and hundreds of manholes, as well as the Wastewater Treatment Plant (Plant) that treats raw sewage and discharges treated effluent to Jackson Creek. The City is committed to providing you safe and reliable sewer services. Our sewer system is regulated and permitted directly by the California Central Valley Regional Water Quality Control Board.

Sewer System Needs

The City's sewer Plant was originally constructed in 1985. Over this thirty years' period, the regulations have become more stringent and the City is required to make upgrades by the Central Valley Regional Water Quality Control Board. Recently in 2016 the City imposed new rates to fund some required plant improvements. Sadly, these rates have not generated sufficient revenue to repay the anticipated \$12 million State Revolving Fund loan for these projects.

It is critical the City have enough revenue set aside to fund the debt service payments of approximately \$514,000 annually. The loan agreement also requires the City generate net revenues that are at least \$616,800 annually (1.2 times the debt service payment) by December 2018.

Moreover, the City has experienced increased operational and capital costs that were not accounted for in the current rates along with imposed penalties for not being able to meet the ever-changing regulations. As of FY 2016-2017, the sewer fund has exhausted its reserves and found itself in deficit of \$303,356.

In order to be in compliance with State requirements, the City conducted a professional study to determine sufficient sewer rates. The sewer fund is an enterprise fund that is completely paid for by those using the system. Unfortunately, when the cost to meet state requirements and operate the sewer system increases, the rates are proposed to be increased.

Proposed Rate Change Summary

The proposed rate change is largely consistent in methodology with the current sewer rate structure, and commercial and residential rates are determined, in part, by the amount of water consumed during the winter months of December, January, February and March which indicates the amount of wastewater discharged. For residential customers, rates are based on a fixed amount of \$28.18/month per dwelling, plus an amount of \$6.74 per unit of water consumed. Therefore, a home using a four-month average of 2 units of water (during winter months) would be charged a monthly wastewater amount of \$41.66 for that year.

For the commercial users, there will be seven use categories, with most commercial users being placed in the first rate level. Commercial users will also be charged variable rates based on winter months water use.

The first proposed increase will take effect on August 1, 2018 with the remaining increases taking effect on July 1, 2019-2022. A complete list of the current and proposed calculated residential and commercial sewer rates is attached to this notice. Additional information is also available in the report presented to the City Council at its February 26 2018 meeting, May 22, 2018 meeting and a public workshop on May 14, 2018. The full rate report and proposed rate sheet is viewable on the City website – <http://ci.jackson.ca.us>.

Other Proposition 218 Procedures and Requirements

A public hearing is scheduled on **Monday, July 16, 2018**, to consider rate changes for the City of Jackson's sewer system. Pursuant to Proposition 218, this public hearing is also a proceeding for a majority protest. At the public hearing, the City Council will receive comments, protests, and count the number of valid written protests that are received. This public hearing will take place at 7 p.m. in the City Council Chambers, 33 Broadway, in Jackson.

Under Proposition 218, if you are the owner of record for a parcel or parcels or a tenant/property manager directly responsible for payment of the fees subject to the proposed rate increases, you may submit a protest regarding the proposed rate increases. Protests must be filed in writing with the City Clerk of the City of Jackson and must be received by the City before the close of the public hearing. Written protests may be mailed or hand delivered to the City Clerk at 33 Broadway, Jackson, CA 95642. If protests are received from more than a majority of parcels, the City Council may not be able forward with approving the proposed rates which have been necessitated, in large part, by increasing state requirements.

Any written protest must: (1) state that the identified property owner or tenant is in opposition to the proposed rate increases; (2) provide the location of the identified parcel (by assessor's parcel number or street address); and (3) include the name and signature of the property owner or tenant submitting the protest. If the person submitting the written protest is the owner of record but was not shown on Amador County's last equalized assessment roll as the property owner, that person must provide written evidence that the person is the property owner. Only one protest may be filed per parcel. Any protest submitted via e-mail or other electronic means will not be accepted.

If you have any questions related to the material in this public notice, please contact City Hall at 223-1646 or e-mail your comments or questions to us at cinfo@ci.jackson.ca.us.

Sincerely,
Jackson City Council

Proposed Sewer Rate Summary - Calculated Rates through 2022-23

	Calculated					
	2018-19	2019-20	2020-21	2021-22	2022-23	
Residential						
Projected Revenue Total	\$1,697,994	\$1,764,491	\$1,806,116	\$1,849,041	\$1,893,310	
Step 1: Baseline O&M	\$20.32	\$22.58	\$24.95	\$27.45	\$29.61	per unit
Step 2: Capital & Reserves	\$2.18	\$2.91	\$3.23	\$3.56	\$3.85	per unit
Step 3: New Debt Service	\$5.68	\$6.13	\$6.59	\$7.04	\$7.38	per unit
Subtotal	\$28.18	\$31.62	\$34.77	\$38.05	\$40.84	
Variable Charge per HCF*	\$6.74	\$6.44	\$6.02	\$5.57	\$5.26	per HCF
Commercial [1]						
Group 1 - Fixed, Monthly Charge						
Projected Revenue Total	\$215,792	\$224,256	\$229,539	\$234,988	\$240,607	
Step 1: Baseline O&M	\$36.14	\$40.16	\$44.38	\$48.82	\$52.68	per Account
Step 2: Capital & Reserves	\$3.91	\$5.22	\$5.78	\$6.38	\$6.90	per Account
Step 3: New Debt Service	\$10.18	\$11.00	\$11.81	\$12.63	\$13.24	per Account
Subtotal	\$50.23	\$56.38	\$61.98	\$67.83	\$72.81	
Variable Charge per HCF	\$6.94	\$6.63	\$6.20	\$5.74	\$5.41	per HCF
Group 2 - Fixed, Monthly Charge						
Projected Revenue Total	\$56,343	\$58,570	\$59,941	\$61,354	\$62,812	
Step 1: Baseline O&M	\$69.57	\$77.31	\$85.45	\$93.99	\$101.41	per Account
Step 2: Capital & Reserves	\$7.84	\$10.47	\$11.59	\$12.78	\$13.82	per Account
Step 3: New Debt Service	\$20.41	\$22.04	\$23.67	\$25.31	\$26.53	per Account
Subtotal	\$97.82	\$109.82	\$120.71	\$132.08	\$141.76	
Variable Charge per HCF	\$8.25	\$7.89	\$7.37	\$6.82	\$6.43	per HCF
Group 3 - Fixed, Monthly Charge						
Projected Revenue Total	\$507,390	\$527,452	\$539,791	\$552,516	\$565,639	
Step 1: Baseline O&M	\$417.37	\$463.80	\$512.60	\$563.86	\$608.36	per Account
Step 2: Capital & Reserves	\$47.14	\$62.95	\$69.73	\$76.89	\$83.15	per Account
Step 3: New Debt Service	\$122.75	\$132.57	\$142.39	\$152.21	\$159.57	per Account
Subtotal	\$587.26	\$659.32	\$724.72	\$792.96	\$851.08	
Variable Charge per HCF	\$8.35	\$7.98	\$7.46	\$6.91	\$6.51	per HCF
Group 4 - Fixed, Monthly Charge						
Projected Revenue Total	\$13,653	\$14,201	\$14,529	\$14,867	\$15,216	
Step 1: Baseline O&M	\$131.77	\$146.43	\$161.83	\$178.02	\$192.06	per Account
Step 2: Capital & Reserves	\$16.05	\$21.44	\$23.75	\$26.19	\$28.32	per Account
Step 3: New Debt Service	\$41.81	\$45.15	\$48.49	\$51.84	\$54.35	per Account
Subtotal	\$189.63	\$213.01	\$234.08	\$256.04	\$274.73	
Variable Charge per HCF	\$13.20	\$12.63	\$11.80	\$10.92	\$10.30	per HCF
Group 5 - Fixed, Monthly Charge						
Projected Revenue Total	\$110,286	\$114,717	\$117,363	\$120,091	\$122,905	
Step 1: Baseline O&M	\$1,593.06	\$1,770.28	\$1,956.53	\$2,152.22	\$2,322.04	per Account
Step 2: Capital & Reserves	\$195.49	\$261.05	\$289.21	\$318.88	\$344.83	per Account
Step 3: New Debt Service	\$509.08	\$549.80	\$590.53	\$631.25	\$661.80	per Account
Subtotal	\$2,297.63	\$2,581.14	\$2,836.27	\$3,102.35	\$3,328.67	
Variable Charge per HCF	\$13.98	\$13.38	\$12.50	\$11.57	\$10.91	per HCF
Group 6 - Fixed, Monthly Charge						
Projected Revenue Total	\$353,515	\$367,648	\$376,165	\$384,947	\$394,005	
Step 1: Baseline O&M	\$2,572.99	\$2,859.22	\$3,160.04	\$3,476.10	\$3,750.39	per Account
Step 2: Capital & Reserves	\$307.83	\$411.07	\$455.40	\$502.12	\$542.99	per Account
Step 3: New Debt Service	\$801.62	\$865.75	\$929.88	\$994.01	\$1,042.11	per Account
Subtotal	\$3,682.44	\$4,136.04	\$4,545.32	\$4,972.24	\$5,335.48	
Variable Charge per HCF	\$11.57	\$11.07	\$10.34	\$9.57	\$9.03	per HCF
Group 7 - Fixed, Monthly Charge						
Projected Revenue Total	\$42,485	\$44,148	\$45,190	\$46,264	\$47,372	
Step 1: Baseline O&M	\$141.81	\$157.59	\$174.17	\$191.59	\$206.71	per Account
Step 2: Capital & Reserves	\$15.23	\$20.33	\$22.52	\$24.84	\$26.86	per Account
Step 3: New Debt Service	\$39.65	\$42.82	\$45.99	\$49.16	\$51.54	per Account
Subtotal	\$196.69	\$220.74	\$242.69	\$265.59	\$285.11	
Variable Charge per HCF	\$6.74	\$6.44	\$6.02	\$5.57	\$5.26	per HCF
Total Revenue	\$2,997,458	\$3,115,484	\$3,188,633	\$3,264,068	\$3,341,865	

[1] Groups are defined as follows:

- Group 1: Low Strength/Low Flow
- Group 2: Medium Strength/Low Flow
- Group 3: Medium Strength/High Flow
- Group 4: High Strength/Low Flow
- Group 5: High Strength/Medium Flow
- Group 6: High Strength/High Flow
- Group 7: Schools

*HCF = 100 Cubic Feet of Water

Rate Study Update

To:	Yvonne Kimball, City Manager City of Jackson 33 Broadway, Jackson, CA 95642	From:	Georgette Aronow Nevada City CA Office
File:	05_rept_deliv	Date:	May 29, 2018

Reference: 2018 Update to City of Jackson 2016 and 2014 Wastewater Rate Study

The purpose of this memo is to provide an explanation and justification of updates to the calculated sewer rates for the City of Jackson. Rates have been calculated for the fiscal years 2018-19 through 2022-23. The rates have been calculated in accordance with the requirements of XIII D et. seq. of the California Constitution, commonly known as Proposition 218, which mandates that the fee or charge imposed is commensurate with the benefit received by those paying the fee.

BACKGROUND

Stantec and GAronow Consulting (now Stantec) prepared a Wastewater Rate Study for the City of Jackson (City) in 2014. While the rates were initially adopted, they were subsequently rescinded and new rates were adopted in 2016. The 2016 rate study was prepared by the City in conjunction with a citizens group referred to as the Rate Payer Protection Alliance. The adopted rates were significantly less than those recommended by Stantec in 2014 as they did not fund, or insufficiently, funded the following items:

- Operating reserves
- Capital set-asides or reserves
- Debt service reserves and coverage requirements as required by the Wastewater Treatment Facility (WWTF) Upgrade Project loan agreement
- Annual debt service payment amounts

Actual operation and maintenance (O&M) costs, e.g., the costs of running the sewer system, were also projected to be significantly lower than actual costs have been. As a result, the City has had to rely on its operating reserves, which have now been largely depleted.

The City is nearing completion of the improvements to the Wastewater Treatment Facility (WWTF) (the Project) as required by the current wastewater discharge permit. It is critical that the City have enough revenue set aside to fund the debt service payments going forward (the first payment is due January of 2020) and be able to generate enough revenue annually to make subsequent annual payments, as well as cover additional cost associated with operation and maintenance of the upgraded facility. In addition to making the annual debt service payments, the loan agreement requires the City to have a debt service reserve account equal to one year's debt service fully funded before project completion and generate net revenues that are at least 1.2 times the debt service payment annually. The debt service payment is estimated at \$514,000 based on a final loan principal amount of \$12 million.

This rate analysis evaluates the revenue capacity of the wastewater enterprise fund to cover the Project debt service and related requirements as well as projected operating and maintenance costs going forward. Sewer rates have been calculated for a five-year period.

Reference: 2018 Update to City of Jackson 2016 and 2014 Wastewater Rate Study

MAJOR ASSUMPTIONS AND UPDATES

The cost of service analysis and rate calculations used for this rate update rely on the Wastewater Rate Study prepared by Stantec in 2014, including the underlying methodology. However, some updates were required. The following describes some of the major assumptions and updates included in this 2018 rate analysis update.

- ❑ **Updated Projected Expenses and Revenue Requirement** – The projected sewer enterprise expenses were updated based on the City's actual expenses and budget for the past three years. The projected expenses form the basis of the revenue requirement, i.e., the amount of revenue that will need to be generated from monthly sewer rate charges annually to fully fund the wastewater enterprise fund. In addition to updating the O&M costs, the debt service expense, reserve set asides, and debt service coverage requirement were also updated.
- ❑ **CIP and Capital Set-Asides (Depreciation)** – The City would like to plan for the eventual repair and replacement and/or upgrades of the sewer facilities or assets. A key aspect of planning for repair, replacement, and upgrade of its facilities, is to have the ability to set aside funds to be able to pay for these future expenses. In the Fiscal Sustainability Plan prepared by Stantec for the City in November 2017, it was estimated that the City should be setting aside approximately \$233,000 a year based on the value of the existing assets for eventual repair and replacement. Once the WWTP Project is complete, this amount will increase. The adopted sewer rates currently do not provide any monies for capital reserve set asides. This means that if there is an emergency repair, the sewer enterprise fund would likely need to borrow from the general fund to pay for repairs.

In addition, the City has had significant capital expenses over the past several years given the required improvements to the WWTF, so any existing capital reserves has been depleted. To fund a portion of CIP expenses going forward and/or re-establish a capital reserve fund, this analysis assumes baseline funding for the sewer CIP of \$50,000 in year 1 and increasing to \$100,000 in year 2 with a 3% adjustment thereafter. These revenues would be targeted towards capital improvement projects as needed and/or depreciation.

- ❑ **Funding for the Wastewater Treatment Facility (WWTF) Capital Improvement Project** – The WWTF Project is providing necessary upgrades to improve wastewater discharge quality to Jackson Creek and Lake Amador. These requirements are driven by the Waste Discharge Requirements adopted by the Regional Water Board in 2013 in Order No. R5-2013-0146 (hereinafter, Order) that the City must comply with, or risk incurring additional fines. The Project cost at completion is currently estimated at \$12 million and is anticipated to be completed in January 2019. The City has a funding agreement with the State Water Board, Clean Water State Revolving Fund (CWSRF) with an interest rate of 1.7% for wastewater capital improvement projects. The rates calculated in this analysis assume full funding of the debt service related to the Project. In addition, the rates fund the establishment of a debt service reserve account, as well as provide for funds required to meet the 1.2 times debt service coverage annually.
- ❑ **Customer Accounts** – The number of customer accounts were updated for each customer category based on actual data for 2018.
- ❑ **Sewer Flow and/or Water Use Assumptions** – A key assumption in the Rate Study methodology is the amount of sewer flow generated by each customer group. Typically, water use is used as a proxy for sewer flow, as sewer flow is generally not metered. To ensure that irrigation water is excluded from the water use for purposes of estimating sewer flow, the 2016 Rate Study implemented a winter water use proxy that was based on customers water use for February and March of each year. The 2018 Rate Update recommends that the months used to determine winter water use be expanded by two months and would cover the period from December through March. By expanding the winter water months, the sewer flow in the model compares more closely with the average dry weather flow of the WWTF.

Reference: 2018 Update to City of Jackson 2016 and 2014 Wastewater Rate Study

SUMMARY OF RATE ANALYSIS TABLES

Table 1: Summary of Projected Rates

As mentioned above, monthly service charges are projected to increase through 2022-23. The calculated rates are summarized in Table 1 for each year. The rates are presented, consistent with the analysis, broken into three steps to show the relative impact of needed increases in general sewer operations and maintenance (Step 1), CIP and Capital Project Set-Asides (Step 2), and costs related to the WWTF Improvement Project (Step 3). For additional explanation regarding the Steps, see the discussion for Table 5 below.

Table 2: Summary of Wastewater Users Characteristics

Table 2 summarizes the wastewater customers, the number of units or accounts in each category, and their respective assumed wastewater characteristics in terms of flow and strength (BOD and SS). These characteristics are translated into estimated daily wastewater flow and strength contributions and then annual wastewater flow and strength contributions. This capacity is based on existing average flows and loadings. Total annual flow is estimated at approximately 148 million gallons per year. This is comparable to average dry weather flow to the WWTF. Actual total wastewater flow is higher (209 million gallons per year for 2017) annually due to inflow and infiltration to the sewer system.

Table 3: Wastewater Characteristics Assumptions Summary

Table 3 shows wastewater characteristics by group. Residential customers are grouped by assumed similar wastewater flow and strength characteristics. Commercial customers continue to be separated into seven groups. For a more indepth discussion regarding commercial customer groups see the 2014 Rate Study.

The wastewater flow assumptions were updated based on actual water data for 2017 and 2018. The rate allocation model is based on winter water flow for the months of December through March. A weighted average of winter water use was calculated for each customer group. The assumptions for wastewater strength remain relevant and therefore were not updated.

Table 4: Summary of Historical Revenues and Expenses

Table 4 provides a summary of the City's historical and budgeted revenues and expenses. Revenues include sewer sales, property tax, interest income and miscellaneous revenues. On average, the City's revenues have increased by approximately 3.28 percent over the past four years.

Operating expenses include operation and maintenance (O&M) costs, capital costs including debt service, depreciation and transfers. Total expenses have increased by approximately 4.22 percent over the same period.

The 2017-18 budget as adopted by the City was adjusted to include costs deemed necessary for the operation and maintenance of the sewer system going forward, and include some expenses not originally included in the budget as they were unknown at the time of adoption or excluded in order to achieve a balanced budget based on existing revenues.

Table 5: Summary of Projected Expenses

The projected annual revenue requirements and corresponding rate calculations are directly related to the projected expenses of the City. Table 5 shows the projected expenses for fiscal years 2018-19 through 2022-23. The annual cost

Reference: 2018 Update to City of Jackson 2016 and 2014 Wastewater Rate Study

adjustment factors are also shown and vary from 2.5% to 5% by cost category. The cost factors were determined in part based on historical increases in costs over time as well as the expected increases in costs based on discussions with City staff. In general, cost adjustment factors vary by public agency, but do tend to fall in the range of 2.5 to 7.0 percent based on Stantec's experience with other utility rate studies.

The expenses are separated into steps as follows:

- **Step 1- Baseline O&M:** Step 1 is intended to reflect the operations and maintenance expenses of the sewer fund. The fiscal year 2017-18 budget, and some additional staffing and maintenance allocations based on discussions with City of Jackson staff serves as the basis for the expense projections for FY 18-19 through FY 22-23. For FY 18-19, these costs total approximately \$3.0 million.
- **Step 2 –Capital & Reserves:** Step 2 capital improvement costs are also shown in Table 5. These costs are intended to reflect annual CIP expenditures and depreciation. It also includes approximately \$20,000 to \$24,000 as an allowance for general operating reserve.
- **Step 3- Construction Project:** Step 3 costs are those costs associated with the WWTF Project. The City has a finance agreement for the Project through the State Clean Water Revolving Loan Fund (CWSRF) with an estimated completion cost of \$12 million and estimated debt service of approximately \$514,000 per year. In addition to the annual debt service payment, the loan agreement requires that the net revenues generated by the fund have to equal 1.2 times the debt service payment amount. This 20% coverage requirement is included in the rate study as an expense line item under Step 3.

Table 6: Financing Assumptions & Debt Service Calculations

Table 6 summarizes the financing assumptions for the estimated \$12 million construction loan for the WWTF Project. A 1.7% interest rate (current State Water Board rate) and a 30-year term was assumed based on the CWSRF loan agreement.

Table 7: Summary of Annual Revenue Requirement through FY 2022-23

Table 7 shows the projected revenue requirement from sewer sales for the same fiscal years as the projected expenses. The revenue requirement adjusts projected expenses for other non-sewer sales related revenues (other revenue sources), such as property tax income and interest. The annual revenue requirement for all Steps in FY 2018-19 is approximately \$2.998 million and is projected to increase to \$3.342 million by FY 2022-23.

Table 8: Projected Cash Flow

Table 8 shows the projected cash flow for the 5-year period FY 2018-19 through FY 2022-23. The projected cash flow shows the additional revenues required each year to fund the projected expenses through Step 3.

Table 9: Projected Costs and Distribution between Collection and Treatment System

Table 9 provides the allocation of the projected costs between collection and treatment. This calculation is repeated for each of the fiscal years through 2022-23. However, only the 2018-19 fiscal year is shown.

The operating and maintenance costs are allocated to collection and treatment function categories based on percentage allocation or distribution factors as shown in Table 9. These percentage allocation factors are based on the estimated distribution of City costs between the two system functions, consistent with prior City rate studies.

Reference: 2018 Update to City of Jackson 2016 and 2014 Wastewater Rate Study

Table 10: Unit Cost Determination

Once the costs are allocated to a function category, the costs are then further allocated to flow, BOD, and SS, as shown in Table 10. The costs are allocated to flow, BOD, and SS based on percent allocation factors. Collection costs are strictly related to flow and therefore, 100 percent of the collection costs are allocated to flow. For all other costs it is assumed that the distribution is 50% to flow, 25% to BOD, and 25% to SS. These distribution factors were determined in 2013/14 based on discussions with the City's wastewater engineers as well as the sewer rate committee.

The allocated costs are then divided by the total influent to determine the unit cost per flow, BOD, and SS. These unit costs are then used to determine the cost allocated to each customer type and ultimately the calculated rates for each customer.

Table 11: Allocation of Costs to Flow (BOD, and SS) by Customer Category

Table 11 shows the cost allocated to flow, BOD, and SS by customer category for 2018-19. The unit costs determined in Table 10 are multiplied by the flow, BOD, or SS for each customer type. These costs are then summed to determine the total cost allocation by customer type.

Table 12: Detailed Sewer Rate Calculation

Based on the costs allocated to each customer type, rates are calculated. Table 12 shows the calculated rates for FY 2018-19 for residential and commercial customers. This calculation is repeated for each of the fiscal years through 2022-23. However, only the 2018-19 fiscal year is shown.

The residential and commercial users are charged both a fixed monthly rate plus a flow charge that would be based on actual winter water consumption for the previous year (flow rate times the winter water consumption averaged over the four month period, December through March). The cost is split between the fixed cost at 50% and the variable cost at 50% in 2018-19 and gradually increases fixed costs to 65% and lowers variable costs to 35% in 2022-23. This allows the City some reliability in the collection of sewer charges, i.e., that 50%-65% of the charges are not based upon potentially fluctuating water use. The majority of the wastewater expenses are fixed expenses and do not vary by water use.

Table 1 Rate Summary - Current vs. Calculated Rates

	Existing	Calculated				
	Rate Charge [1]	2018-19	2019-20	2020-21	2021-22	2022-23
Residential						
Projected Revenue Total		\$1,697,994	\$1,764,491	\$1,806,116	\$1,849,041	\$1,893,310
Step 1: Baseline O&M	\$13.86	\$20.32	\$22.58	\$24.95	\$27.45	\$29.61 per unit
Step 2: Capital & Reserves	\$0.00	\$2.18	\$2.91	\$3.23	\$3.56	\$3.85 per unit
Step 3: New Debt Service	\$2.75	\$5.68	\$6.13	\$6.59	\$7.04	\$7.38 per unit
Subtotal	\$16.61	\$28.18	\$31.62	\$34.77	\$38.05	\$40.84
Variable Charge per HCF	\$3.37	\$6.74	\$6.44	\$6.02	\$5.57	\$5.26 per HCF
Commercial [2]						
Group 1 - Fixed, Monthly Charge						
Projected Revenue Total		\$215,792	\$224,256	\$229,539	\$234,988	\$240,607
Step 1: Baseline O&M	\$14.06	\$36.14	\$40.16	\$44.38	\$48.82	\$52.68 per Account
Step 2: Capital & Reserves	\$0.00	\$3.91	\$5.22	\$5.78	\$6.38	\$6.90 per Account
Step 3: New Debt Service	\$2.80	\$10.18	\$11.00	\$11.81	\$12.63	\$13.24 per Account
Subtotal	\$16.86	\$50.23	\$56.38	\$61.98	\$67.83	\$72.81
Variable Charge per HCF	\$3.39	\$6.94	\$6.63	\$6.20	\$5.74	\$5.41 per HCF
Group 2 - Fixed, Monthly Charge						
Projected Revenue Total		\$56,343	\$58,570	\$59,941	\$61,354	\$62,812
Step 1: Baseline O&M	\$52.89	\$69.57	\$77.31	\$85.45	\$93.99	\$101.41 per Account
Step 2: Capital & Reserves	\$0.00	\$7.84	\$10.47	\$11.59	\$12.78	\$13.82 per Account
Step 3: New Debt Service	\$10.93	\$20.41	\$22.04	\$23.67	\$25.31	\$26.53 per Account
Subtotal	\$63.82	\$97.82	\$109.82	\$120.71	\$132.08	\$141.76
Variable Charge per HCF	\$3.94	\$8.25	\$7.89	\$7.37	\$6.82	\$6.43 per HCF
Group 3 - Fixed, Monthly Charge						
Projected Revenue Total		\$507,390	\$527,452	\$539,791	\$552,516	\$565,639
Step 1: Baseline O&M	\$235.06	\$417.37	\$463.80	\$512.60	\$563.86	\$608.36 per Account
Step 2: Capital & Reserves	\$0.00	\$47.14	\$62.95	\$69.73	\$76.89	\$83.15 per Account
Step 3: New Debt Service	\$49.91	\$122.75	\$132.57	\$142.39	\$152.21	\$159.57 per Account
Subtotal	\$284.97	\$587.26	\$659.32	\$724.72	\$792.96	\$851.08
Variable Charge per HCF	\$4.47	\$8.35	\$7.98	\$7.46	\$6.91	\$6.51 per HCF
Group 4 - Fixed, Monthly Charge						
Projected Revenue Total		\$13,653	\$14,201	\$14,529	\$14,867	\$15,216
Step 1: Baseline O&M	\$41.60	\$131.77	\$146.43	\$161.83	\$178.02	\$192.06 per Account
Step 2: Capital & Reserves	\$0.00	\$16.05	\$21.44	\$23.75	\$26.19	\$28.32 per Account
Step 3: New Debt Service	\$9.33	\$41.81	\$45.15	\$48.49	\$51.84	\$54.35 per Account
Subtotal	\$50.93	\$189.63	\$213.01	\$234.08	\$256.04	\$274.73
Variable Charge per HCF	\$6.22	\$13.20	\$12.63	\$11.80	\$10.92	\$10.30 per HCF
Group 5 - Fixed, Monthly Charge						
Projected Revenue Total		\$110,286	\$114,717	\$117,363	\$120,091	\$122,905
Step 1: Baseline O&M	\$799.57	\$1,593.06	\$1,770.28	\$1,956.53	\$2,152.22	\$2,322.04 per Account
Step 2: Capital & Reserves	\$0.00	\$195.49	\$261.05	\$289.21	\$318.88	\$344.83 per Account
Step 3: New Debt Service	\$181.46	\$509.08	\$549.80	\$590.53	\$631.25	\$661.80 per Account
Subtotal	\$981.03	\$2,297.63	\$2,581.14	\$2,836.27	\$3,102.35	\$3,328.67
Variable Charge per HCF	\$6.80	\$13.98	\$13.38	\$12.50	\$11.57	\$10.91 per HCF
Group 6 - Fixed, Monthly Charge						
Projected Revenue Total		\$353,515	\$367,648	\$376,165	\$384,947	\$394,005
Step 1: Baseline O&M	\$1,583.13	\$2,572.99	\$2,859.22	\$3,160.04	\$3,476.10	\$3,750.39 per Account
Step 2: Capital & Reserves	\$0.00	\$307.83	\$411.07	\$455.40	\$502.12	\$542.99 per Account
Step 3: New Debt Service	\$350.22	\$801.62	\$865.75	\$929.88	\$994.01	\$1,042.11 per Account
Subtotal	\$1,933.35	\$3,682.44	\$4,136.04	\$4,545.32	\$4,972.24	\$5,335.48
Variable Charge per HCF	\$5.65	\$11.57	\$11.07	\$10.34	\$9.57	\$9.03 per HCF
Group 7 - Fixed, Monthly Charge						
Projected Revenue Total		\$42,485	\$44,148	\$45,190	\$46,264	\$47,372
Step 1: Baseline O&M	\$113.10	\$141.81	\$157.59	\$174.17	\$191.59	\$206.71 per Account
Step 2: Capital & Reserves	\$0.00	\$15.23	\$20.33	\$22.52	\$24.84	\$26.86 per Account
Step 3: New Debt Service	\$22.47	\$39.65	\$42.82	\$45.99	\$49.16	\$51.54 per Account
Subtotal	\$135.57	\$196.69	\$220.74	\$242.69	\$265.59	\$285.11
Variable Charge per HCF	\$3.37	\$6.74	\$6.44	\$6.02	\$5.57	\$5.26 per HCF
Total Revenue		\$2,997,458	\$3,115,484	\$3,188,633	\$3,264,068	\$3,341,865

[1] As of July 1, 2017

[2] Groups are defined as follows:

- Group 1: Low Strength/Low Flow
- Group 2: Medium Strength/Low Flow
- Group 3: Medium Strength/High Flow
- Group 4: High Strength/Low Flow
- Group 5: High Strength/Medium Flow
- Group 6: High Strength/High Flow
- Group 7: Schools

Table 2 Summary of Wastewater User Characteristics

Based on Winter Water Use - ADWF

Customer Category	Basis of Charge	Accounts	Units	Wastewater Characteristics			Existing Treatment Capacity			Total Annual Capacity		
				WWU ADWF/EDU GPD	BOD MG/L	SS MG/L	Flow MGD	BOD Lbs/Day	SS Lbs/Day	Flow MG	BOD Lbs/Year	SS Lbs/Year
			(A)	(B)	(C)	(D)	(E)=(A)x(B)	(F)=(C)x(E)x8.34	(G)=(D)x(E)x8.34	(K)=(E)x365	(L)=(F)x(K)x8.34	(M)=(G)x(K)x8.34
Residential	per Unit	1590	2,511	103	200	200	0.2583	431	431	94.29	157,268	157,268
Commercial [1]												
Group 1	per Account	179		178	217	217	0.0319	58	58	11.63	21,024	21,024
Group 2	per Account	24		292	325	325	0.0070	19	19	2.56	6,927	6,927
Group 3	per Account	36		1,730	333	333	0.0623	173	173	22.74	63,209	63,209
Group 4	per Account	3		353	735	735	0.0011	6	6	0.39	2,372	2,372
Group 5	per Account	2		4,041	800	800	0.0081	54	54	2.95	19,681	19,681
Group 6	per Account	4		7,829	600	600	0.0313	157	157	11.43	57,195	57,195
Group 7	per Account	9		718	200	200	0.0065	11	11	2.36	3,935	3,935
Subtotal		257					0.1481	478	478	54.05	174,342	174,342
TOTAL		1,847	2,511				0.4064	909	909	148.34	331,609	331,609

[1] Groups are defined as follows:

- Group 1: Low Strength/Low Flow
- Group 2: Medium Strength/Low Flow
- Group 3: Medium Strength/High Flow
- Group 4: High Strength/Low Flow
- Group 5: High Strength/Medium Flow
- Group 6: High Strength/High Flow
- Group 7: Schools

Table 3 Wastewater Characteristic Assumptions Summary

	Sewer Code	Accounts [1]	Units [1]	Average Water Use - HCF/Mo [2]		Annual GPD [4]	Winter Use GPD [4]	Strength [5]	
				Annual	Winter Water Only [3]			BOD - MG/L	SS - MG/L
Residential									
				<i>per Unit</i>	<i>per Unit</i>				
Single Family	21.55	1488	1488	7.6	5.0	187	123	200	200
Duplex	22	33	96	2.8	2.0	69	49	200	200
Multi-Family/Apartments	23	12	25	5.9	6.3	145	155	200	200
	24	30	377	5.0	3.8	123	93	200	200
	53	2	42	0.8	0.6	20	15	200	200
	54	1	2	6.2	3.3	152	81	200	200
	RO	1	192	3.2	1.3	79	32	200	200
Mobile Homes	31	2	268	4.0	3.3	98	81	200	200
SF-Outside	49	21	21	8.2	5.5	202	135	200	200
Average				4.9	3.5	119	85	200	200
Weighted Average				6.2	4.2	152	103		
Total		1590	2511						
Group 1 - Low Strength/Low Flow									
				<i>per Account</i>	<i>per Account</i>				
Stores	26	63		9.4	9.5	231	234	200	200
Offices	27	89		7.4	6.3	182	155	200	200
Beauty/Barber Shop	30	6		6.9	5.9	170	145	250	250
Churches	38	11		14.1	2.9	347	71	200	200
Library/Museum	42	2		32.9	16.0	809	393	200	200
Lt. Industrial/Warehouse/Storage	52	8		3.4	4.7	84	116	250	250
Courthouse	44	0							
Auto Repair	62	0							
Average				12.4	7.6	304	186	217	217
Weighted Average						212	178		
Total		179							
Group 2 - Medium Strength/Low Flow									
				<i>per Account</i>	<i>per Account</i>				
Senior Citizen Center	43	2		30.9	12.6	760	310	325	325
Gas Stations/Mini-Mart	28	12		7.5	6.6	184	162	325	325
Medical Offices/Surgery Center/Lab	61	9		10.4	5.0	256	123	325	325
Community Center/Lodges	63	1		144.8	135.3	3561	3327	325	325
Average				48.4	39.9	1190	981	325	325
Weighted Average						400	292		
Total		24							
Group 3 - Medium Strength/Medium Flow									
Hotel - Motel	25	7		87.5	107.0	2152	2632	300	300
Restaurants & Bars	29	13		50.3	40.8	1237	1237	500	500
Car Wash	32	2		66	39.4	1623	1623	300	300
Laundromat	33	4		44.5	37.9	1094	1094	450	450
Health Club	36	3		80.3	54.8	1975	1975	300	300
Bed & Breakfast	40	2		51.9	45.8	1276	1276	300	300
Theatre	48	1		42.8	15.0	1053	1053	250	250
Retirement Home	50	3		101.9	93.4	2506	2506	300	300
Motherload Plaza	ML	1		126.8	117.5	3118	3118	300	300
Average				72.4	61.3	1782	1835	333	333
Weighted Average						1637	1730		
Total		36							
Group 4 - High Strength/Low Flow									
Commercial Cleaners/Dry Cleaners	47	2		18.3	15.9	450	391	670	670
Mortuary	37	1		10.9	11.3	268	278	800	800
Average				15	14	359	334	735	735
Weighted Average						389	353		
Total		3							
Group 5 - High Strength/Medium Flow									
Full Service Grocery/Supermarkets	46	2		172.8	164.3	4250	4041	800	800
Average						164	4250	4041	800
Weighted Average						4250	4041		
Total		2							
Group 6 - High Strength/High Flow									
Hospitals	34	3		413.8	305.6	10177	7516	600	600
Detention Center	41	1		325.3	356.5	8000	8768	600	600
Average				370	331	9089	8142	600	600
Weighted Average						9633	7829		
Total		4							
Group 7 - Schools [4]									
	35	9		132.9	29.2	3268	718	200	200
Total		1847	2511						

[1] Per January 2018 billing information

[2] Based on water use data from July 2016 through June 2017.

[3] Based on water use during months of February and March 2018

[4] Based on actual 12 month water uses. Conversion from hundred cubic feet per month to Gallons Per Day Assumptions:

Cubic Feet	100
Gallons	748.052
Total Months	12
Total Days	365

[5] Based on industry standards where available and past rate study experience of Stantec.

Table 4 Summary of Historical & Budgeted Revenues and Expenses

	Actual 2014/15	Actual 2015/16	Actual 2016/17	Adopted Budget 2017/17	Adjusted Rate Study Budget 2017/18	Avg Annual % Change 14/15 to 17/18
Revenues						
Sewer Sales	\$1,263,053	\$1,266,395	\$1,224,735	\$1,533,305	\$1,533,305	3.28%
Property Tax	\$590	\$590	\$0	\$0	\$0	
Interest Earned	\$378	\$91	\$0	\$900	\$900	15.56%
Misc. Revenue	\$25	\$1,519	\$1,800	\$0	\$0	
Total Revenues	\$1,264,046	\$1,268,595	\$1,226,535	\$1,534,205	\$1,534,205	3.28%
Expenditures						
Personnel Services & Benefits	\$426,566	\$593,039	\$534,544	\$558,174	\$610,174	6.15%
Contract & Professional Services	\$275,403	\$205,286	\$307,144	\$290,215	\$464,215	9.09%
Repairs & Maintenance	\$37,018	\$104,059	\$120,821	\$176,043	\$229,043	35.49%
Materials & Supplies	\$88,539	\$66,927	\$86,611	\$113,470	\$83,470	-0.98%
Other Services & Charges	\$267,048	\$282,877	\$466,085	\$247,745	\$653,435	16.08%
Capital Purchases	\$0	\$0	\$0	\$44,200	\$44,200	
Collection System - SSMP	\$0	\$0	\$0	\$162,000	\$162,000	
CIP Projects	\$444,809	\$0	\$0	\$0	\$0	
Debt Service	\$9,075	\$8,725	\$0	\$0	\$0	
Depreciation	\$163,804	\$179,159	\$182,842	\$0	\$50,000	-17.94%
Transfers In/Out (Gen. Fund)	\$80,000	\$0	\$0	\$0	\$0	-100.00%
Total Expenditures	\$1,792,262	\$1,440,072	\$1,698,047	\$1,591,847	\$2,296,537	4.22%
Net Revenue	(\$528,216)	(\$171,477)	(\$471,512)	(\$57,642)	(\$762,332)	

Table 5 Summary of Projected Expenses

	Budget	Cost	Projected				
	2017-18	Adj. Factors	2018-19	2019-20	2020-21	2021-22	2022-23
Step 1: Baseline O&M							
Personnel Services & Benefits	\$610,174	2.5%	\$625,428	\$641,064	\$657,091	\$673,518	\$690,356
Contract & Professional Services	\$464,215	3.0%	\$478,141	\$492,486	\$507,260	\$522,478	\$538,152
Repairs & Maintenance	\$229,043	5.0%	\$240,495	\$252,520	\$265,146	\$278,403	\$292,323
Materials & Supplies	\$83,470	2.5%	\$85,557	\$87,696	\$89,888	\$92,135	\$94,439
Other Services & Charges	\$653,435	2.5%	\$669,771	\$686,515	\$703,678	\$721,270	\$739,302
Capital Purchases	\$44,200	2.5%	\$45,305	\$46,438	\$47,599	\$48,789	\$50,008
Subtotal	\$2,084,537		\$2,144,698	\$2,206,718	\$2,270,661	\$2,336,593	\$2,404,580
Step 2: Capital & Reserves							
Capital Projects - Collection (SSMP)	\$162,000	3.0%	\$166,860	\$171,866	\$177,022	\$182,332	\$187,802
Capital Set-Aside/CIP Projects/Dep.	\$50,000		\$50,000	\$100,000	\$103,000	\$106,090	\$109,273
General Operating Reserve	\$0	5.0%	\$20,000	\$21,000	\$22,050	\$23,153	\$24,310
Subtotal	\$212,000		\$236,860	\$292,866	\$302,072	\$311,575	\$321,385
Step 3: WTF Construction Project							
Construction Loan - Debt Service	\$0	n/a	\$514,000	\$514,000	\$514,000	\$514,000	\$514,000
Debt Service Reserve Requirement	\$0		\$102,800	\$102,800	\$102,800	\$102,800	\$102,800
Subtotal	\$0		\$616,800	\$616,800	\$616,800	\$616,800	\$616,800
Total	\$2,296,537		\$2,998,358	\$3,116,384	\$3,189,533	\$3,264,968	\$3,342,765
Percent Increase			30.6%	3.9%	2.3%	2.4%	2.4%

Table 6 Financing Assumptions & Debt Service Calculations

Item	Assumption	CWSRF Loan
Bond/Loan Proceeds		\$12,000,000
Net Amount Financed		
Issuance Costs	0.0%	\$0
Capitalized Interest	0	\$0
Total Bond/Loan Amount		\$12,000,000
<hr/>		
<u>Assumptions</u>		
Interest Rate		1.70%
Term		30 years
Bond/Loan Factor		1.000
<hr/>		
Calculated Debt Service		\$513,951
Debt Service - Rounded		\$514,000

Table 7 Summary of Annual Revenue Requirement through FY 2022-23

	Projected				
	2018-19	2019-20	2020-21	2021-22	2022-23
	1	2	3	4	5
Revenue Requirement					
<u>Step 1: Baseline O&M</u>					
Personnel Services & Benefits	\$625,428	\$641,064	\$657,091	\$673,518	\$690,356
Contract & Professional Services	\$478,141	\$492,486	\$507,260	\$522,478	\$538,152
Repairs & Maintenance	\$240,495	\$252,520	\$265,146	\$278,403	\$292,323
Materials & Supplies	\$85,557	\$87,696	\$89,888	\$92,135	\$94,439
Other Services & Charges	\$669,771	\$686,515	\$703,678	\$721,270	\$739,302
Capital Purchases	\$45,305	\$46,438	\$47,599	\$48,789	\$50,008
Subtotal Step 1	\$2,144,698	\$2,206,718	\$2,270,661	\$2,336,593	\$2,404,580
<u>Step 2: Capital & Reserves</u>					
Capital Projects - Collection (SSMP)	\$166,860	\$171,866	\$177,022	\$182,332	\$187,802
Capital Set-Aside/CIP Projects	\$50,000	\$100,000	\$103,000	\$106,090	\$109,273
General Operating Reserve	\$20,000	\$21,000	\$22,050	\$23,153	\$24,310
Subtotal Step 2	\$236,860	\$292,866	\$302,072	\$311,575	\$321,385
<u>Step 3: CIP & Construction Project</u>					
Construction Loan - Debt Service	\$514,000	\$514,000	\$514,000	\$514,000	\$514,000
Debt Service Reserve Requirement	\$102,800	\$102,800	\$102,800	\$102,800	\$102,800
Subtotal Step 3	\$616,800	\$616,800	\$616,800	\$616,800	\$616,800
Total	\$2,998,358	\$3,116,384	\$3,189,533	\$3,264,968	\$3,342,765
<u>Less Other Revenue Sources</u>					
Property Tax	\$0	\$0	\$0	\$0	\$0
Interest Earned	(\$900)	(\$900)	(\$900)	(\$900)	(\$900)
Misc. Revenue	\$0	\$0	\$0	\$0	\$0
Subtotal	(\$900)	(\$900)	(\$900)	(\$900)	(\$900)
Net Revenue Requirement	\$2,997,458	\$3,115,484	\$3,188,633	\$3,264,068	\$3,341,865

Table 8 Projected Cash Flow

	Inflation Assumption	Budget	Projected				
		2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Revenues							
Current Budgeted Sewer Sales		\$1,533,305	\$1,533,305	\$1,533,305	\$1,533,305	\$1,533,305	\$1,533,305
Additional Revenue Required:							
Year	Effective Months						
2018-19	12		\$1,464,153	\$1,464,153	\$1,464,153	\$1,464,153	\$1,464,153
2019-20	12			\$118,026	\$118,026	\$118,026	\$118,026
2020-21	12				\$73,149	\$73,149	\$73,149
2021-22	12					\$75,435	\$75,435
2022-23	12						\$77,798
Subtotal			\$2,997,458	\$3,115,484	\$3,188,633	\$3,264,068	\$3,341,865
Other Revenues							
Property Tax		\$0	\$0	\$0	\$0	\$0	\$0
Interest Earned		\$900	\$900	\$900	\$900	\$900	\$900
Misc. Revenue		\$0	\$0	\$0	\$0	\$0	\$0
Subtotal		\$900	\$900	\$900	\$900	\$900	\$900
Subtotal Revenues		\$1,534,205	\$2,998,358	\$3,116,384	\$3,189,533	\$3,264,968	\$3,342,765
Expenses							
Step 1: Baseline O&M							
Personnel Services & Benefits	2.5%	\$610,174	\$625,428	\$641,064	\$657,091	\$673,518	\$690,356
Contract & Professional Services	3.0%	\$464,215	\$478,141	\$492,486	\$507,260	\$522,478	\$538,152
Repairs & Maintenance	5.0%	\$229,043	\$240,495	\$252,520	\$265,146	\$278,403	\$292,323
Materials & Supplies	2.5%	\$83,470	\$85,557	\$87,696	\$89,888	\$92,135	\$94,439
Other Services & Charges	2.5%	\$653,435	\$669,771	\$686,515	\$703,678	\$721,270	\$739,302
Capital Purchases	2.5%	\$44,200	\$45,305	\$46,438	\$47,599	\$48,789	\$50,008
Existing Debt Service	0.0%	\$0	\$0	\$0	\$0	\$0	\$0
Transfers In/Out (Gen. Fund)	2.5%	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal Expenses		\$2,084,537	\$2,144,698	\$2,206,718	\$2,270,661	\$2,336,593	\$2,404,580
Step 2: Capital & Reserves [1]							
Capital Projects - Collection (SSMP)		\$162,000	\$166,860	\$171,866	\$177,022	\$182,332	\$187,802
Capital Set-Aside/CIP Projects		\$50,000	\$50,000	\$100,000	\$103,000	\$106,090	\$109,273
Subtotal Step 2		\$212,000	\$216,860	\$271,866	\$280,022	\$288,422	\$297,075
Step 3: CIP & Construction Project							
SRF Construction Loan - Debt Service			\$514,000	\$514,000	\$514,000	\$514,000	\$514,000
Debt Service Coverage Requirement at 1.2x			\$102,800	\$102,800	\$102,800	\$102,800	\$102,800
Subtotal Step 3		\$0	\$616,800	\$616,800	\$616,800	\$616,800	\$616,800
Total Expenses		\$2,296,537	\$2,978,358	\$3,095,384	\$3,167,483	\$3,241,815	\$3,318,455
Net Revenue After D/S		(\$762,332)	\$20,000	\$21,000	\$22,050	\$23,153	\$24,310
Beginning Operating Balance [2]							
		\$0	(\$762,332)	(\$639,532)	(\$515,732)	(\$390,882)	(\$264,930)
Net Revenues		(\$762,332)	\$20,000	\$21,000	\$22,050	\$23,153	\$24,310
Debt Serv. Coverage			\$102,800	\$102,800	\$102,800	\$102,800	\$102,800
Ending Operating Balance		(\$762,332)	(\$639,532)	(\$515,732)	(\$390,882)	(\$264,930)	(\$137,819)
Target Operating Balance [3]		\$574,134	\$744,589	\$773,846	\$791,871	\$810,454	\$829,614

[1] General reserves are not shown in Step 2 in this table as they show up as Net Revenue.
 [2] FY 16-17 beginning balance based on cash and investments as of June 30, 2017 in audit.
 [3] The target operating balance represents 3 months of operating expenses, excluding debt service.

Table 9 Projected Costs and Distribution between Collection and Treatment System

2018-19

	Inflation Adjustment	Budget 2017-18	Projected 2018-19	Allocation		Collection System			Treatment System		
				Collection	Treatment	Cost	Fixed	Variable	Cost	Fixed	Variable
Years Inflated: <input style="width: 50px;" type="text" value="1"/>											
Expenditures											
Step 1: Baseline O&M											
Personnel Services & Benefits	2.5%	\$610,174	\$625,428	20%	80%	\$125,086	\$125,086		\$500,343	\$500,343	
Contract & Professional Services	3.0%	\$464,215	\$478,141	20%	80%	\$95,628	\$95,628		\$382,513	\$382,513	
Repairs & Maintenance	5.0%	\$229,043	\$240,495	20%	80%	\$48,099	\$48,099		\$192,396	\$192,396	
Materials & Supplies	2.5%	\$83,470	\$85,557	20%	80%	\$17,111	\$17,111		\$68,445	\$68,445	
Other Services & Charges	2.5%	\$653,435	\$669,771	20%	80%	\$133,954	\$133,954		\$535,817	\$535,817	
Capital Purchases	2.5%	\$44,200	\$45,305	20%	80%	\$9,061	\$9,061		\$36,244	\$36,244	
Subtotal		\$2,084,537	\$2,144,698			\$428,940	\$428,940	\$0	\$1,715,758	\$1,715,758	\$0
Existing Debt Service	0.0%	\$0	\$0	0%	100%	\$0	\$0		\$0	\$0	
Transfers In/Out (Gen. Fund)	2.5%	\$0	\$0	20%	80%	\$0	\$0		\$0	\$0	\$0
Subtotal		\$0	\$0			\$0	\$0	\$0	\$0	\$0	\$0
Subtotal Step 1		\$2,084,537	\$2,144,698			\$428,940	\$428,940	\$0	\$1,715,758	\$1,715,758	\$0
Step 2: Capital & Reserves											
Capital Projects - Collection (SSMP)	3.0%	\$162,000	\$166,860								
Capital Set-Aside/CIP Projects	3.0%	\$50,000	\$50,000	20%	80%	\$10,000	\$10,000		\$40,000	\$40,000	
General Operating Reserve	5.0%	\$0	\$20,000	20%	80%	\$4,000	\$4,000		\$16,000	\$16,000	
Subtotal Step 2		\$212,000	\$236,860			\$14,000	\$14,000		\$56,000	\$56,000	
Step 3: WTF Construction Project											
Construction Loan - Debt Service	n/a		\$514,000	0%	100%	\$0	\$0		\$514,000	\$514,000	
Debt Service Reserve Requirement			\$102,800	0%	100%	\$0	\$0		\$102,800	\$102,800	
Subtotal Step 3			\$616,800			\$0	\$0		\$514,000	\$514,000	
Total		\$2,296,537	\$2,998,358			\$442,940	\$442,940	\$0	\$2,388,558	\$2,388,558	\$0

"proj_costs"

Table 10 Unit Cost Determination

2018-19

Cost Category	Allocated Operating Costs	Percent Allocation			Cost			Total Influent			Unit Cost Per:		
		Flow	BOD	SS	Flow	BOD	SS	Flow MG	BOD Klbs	SS Klbs	Mgal of Flow (\$/Mgal)	Klb of BOD (\$/Klb)	Klb of SS (\$/Klb)
Collection System O&M Costs													
Fixed	\$428,940	100%			\$428,940	\$0	\$0	148.34	331.61	331.61	\$2,891.64	\$0.00	\$0.00
Variable	\$0	100%			\$0	\$0	\$0	148.34	331.61	331.61	\$0.00	\$0.00	\$0.00
Total Collection	\$428,940				\$428,940	\$0	\$0				\$2,891.64	\$0.00	\$0.00
Treatment O&M Costs													
Fixed	\$1,715,758	50%	25.00%	25.00%	\$857,879	\$428,940	\$428,940	148.34	331.61	331.61	\$5,783.28	\$1,293.51	\$1,293.51
Variable	\$0	50%	25.00%	25.00%	\$0	\$0	\$0	148.34	331.61	331.61	\$0.00	\$0.00	\$0.00
Total Treatment	\$1,715,758				\$857,879	\$428,940	\$428,940				\$5,783.28	\$1,293.51	\$1,293.51
Step 2: Capital & Reserves	\$236,860	50%	25.00%	25.00%	\$118,430	\$59,215	\$59,215	148.34	331.61	331.61	\$798.38	\$178.57	\$178.57
Step 3: CIP & Construction Loan	\$616,800	50%	25.00%	25.00%	\$308,400	\$154,200	\$154,200	148.34	331.61	331.61	\$2,079.04	\$465.01	\$465.01
SUBTOTAL	\$2,998,358										\$11,552.34	\$1,937.08	\$1,937.08
Less Other Revenue Sources	(\$900)	50%	25.00%	25.00%	(\$450)	(\$225)	(\$225)	148.34	331.61	331.61	(\$3.03)	(\$0.68)	(\$0.68)
TOTAL	\$2,997,458				\$1,713,199	\$642,130	\$642,130				\$11,549.30	\$1,936.40	\$1,936.40

"unit_costs"

Table 11 Allocation of Costs to Flow by Customer Category

Unit Cost/Customer Category				Step 1: Baseline O&M				Other Revenue Impacts			SUBTOTAL Step 1
				Collection	Treatment			Flow (\$/Mgal)	BOD (\$/Klb)	SS (\$/Klb)	
	Flow (MG/Yr)	BOD (Klb/Yr)	SS (Klb/Yr)	Flow (\$/Mgal)	Flow (\$/Mgal)	BOD (\$/Klb)	SS (\$/Klb)				
Unit Cost				\$2,891.64	\$5,783.28	\$1,293.51	\$1,293.51	(\$3.03)	(\$0.68)	(\$0.68)	\$11,258
Residential	94.29	157.27	157.27	\$272,638	\$545,277	\$203,427	\$203,427	(\$286)	(\$107)	(\$107)	\$1,224,270
Commercial											
Group 1	11.63	21.02	21.02	\$33,643	\$67,286	\$27,194	\$27,194	(\$35)	(\$14)	(\$14)	\$155,254
Group 2	2.56	6.93	6.93	\$7,390	\$14,780	\$8,960	\$8,960	(\$8)	(\$5)	(\$5)	\$40,073
Group 3	22.74	63.21	63.21	\$65,747	\$131,494	\$81,761	\$81,761	(\$69)	(\$43)	(\$43)	\$360,608
Group 4	0.39	2.37	2.37	\$1,119	\$2,238	\$3,068	\$3,068	(\$1)	(\$2)	(\$2)	\$9,487
Group 5	2.95	19.68	19.68	\$8,530	\$17,059	\$25,457	\$25,457	(\$9)	(\$13)	(\$13)	\$76,467
Group 6	11.43	57.20	57.20	\$33,051	\$66,103	\$73,983	\$73,983	(\$35)	(\$39)	(\$39)	\$247,007
Group 7	2.36	3.93	3.93	\$6,822	\$13,643	\$5,090	\$5,090	(\$7)	(\$3)	(\$3)	\$30,632
Subtotal	54.05	174.34	174.34	\$156,301	\$312,602	\$225,513	\$225,513	(\$164)	(\$118)	(\$118)	\$919,528
TOTAL	148.34	331.61	331.61	\$428,940	\$857,879	\$428,940	\$428,940	(\$450)	(\$225)	(\$225)	\$2,143,798

Table 11 Allocation

2018-19

Continued

Unit Cost/Customer Category	Step 2 Capital & Reserves			SUBTOTAL Step 2	Step 3 CIP & Construction Loan			SUBTOTAL Step 3	Total
	Flow (\$/Mgal)	BOD (\$/Klb)	SS (\$/Klb)		Flow (\$/Mgal)	BOD (\$/Klb)	SS (\$/Klb)		
	Unit Cost	\$798.38	\$178.57		\$178.57	\$1,156	\$2,079.04		
Residential	\$75,275	\$28,083	\$28,083	\$131,441	\$196,022	\$73,130	\$73,130	\$342,283	\$1,697,994
Commercial									
Group 1	\$9,289	\$3,754	\$3,754	\$16,797	\$24,189	\$9,776	\$9,776	\$43,741	\$215,792
Group 2	\$2,040	\$1,237	\$1,237	\$4,514	\$5,313	\$3,221	\$3,221	\$11,756	\$56,343
Group 3	\$18,153	\$11,287	\$11,287	\$40,727	\$47,271	\$29,392	\$29,392	\$106,055	\$507,390
Group 4	\$309	\$423	\$423	\$1,156	\$804	\$1,103	\$1,103	\$3,010	\$13,653
Group 5	\$2,355	\$3,514	\$3,514	\$9,384	\$6,133	\$9,152	\$9,152	\$24,436	\$110,286
Group 6	\$9,125	\$10,213	\$10,213	\$29,552	\$23,763	\$26,596	\$26,596	\$76,956	\$353,515
Group 7	\$1,883	\$703	\$703	\$3,289	\$4,905	\$1,830	\$1,830	\$8,564	\$42,485
Subtotal	\$43,155	\$31,132	\$31,132	\$105,419	\$112,378	\$81,070	\$81,070	\$274,517	\$1,299,464
TOTAL	\$118,430	\$59,215	\$59,215	\$236,860	\$308,400	\$154,200	\$154,200	\$616,800	\$2,997,458

"cost_alloc"

Table 12 Detailed Sewer Rate Calculation

2018-19

Customer Category	Accounts/ Customers	Units	Allocated Cost	Annual Cost Allocated to		Monthly Charge					Basis of Charge
				Fixed Base Charge	Variable Rate Charge	Fixed Base Charge	Consumption Charge			Cost per 100 CF [1]	
							MG/Year	Cost/ Gallons	Cost/1000 Gallons		
Cost Distribution				50%	50%						
Step 1: Baseline O&M											
Residential Total	1,590	2,511	\$1,224,270	\$612,134.85	\$612,134.85	\$20.32	94.29	\$0.0065	\$6.49	\$4.86	per Unit
Commercial											
Group 1	179		\$155,254	\$77,627.08	\$77,627.08	\$36.14	11.63	\$0.0067	\$6.67	\$4.99	per Account
Group 2	24		\$40,073	\$20,036.66	\$20,036.66	\$69.57	2.56	\$0.0078	\$7.84	\$5.86	per Account
Group 3	36		\$360,608	\$180,303.79	\$180,303.79	\$417.37	22.74	\$0.0079	\$7.93	\$5.93	per Account
Group 4	3		\$9,487	\$4,743.64	\$4,743.64	\$131.77	0.39	\$0.0123	\$12.26	\$9.17	per Account
Group 5	2		\$76,467	\$38,233.39	\$38,233.39	\$1,593.06	2.95	\$0.0130	\$12.96	\$9.70	per Account
Group 6	4		\$247,007	\$123,503.48	\$123,503.48	\$2,572.99	11.43	\$0.0108	\$10.81	\$8.08	per Account
Group 7	9		\$30,632	\$15,315.90	\$15,315.90	\$141.81	2.36	\$0.0065	\$6.49	\$4.86	per Account
Commercial Total	257		\$919,528								
Subtotal Step 1			\$2,143,798								
Step 2: Capital & Reserves											
Residential Total	1,590	2,511	\$131,441	\$65,720.71	\$65,720.71	\$2.18	94.29	\$0.0007	\$0.70	\$0.52	per Unit
Commercial											
Group 1	179		\$16,797	\$8,398.60	\$8,398.60	\$3.91	11.63	\$0.0007	\$0.72	\$0.54	per Account
Group 2	24		\$4,514	\$2,257.15	\$2,257.15	\$7.84	2.56	\$0.0009	\$0.88	\$0.66	per Account
Group 3	36		\$40,727	\$20,363.41	\$20,363.41	\$47.14	22.74	\$0.0009	\$0.90	\$0.67	per Account
Group 4	3		\$1,156	\$577.94	\$577.94	\$16.05	0.39	\$0.0015	\$1.49	\$1.12	per Account
Group 5	2		\$9,384	\$4,691.82	\$4,691.82	\$195.49	2.95	\$0.0016	\$1.59	\$1.19	per Account
Group 6	4		\$29,552	\$14,776.02	\$14,776.02	\$307.83	11.43	\$0.0013	\$1.29	\$0.97	per Account
Group 7	9		\$3,289	\$1,644.36	\$1,644.36	\$15.23	2.36	\$0.0007	\$0.70	\$0.52	per Account
Commercial Total	257		\$105,419								
Subtotal Step 2			\$193,480								
Step 3: CIP & Capital Project											
Residential Total	1,590	2,511	\$342,283	\$171,141.32	\$171,141.32	\$5.68	94.29	\$0.0018	\$1.82	\$1.36	per Unit
Commercial											
Group 1	179		\$43,741	\$21,870.53	\$21,870.53	\$10.18	11.63	\$0.0019	\$1.88	\$1.41	per Account
Group 2	24		\$11,756	\$5,877.77	\$5,877.77	\$20.41	2.56	\$0.0023	\$2.30	\$1.72	per Account
Group 3	36		\$106,055	\$53,027.73	\$53,027.73	\$122.75	22.74	\$0.0023	\$2.33	\$1.74	per Account
Group 4	3		\$3,010	\$1,504.99	\$1,504.99	\$41.81	0.39	\$0.0039	\$3.89	\$2.91	per Account
Group 5	2		\$24,436	\$12,217.83	\$12,217.83	\$509.08	2.95	\$0.0041	\$4.14	\$3.10	per Account
Group 6	4		\$76,956	\$38,477.79	\$38,477.79	\$801.62	11.43	\$0.0034	\$3.37	\$2.52	per Account
Group 7	9		\$8,564	\$4,282.04	\$4,282.04	\$39.65	2.36	\$0.0018	\$1.82	\$1.36	per Account
Commercial Total	257		\$274,517								
Subtotal Step 3			\$503,835								
TOTAL											
Residential Total	1,590	2,511	\$1,697,994	\$848,996.89	\$848,996.89	\$28.18	94.29	\$0.0090	\$9.00	\$6.74	per Unit
Commercial											
Group 1	179		\$215,792	\$107,896.21	\$107,896.21	\$50.23	11.63	\$0.0093	\$9.27	\$6.94	per Account
Group 2	24		\$56,343	\$28,171.58	\$28,171.58	\$97.82	2.56	\$0.0110	\$11.02	\$8.25	per Account
Group 3	36		\$507,390	\$253,694.93	\$253,694.93	\$587.26	22.74	\$0.0112	\$11.16	\$8.35	per Account
Group 4	3		\$13,653	\$6,826.57	\$6,826.57	\$189.63	0.39	\$0.0176	\$17.64	\$13.20	per Account
Group 5	2		\$110,286	\$55,143.04	\$55,143.04	\$2,297.63	2.95	\$0.0187	\$18.69	\$13.98	per Account
Group 6	4		\$353,515	\$176,757.29	\$176,757.29	\$3,682.44	11.43	\$0.0155	\$15.46	\$11.57	per Account
Group 7	9		\$42,485	\$21,242.30	\$21,242.30	\$196.69	2.36	\$0.0090	\$9.00	\$6.74	per Account
Commercial Total	257		\$1,299,464								
Total all Steps			\$2,997,458								

[1] Conversion factor from gallons to cubic feet is ---

7.48 gallons / 1 cubic ft.