Town of Sullivan's Island

Water & Sewer Department

843-883-5748

ggress@sullivansisland-sc.com

October 26, 2016

Sullivan's Island Water and Sewer Customers:

Utility industry standards suggest a review of the rate structure every three (3) years and a full rate analysis every five (5) years. Since the Town has not performed a full rate analysis in eight (8) years Raftelis Financial Consultants (RFC) was engaged in 2015.

Analysist Frank Davis of RFC presented a proposed Water & Sewer rate study report on October 18th, 2016 to Town Council. The recommendation was to implement a new rate structure January 1, 2017. Council favored further deliberation, discussion and customer input.

The proposal changes the rate structure to Residential Equivalent Unit (REU) method of rate calculation replacing the current meter size method to recover fixed monthly base costs. Fixed monthly base costs are equal for all customers on a per bill basis and include items such as meter reading, billing, and administration on a per bill basis. Additionally, a portion of capital expenses are recovered through the base charge considering the level of demand a customer can potentially place on the system. The REU method is an industry standard for equitably spreading fixed monthly base costs among different capacity users.

The proposed change will likely only affect approximately 110 customers. A single family residential account (one dwelling on one lot) will not be impacted. Multifamily accounts, however, will see a change in their bill. Examples of multifamily accounts include apartments, condominiums, and multiple dwellings on a single lot. Likewise, multiple commercial activities on a single lot, churches, the National Park Service, and schools will be affected.

The purpose of this correspondence is notify you of the opportunity to review the rate analysis, answer questions you may have and seek your input on the potential rate structure change.

This topic will be discussed in great detail at the Council Workshop November 7, 2016 beginning at 6PM in the new Town Hall facility. You are encouraged to become engaged, learn about the topic and ask questions.

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Town of Sullivan's Island

Water & Sewer Department

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If you have any questions please contact Greg Gress ggress@sullivansisland-sc.com, Manager of the water/Sewer Department 883-5748 or Andy Benke abenke@sullivansisland-sc.com, Town Administrator, 883-5726.

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RAFTELIS
FINANCIAL CONSULTANTS, INC.

TOWN OF SULLIVAN'S ISLAND

Presentation of FY 2017 Utility Rate Study

October 18, 2016

Topics of Discussion

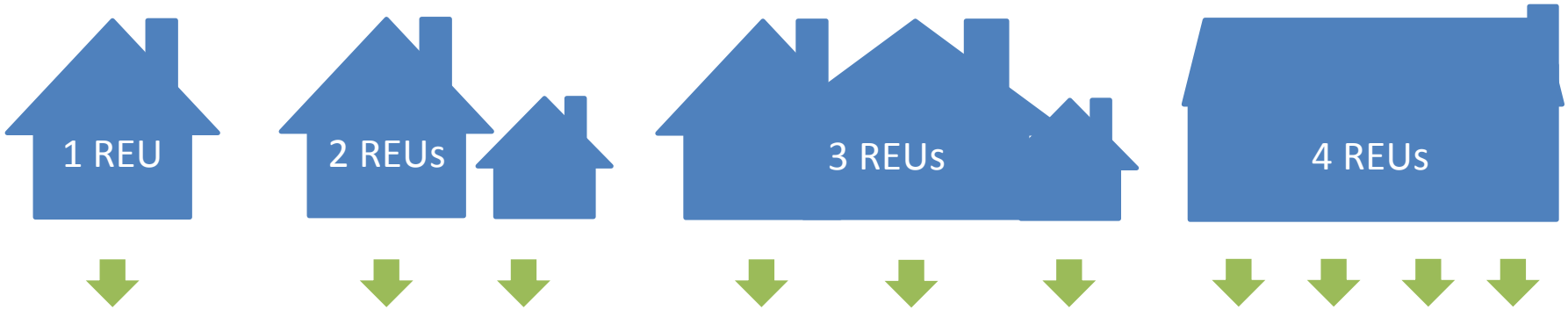
- Residential equivalent unit (REU) base charge approach
- Five-year financial forecast and proposed rate adjustments
- Bill Forecast for Typical Residential Customer
- Conclusions

RESIDENTIAL EQUIVALENT UNIT

- **Replace current meter size base charge structure with REU approach**
- **More appropriately recovers fixed costs from multi unit properties and higher use commercial customers**
- **Estimated to provide additional revenue (annualized)**
  - **$44,000 water**
  - **$29,000 wastewater**
- **Implement January 1, 2017**
- **No impact on majority of customers (single-family residential)**

ASSIGNING REUs

Single Family	Single Family Plus Guesthouse	Multiple Unit Rentals	Restaurant
1 REU	2 REUs	3 REUs	4 REUs
4,000 gallons per month	8,000 gallons per month	12,000 gallons per month	16,000 gallons per month



REU represents a capacity factor based on 4,000 gallons per month of seasonal water use by a single family residential unit

Water REU Revenue

Base Charge	Customers	Charge	Revenue
Meter Equivalents	1,153	$13.04	$180,421
REUs	1,329	$13.04	$207,962
Additional	176		$27,540
CWS Capital Charge			
Meter Equivalents	1,153	$7.92	$109,581
REUs	1,329	$7.92	$126,308
Additional	176		$16,727
Total			**$44,268**

Wastewater REU Revenue

Base Charge	Customers	Charge	Revenue
Meter Equivalents	1,005	$29.01	$349,861
REUs	1,089	$29.01	$379,103
Additional	84		**$29,242**

RESIDENTIAL EQUIVALENT UNIT

- **Enhances customer equity by recovering more fixed costs from customers that require more capacity during peak periods**
- **Improves revenue stability by increasing fixed revenue**
- **Based on current FY 2017 rates**
- **No impact on majority of customers (single-family residential)**

Current Water Rate Structure

Fixed Monthly Water Charges	Base Charge	CWS Capital	Total
5/8 or 3/4-inch Meter	$13.04	$7.92	$20.96
1-inch Meter	$15.54	$9.91	$25.45
1.5-inch Meter	$19.58	$13.14	$32.72
2-inch Meter	$29.48	$21.05	$50.53
3-inch Meter	$118.71	$93.32	$212.03
4-inch Meter	$201.26	$158.26	$359.52

Variable Usage Rates	Normal	Drought Surcharge
Essential Rate (0-4 kgal)	$3.33	$3.33
Average Rate (4-8 kgal)	$7.24	$10.86
Discretionary Rate (Above 8 kgal)	$12.09	$18.13

Proposed Water Rate Structure

Fixed Monthly Water Charges	Base Charge	CWS Capital	Total
1 REU (Single-Family Res)	$13.04	$7.92	$20.96
2 REU	$26.08	$15.84	$41.92
3 REU	$39.12	$23.76	$62.88
4 REU	$52.16	$31.68	$83.84
5 Reu	$65.20	$39.60	$104.80

Variable Usage Rates	Normal	Drought Surcharge
Essential Rate (0-4 kgal)	$3.33	$3.33
Average Rate (4-8 kgal)	$7.24	$10.86
Discretionary Rate (Above 8 kgal)	$12.09	$18.13

Current Wastewater Rate Structure

Fixed Monthly Wastewater Charges	Base Charge
5/8 or 3/4-inch Meter	$29.01
1-inch Meter	$35.12
1.5-inch Meter	$45.01
2-inch Meter	$69.26
3-inch Meter	$287.63
4-inch Meter	$489.67

Variable Wastewater Rates	Variable
Essential Rate (0-4 kgal)	$8.04
Average Rate (4-8 kgal)	$10.22
Discretionary Rate (Above 8 kgal)	$16.10

Proposed Wastewater Rate Structure

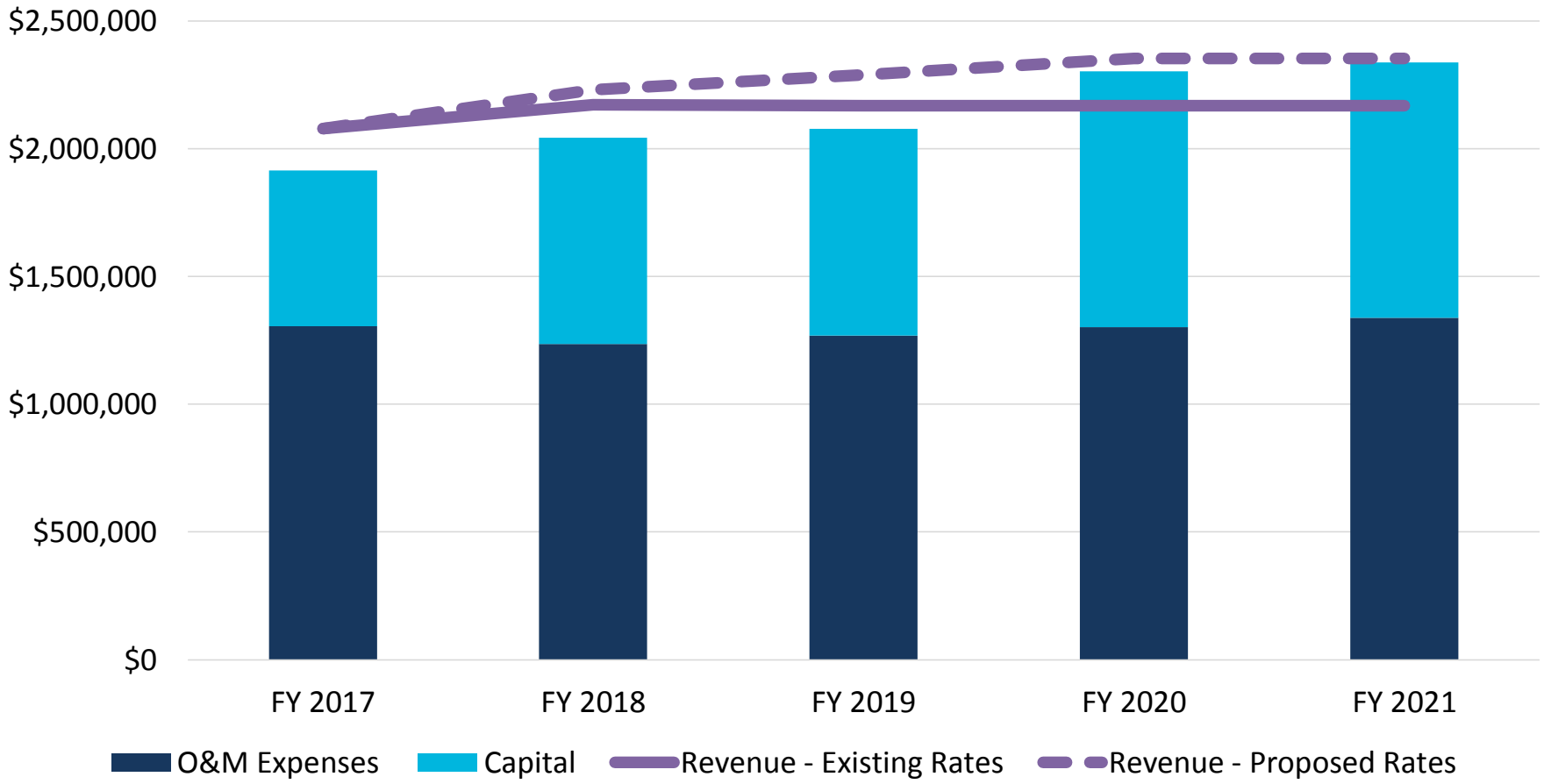
Fixed Monthly Wastewater Charges	Base Charge
1 REU (Single-Family Res)	$29.01
2 REU	$58.02
3 REU	$87.03
4 REU	$116.04
5 Reu	$145.05

Variable Wastewater Rates	Variable
Essential Rate (0-4 kgal)	$8.04
Average Rate (4-8 kgal)	$10.22
Discretionary Rate (Above 8 kgal)	$16.10

Primary Forecast Assumptions

- **Revenue Requirements**
  - Escalation factors utilized for O&M Expenses
    - Inflation: 2.5% per year
    - Salaries and benefits: 3.0% per year
    - Administrative: 3.0% per year
  - Bulk water purchases
    - Assumes annual 2.0% rate adjustments
- **Utility Rates**
  - Adjust current rate structure to reflect REU base charge approach
  - No water rate increases during five-year planning period
  - Annual 5.0% wastewater rate increases each year of the planning period

Revenue Sufficiency Forecast



Single Family Bill Impact (8,000 Gallons)

Fiscal Year	Rate Adjustments Assumed Water/Sewer	Bill Increase*	Projected Bill Amount
2016			$159.08
2017	(11.9%)/17.0%	$6.21	$165.29
2018	0.0%/5.0%	$5.10	$170.39
2019	0.0%/5.0%	$5.36	$175.75
2020	0.0%/5.0%	$5.63	$181.38
2021	0.0%/5.0%	$5.90	$187.28

*Represents approximately 3% combined increase annually.

¾” Meter Guest House

(2 REU and 8,000 gallons per month)

Guest House	Current	REU	Difference	Percent
Water	$ 63.24	$ 84.20	$ 20.96	33%
Sewer	$ 102.05	$ 131.06	$ 29.01	28%
Total	$ 165.29	$ 215.26	$ 49.97	30%

1” Meter 22 Unit Rental Property

(22 REU and 32,000 gallons per month)

22 Rental Units	Current	REU	Difference	Percent
Water	$ 357.89	$ 793.56	$ 435.67	122%
Sewer	$ 494.56	$ 1,097.66	$ 603.10	122%
Total	$ 852.45	$ 1,891.22	$ 1,038.77	122%

¾” Meter Restaurant with 4.9 REU

(32,000 gallons of water use per month during peak season)

3/4-Inch Restaurant	Current	REU	Difference	Percent
Water	$353.40	$435.14	$ 81.74	23%
Sewer	$488.45	$601.59	$ 113.14	23%
Total	$ 841.85	$ 1,036.73	$ 194.88	23%

1” Meter Restaurant with 11.4 REU

(76,000 gallons of water use per month during peak season)

1" Restaurant	Current	REU	Difference	Percent
Water	$889.85	$1,103.34	$ 213.49	24%
Sewer	$1,202.96	$1,498.55	$ 295.59	25%
Total	$ 2,092.81	$ 2,601.90	$ 509.09	24%

Conclusions

- Implementing REU approach
  - Provides increased revenue
  - Enhances customer equity
  - Improves revenue and rate stability
- No water rate increases anticipated during five-year planning period
- Annual 5.0% wastewater rate increases needed to meet capital expenditure

Questions

Presentation by:

Frank Davis, Manager
Raftelis Financial Consultants, Inc

MSRB REGISTERED MUNICIPAL ADVISOR

RFC is a Registered Municipal Advisor with the MSRB and SEC under the Dodd-Frank Act and is fully qualified and capable of providing advice related to all aspects of utility financial and capital planning, including the size, timing, and terms of future debt issues. Any opinions, information or recommendations included in this presentation, related to the size, timing, and terms of a future debt issue may be relied upon only for its intended purpose. This information is not intended as a recommendation to undertake a specific course of action related to the issuance of debt, or to indicate that a particular set of assumptions for the size, timing and terms of issuing debt will be available at the time debt is actually issued.

Utility Revenue Forecast

Fiscal Year	Revenue from Existing Rates	Rate Adjustments Water/Sewer	Addt. Revenue from Adjustments	Miscellaneous Revenue [1]	Total Revenue
2017	$2,029,668		$0	$50,067	$2,079,736
2018	$2,134,564	0.0%/5.0%	$58,500	$38,775	$2,231,839
2019	$2,134,634	0.0%/5.0%	$119,900	$34,750	$2,289,284
2020	$2,134,634	0.0%/5.0%	$184,400	$34,750	$2,353,784
2021	$2,134,634	0.0%/5.0%	$184,400	$34,750	$2,353,784

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FINANCIAL CONSULTANTS, INC.

TOWN OF **SULLIVAN'S ISLAND**

Water and Wastewater Rate and Financial Planning Update

Draft Report / September 28, 2016

Photo by Ron Cogswell (Flickr)

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Sarasota, FL 34237

Phone 941.349.1040

www.raftelis.com

September 28, 2016

Mr. Greg Gress
Town of Sullivan's Island
Manager
Water and Sewer Department
2050 Gull Street
Sullivan's Island, South Carolina 29578-2468

Subject: Water and Wastewater Financial Plan and Rate Study Report - DRAFT

Dear Greg:

Raftelis Financial Consultants, Inc. (RFC) is pleased to submit the results of the fiscal year (FY) 2017 Water and Wastewater Rate and Financial Planning Update (Rate Update) to the Town of Sullivan's Island (Town). We have enjoyed working closely with you and other members of Town management in updating the Financial Planning and Rate Model and developing an updated program of water and wastewater user rates and charges.

The Rate Model was originally developed as part of our FY 2009 Rate Update has been updated to incorporate a financing plan for the utility's five-year capital improvement plan (CIP) while providing a five-year forecast of annual revenue requirements and an appropriate program of water and wastewater user rates and charges.

As always, we wish to express our appreciation to you and the Town management for your cooperation, input, and assistance. It has been a pleasure to again be of service to the Town in providing this Rate Update and the development of the Rate Model.

If you have any questions regarding the contents of this report, please contact me at (941) 349-1040.

Sincerely,

RAFTELIS FINANCIAL CONSULTANTS, INC.

Frank Davis
Manager

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SECTION 1: INTRODUCTION

This draft rate report documents the results of our fiscal year (FY) 2017 Water and Wastewater Rate and Financial Planning Update (Rate Update) for the Town of Sullivan's Island (Town). This report documents our five-year financial forecast of revenue requirements, describes an alternative rate structure that would assign a demand per residential equivalent unit (REU) to recover fixed monthly charges from different types of customers, and summarizes annual rate revenue adjustments proposed over the five-year financial forecast period. Additionally, the five-year financial forecast documented in this report includes estimated debt service on anticipated debt needed to fund a variety of capital improvements and/or equipment purchases during the forecast period.

To address the potential inequities of high use seasonal users and multiple dwellings connected to a single meter, the Town sought to evaluate an REU approach to recover the fixed monthly charges for water and wastewater. The REU approach evaluated as part of this study assigns a demand per REU representing the typical seasonal period use for a single residential unit. Single-family residential customers are assigned a single REU while Multi-family customers are assigned multiple REUs based on the number of dwellings connected to the meter. Commercial customers, such as restaurants are assigned multiple REUs based on their historical water use as a proportion to the average water use observed for the typical residential dwelling unit observed during the seasonal period from May 2015 through September 2015.

BACKGROUND

Sullivan's Island is a barrier island located in Charleston County with a current population of approximately 2,000. The Water and Sewer Department provides water and wastewater services to approximately 1,127 active accounts. Prior to 1995, the Town provided drinking water through several groundwater wells. In 1995, the Town began purchasing 100% of its treated water from Charleston Water System (CWS) as part of a wholesale agreement. Although the Town made an initial capital contribution of $1,986,216 for 750,000 gallons per day (gpd) of allocated water service, the Town's typical average daily usage is approximately 250,000 gpd. Unless the Town decides to allow higher density zoning, future development is limited and it is unlikely the Town would ever approach water demands at the 750,000 gpd maximum purchase amount. Furthermore, although it is not a provision of the wholesale agreement the Town also contributes 0.64% of all capital improvements to the CWS Hanahan Water Treatment Plant (WTP) which has a significant impact on the Town's water rates.

This report presents an alternative rate structure and evaluates the anticipated revenue and customer impacts of implementing the alternative rate structure in January 2017.

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SECTION 2: UTILITY PRICING OBJECTIVES

As part of this Rate Update, RFC had Town staff and the members of the Water and Sewer Committee rank and prioritize twelve utility pricing objectives as either "essential", "very important", or "important". Since the Town would like to evaluate alternative rate structures, prioritizing a set of pricing objectives serves as an initial roadmap for designing rate structure modifications and provides a set of criteria for evaluating the proposed rate structure throughout the process. The rate structure should be designed to promote the Town's planning philosophies, as long as those philosophies are not in conflict with the basic cost-allocation principles. Rate structures affect how costs are allocated and recovered from different types of classes of customers, so any modifications to the rate structure will have an impact on those cost allocations with some customers paying more and some customers paying less. These differences in customer impacts may be difficult to explain unless there is a clear understanding of the pricing objectives for the utility and the advantages provided by the new rate structure in achieving these objectives.

The twelve pricing objectives consider by the Town representatives include:

- **Financial Stability:** The rate structure should adequately recover the costs associated with providing service and ensure that enough revenues are generated to meet bond coverage and fund asset replacements and reserve requirements.
- **Minimization of Customer Impacts:** The rate structure should be developed such that adverse rate impacts on each customer class are minimized.
- **Affordability to Disadvantaged Customers:** The rate structure should incorporate practices or procedures that help ensure that economically disadvantaged customers can afford water and wastewater service.
- **Rate Stability:** The rate structure should minimize dramatic rate increases or decreases during the planning period.
- **Cost of Service Based Allocations:** The rate structure should ensure that each customer class is contributing equitably towards revenue requirements based upon the costs of providing service to each customer class.
- **Economic Development:** The rate structure should incorporate a preferential rate to attract economic development to Sullivan's Island.
- **Simple to Understand and Update:** The rate structure should be easy for Town customers to understand, utilizing a moderate level of educational tools. In addition, the rate structure should be able to be effectively maintained by Town staff in future years.
- **Ease of Implementation:** The rate structure should be compatible with the Town's billing system. In addition, the rate structure should allow for the continuation of existing management and system reports.

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- **Defensibility:** The rate structure should be consistent with the rate-setting methodologies provided by AWWA and applicable laws, in order to ensure that rates are defensible if challenged in court.
- **Revenue Stability:** The rate structure should provide for a steady and predictable stream of revenues to the utility such that the utility is capable of meeting its current financial requirements.
- **Conservation and Demand Management:** The rate structure should encourage water conservation as well as assist in managing system demand.
- **Equitable Contributions from New Customers:** New customers should be responsible for the capital costs necessary to provide them service.

Each pricing objective was discussed in detail and consideration was given to the competing nature of some of the pricing objectives. Based on the results of the pricing objectives exercise, the Town's essential pricing objectives include cost of service based allocations, financial sufficiency, and revenue stability. Table 1 below summarizes the overall rankings of the twelve pricing objectives considered.

Table 1: Results of Pricing Objectives Ranking Exercise

Classification		Rank	Utility Pricing Objectives	Score
Primary	Essential	1	Cost of Service Based Allocations	21
		1	Financial Sufficiency	21
		3	Revenue Stability	20
		4	Rate Stability	19
	Very Important	5	Equitable Contributions from New Customers	17
		5	Ease of Implementation	17
		5	Defensibility	17
Secondary	Important	8	Minimization of Customer Impacts	15
		9	Simple to Understand and Update	11
	Least Important	10	Affordability to Disadvantaged Customers	8
		11	Conservation and Demand Management	8
		12	Economic Development	6

Based on the results of the rankings exercise, the Town's essential pricing objectives are cost of service based allocations, financial sufficiency, revenue stability, and rate stability. It is important to note the ranking of cost of service based allocations and revenue stability as "essential objectives" is consistent with the preliminary goal of this Rate Update. Since 95% of the Town's customers utilize 5/8-inch or 3/4-inch meters, there are potential inequities related to recovering the capacity component of the fixed monthly charges based on meter size. The Town has restaurants, seasonal rentals, and accounts with multiple establishments that connect to a single ¾-inch meter. These types of customers use larger amounts of water during the peak vacation season in comparison to the typical year round residential customer with a ¾-inch meter.

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SECTION 3: REVENUE REQUIREMENTS

Evaluating the ability of existing rates and revenues to fund the forecast of annual revenue requirements is a key initial step in the rate-setting process. This involves an analysis of annual operating revenues under existing rates, operating & maintenance (O&M) expenses, capital expenditures, reserves, and transfers between funds. This section of the report provides a discussion of the projected annual O&M and capital expenditures of the utility enterprise fund.

OPERATING AND MAINTENANCE

The first step in determining the program of water and wastewater user rates and charges is to develop the forecast of annual O&M expenses for the water and wastewater utilities. The forecast of water and wastewater O&M during the forecast period is based on the FY 2017 Operating Budget, which serves as the base year of the forecast. The FY 2017 O&M expenses are forecasted to escalate based on anticipated annual increases in personal services (salary and benefits) and administrative services of 3.0% and anticipated annual inflation of 2.5% which is applied to all other expenses (except water purchases from CWS) such as equipment and supplies, professional services, and maintenance expenses. Because the Town's annual demand for treated water is relatively consistent, the water purchase costs are estimated to increase by 2.0% annual based on anticipated rate increases from CWS.

CAPITAL EXPENDITURES

Since the Town faces capital improvements that will require the use of SRF Loans, one of the objectives of the Rate Study is to integrate capital planning needs into the process of developing an appropriate five-year program of utility rates and charges, and to assess the impact of the capital needs over the five-year planning period. The capital needs for both the water and wastewater systems are discussed below along with the anticipated effects of additional debt service on the revenue requirements and utility rates and charges.

Water Capital Expenditures

The water capital expenditures include annual debt service, equipment lease payments, contributions to an equipment replacement fund, and annual rate funded capital projects. The annual rate funded capital projects relate to a pipe replacement program and the Town's share of anticipated CWS capital improvements at the Hanahan WTP. The five-year water capital improvements plan (CIP) does not include any major expenditures that would be funded through bonds or State Revolving Fund (SRF) Loans. It is our understanding that the Town is currently in discussions with CWS regarding the annual capital payments. Any reductions of this payment would result in potentially better operating conditions for the utility as revenue requirements would be reduced.

The five-year water CIP and the projects to be debt funded are presented in Table 2.

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Table 2: Water Capital Improvements

Water Capital Projects	Funding Source	2017	2018	2019	2020	2021
SI Capital Improvements	Rates/Reserves	$ 137,500	$ 87,500	$ 87,500	$ 87,500	$ 87,500
CPW Capital Improvements	Rates/Reserves	110,000	110,000	110,000	110,000	110,000
Total Water CIP		**$ 247,500**	**$ 197,500**	**$ 197,500**	**$ 197,500**	**$ 197,500**

Wastewater Capital Expenditures

The wastewater capital expenditures include annual debt service, equipment lease payments, contributions to an equipment replacement fund, and annual rate funded capital projects. The annual $157,500 in rate funded capital projects relate to an on-going sewer rehabilitation & replacements program. The five-year wastewater CIP also includes some significant improvements to address inflow and infiltration (I&I) issues in the collection system, pump station flood proofing and improvements, replacement of the oxidation ditch, and other seismic and flood resistance improvements at the treatment plant that are anticipated to be funded through a combination of SRF Loans, grants and Town reserves. The Town has been in discussions with FEMA to receive funding for flood proofing and seismic retrofits at the wastewater treatment plant. This project includes a total of approximately $5.4 million to $5.8 million in expenditures, of which 75% is anticipated to be grant funded and 25% is anticipated to be contributed by the City's general funds. Should any changes to the project result in significant funding requirements from the utility system, an updated revenue sufficiency forecast may be warranted.

Table 3 presents the five-year wastewater CIP and the projects to be debt funded.

Table 3: Wastewater Capital Improvement Plan

Wastewater Capital Projects	Funding Source	2017	2018	2019	2020	2021
New Fence	Rates/Reserves	$ 12,000	$ -	$ -	$ -	$ -
Rain covers for sludge drying beds	Rates/Reserves	50,000	-	-	-	-
Ongoing sewer rehab and/or replacement to reduce I&I	Rates/Reserves	157,500	87,500	87,500	87,500	87,500
R&R collection system	Grants/Rates	-	-	3,000,000	-	-
Phase II & III I&I Reduction	Debt	2,237,000	-	3,000,000	-	-
Replace/rehabilitate oxidation ditch	Grants	477,333	3,510,133	1,418,433	-	-
Additional material storage bins	Grants	30,000	-	-	-	-
Total Wastewater CIP		**$ 2,963,833**	**$ 3,597,633**	**$ 7,505,933**	**$ 87,500**	**$ 87,500**

Footnotes:

- R&R collection system project anticipates 75% Grant funding and 25% Rate funding.
- Replace/rehabilitate oxidation ditch project assumes 75% Grant funding and 25% General fund contributions.

Capital Financing Plan

To determine the most appropriate and feasible financing plan, RFC and Town management used the Town's Financial Planning and Rate Model (Model) to evaluate the financial and customer impacts of the capital plan. Town management prioritized the capital projects based on need, and in some cases, the timing of certain projects was delayed or pushed out to later years to mitigate the impact on the financial resources available to the utility and maintain customer affordability.

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The financial resources, or financial funding sources, available to the water utility include:

- Cash and Rate Funded: operating cash available to fund capital projects;
- Reserve Funded: available reserves for equipment replacements;
- General Fund Transfers: capital funds provided by the Town's general fund;
- Debt Funding: debt issued to pay for major capital improvements; and
- Grant Funding: generally available in limited circumstances and when available can only be used for specific purposes.

Ultimately, the financing plan identified as part of this Rate Study was developed to meet the most important capital infrastructure needs, maintain appropriate financial strength for the utility, and mitigate customer impacts over the five-year planning period.

Table 4 presents the financial plan including annual funding provided through each of the financial funding sources.

Table 4: Proposed Financial Plan to Fund Capital Projects

Financial Funding Sources	2017	2018	2019	2020	2021
User Rates	$ 224,500	$ 285,000	$ 1,035,000	$ 285,000	$ 285,000
Reserve Funds	242,500	-	-	-	-
Debt Financing	2,237,000	-	3,000,000	-	-
General Fund Transfer	126,833	877,533	354,608	-	-
Grants	380,500	2,632,600	3,313,825	-	-
Total Funding Sources	**$ 3,211,333**	**$ 3,795,133**	**$ 7,703,433**	**$ 285,000**	**$ 285,000**

For the majority of the wastewater projects, the Town plans to obtain approximately $2.2 million through a 2016 SRF Loan and $3.0 million through a 2019 SRF Loan. The SRF program is administered for the state of South Carolina by the Department of Health and Environmental Control (DHEC) and the Office of Local Government (OLG). The SRF program provides low-interest rate loans for building or repair to wastewater and drinking water plants or distribution/collection systems.

The Town anticipates an interest rate of 1.80% and a 20-year term on the 2016 SRF Loan based on preliminary discussions with the DHEC and the OLG. For the 2019 SRF Loan, the interest rate and loan term are assumed to be 2.25% and 20-years respectively. Annual debt service for both SRF Loans are forecasted in the Model based on estimated issuance dates and drawdown schedules provided by Town management. These two SRF Loans will be primarily allocated to the wastewater revenue requirements due to the types of projects being funded. The pledged revenues will be from the water and wastewater systems combined.

The annual revenue requirements include a five-year forecast of O&M and are based on assumptions that estimate the annual effects of inflation and demand growth, and wholesale water purchases from

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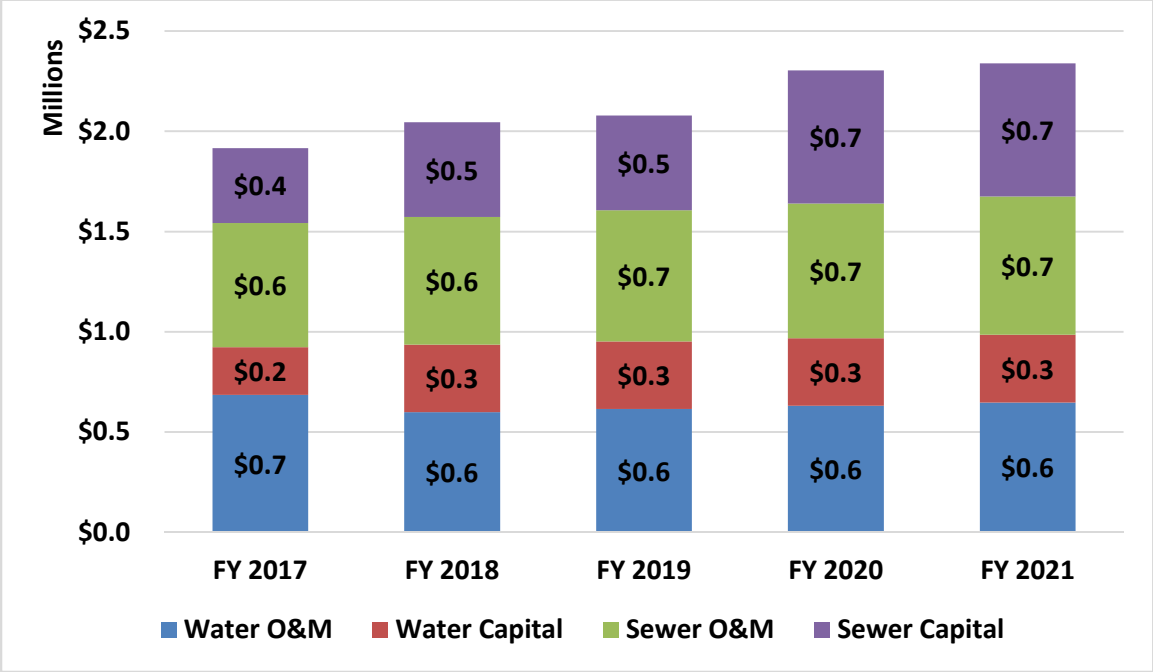
CWS. The annual capital costs are based on the Town's five-year financial plan and debt service on existing debt and proposed SRF Loans.

Chart 1 presents the annual water and wastewater revenue requirements during the five-year forecast period.

Chart 1: Forecast of Annual Revenue Requirements (in millions)



As chart 1 demonstrates, the forecasted annual water and wastewater revenue requirements increase from approximately $1.9 million in FY 2017 to approximately $2.3 million in FY 2021.

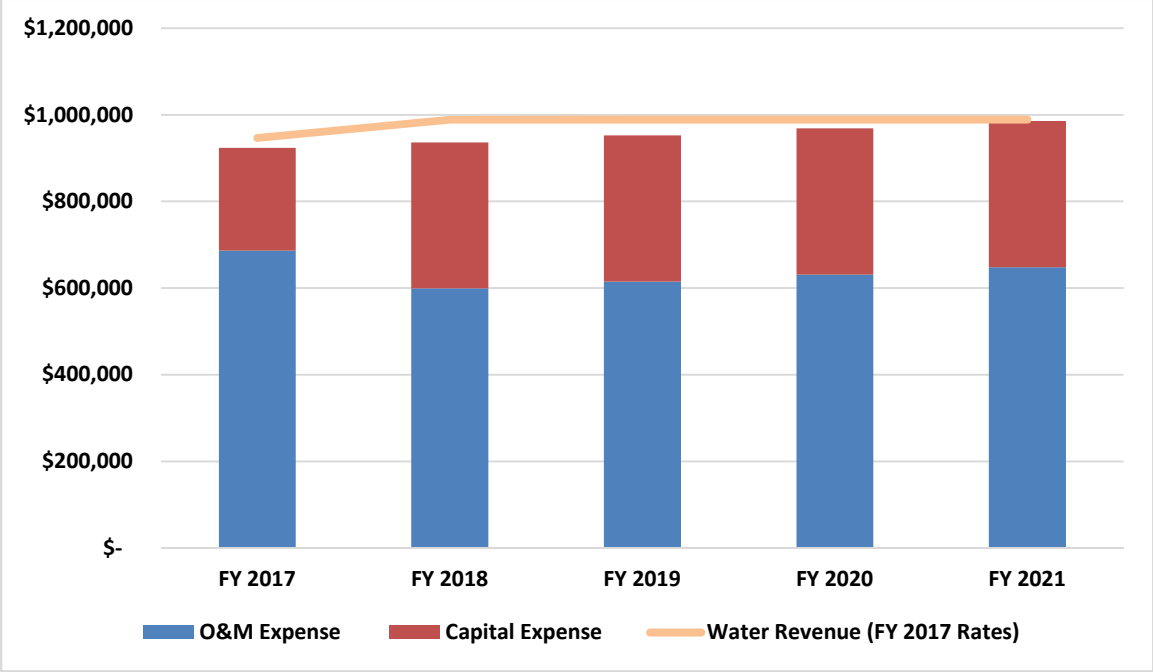
REVENUE SUFFICIENCY AND RECOMMENDED RATE ADJUSTMENTS

The next step of the rate analysis is to evaluate whether revenues under existing rates would be adequate or sufficient to recover the projected revenue requirements over the five-year forecast period. First, revenues were estimated under existing water and wastewater rates and charges assuming a flat customer base and demand level. Forecasted revenues were then compared to the annual revenue requirements of the water and wastewater systems. This analysis indicates that with the additional debt service and the growth in O&M requirements due to inflation existing rates are not sufficient to recover the annual revenue requirements for either the water system or wastewater system during the forecast period. After a significant decrease in water rates for FY 2017 due to a payoff of outstanding debt service, the need for rate increases is apparent as a revenue deficiency is otherwise projected over the next few years.

After accounting for annual inflationary adjustments, the water system revenue requirements remain relatively stable over the five-year forecast period, allowing water rates to remain unadjusted through all years of the forecast. To address projected revenue deficiencies of the sewer rates and meet the Town's debt service obligations and financial policy targets during the five-year forecast period, RFC recommends annual wastewater rate increases of 5.0% through FY 2022.

The estimated annual revenue sufficiency/deficiency under the existing water rates and the proposed program of water rate adjustments to address the projected deficiencies during the forecast period are shown in Chart 2 below.

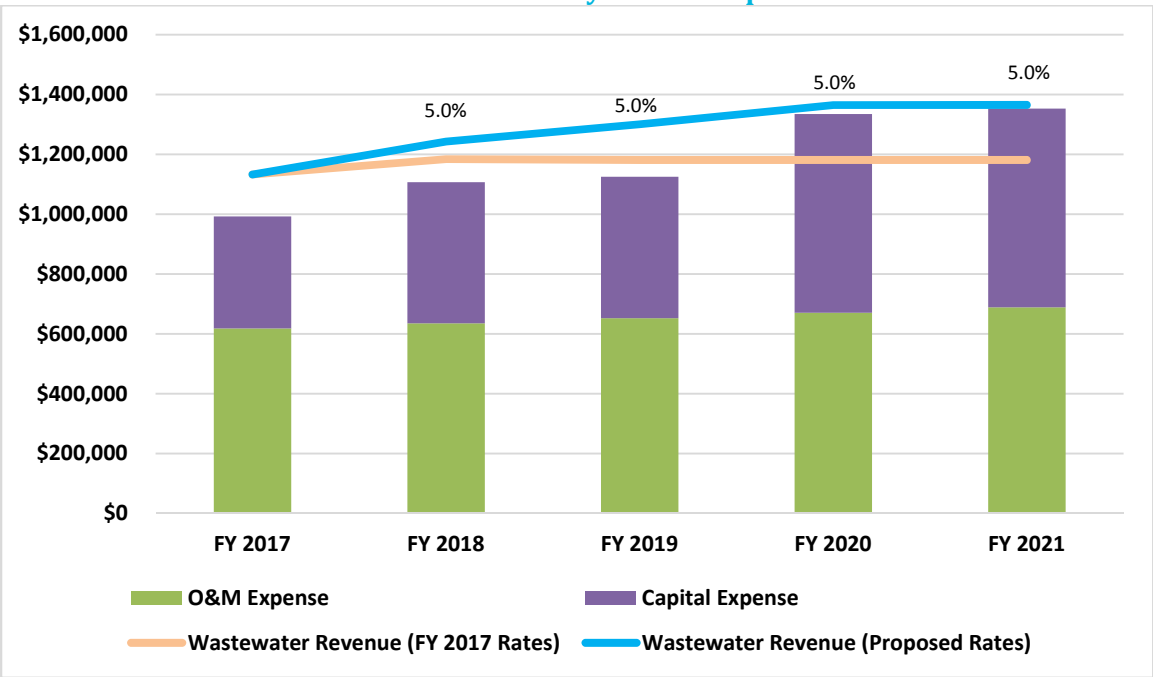
Chart 2: Water Revenue Sufficiency under Existing Rate Levels



The revenue sufficiency analysis for water results in slight positive gains over the forecast period. These projections also indicate the ability to maintain and build appropriate fund balances over the forecast period, which are vital to the long term health of the utility.

The estimated annual revenue sufficiency/deficiency under the existing wastewater rates and the proposed program of wastewater rate adjustments to address the projected revenue deficiencies during the forecast period are shown in Chart 3 below.

Chart 3: Sewer Revenue Sufficiency under Proposed Rate Increases



Unlike water, the existing wastewater rates are anticipated to produce a large revenue deficiency throughout the forecast period. This anticipated wastewater revenue deficiency is primarily driven by the large capital projects that require debt funding. By FY 2020 it is anticipated that the wastewater system will have approximately an additional $291,900 in annual debt service payments. This represents an increase in annual expenditures of over 30%. However, debt service also comes with coverage provisions, which place an additional burden on annual revenues.

Chart 4 presents the revenue sufficiency for the combined water and wastewater utilities and annual debt service coverage under the recommended water and wastewater rate adjustments.

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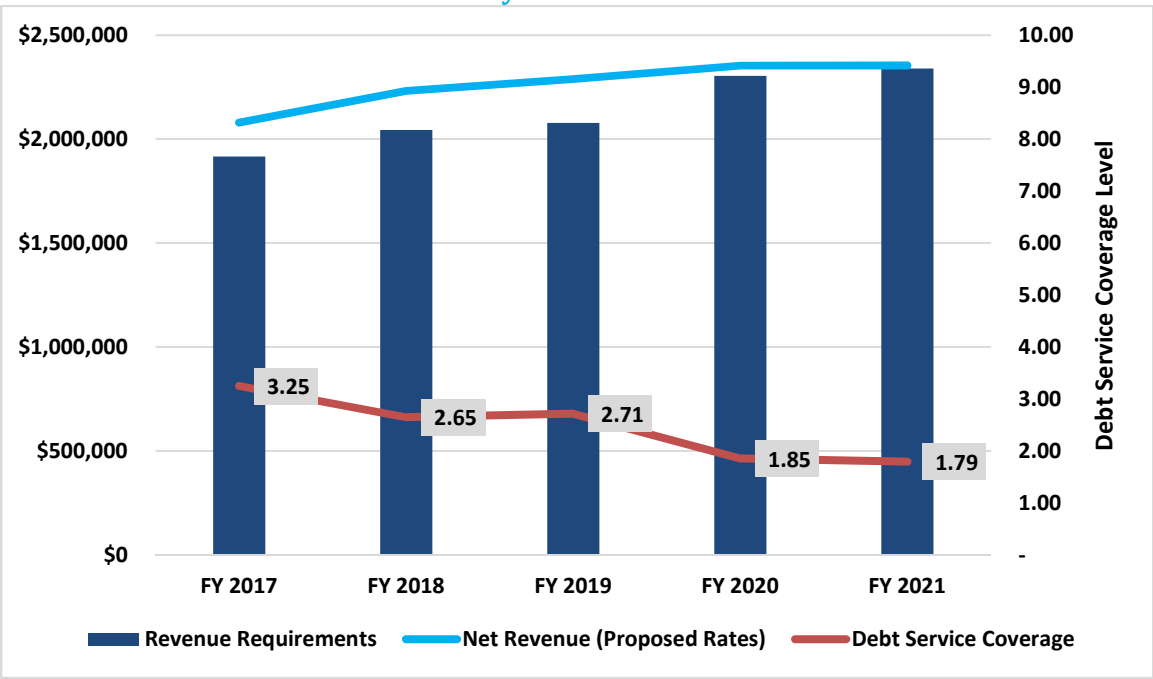
Chart 4: Combined Revenue Sufficiency and Debt Service Coverage under Recommended Utility Rate Increases



Following FY 2017, the recommended rate increases allow the combined utility to maintain annual revenue surpluses and achieve debt service coverage of at least 1.79 times, which is very strong. The minimum required debt service coverage on the existing bonds and the SRF Loans is 1.20 times. Considering that the utility will be more than doubling its annual debt service requirements by the end of the forecast, maintaining a strong coverage with marginal rate adjustments is imperative.

SECTION 4: CURRENT RATE STRUCTURE

The Town's current water and wastewater rate structures were implemented in 2009. Since its implementation, the Town has adjusted the rates periodically to reflect increasing O&M and capital costs but no modifications have been made to the rate structures. This section provides a description of the current rate structures based on the recently adopted FY 2017 rates and charges. Because the information on multiple dwelling units per account was not incorporated into the Town's customer billing system, additional time and effort was required to develop and evaluate the impacts of the alternative REU approach. For this reason, the Town adopted water and wastewater rates for FY 2017 based on adjustments to the current rates reflecting budgeted operating and capital needs.

FIXED MONTHLY BASE CHARGES

The Town's current water and wastewater rate structure includes monthly fixed charges which incorporates a monthly base charge and CWS capital charge for water, and a monthly base charge for sewer. These monthly base charges are currently assessed by meter size with higher monthly charges for larger meters which have a higher potential capacity. These monthly base charges were designed to recover the fixed costs related to meter reading, billing, and administration on a per bill basis since these costs are the same for all customers. In addition, a portion of capital costs are recovered through the base charge based on the level of demand a customer can potentially place on the system based on meter size.[1]

The monthly *CWS capital charge* is also assessed to customers according to meter size as a component of the overall water base charge. This monthly charge is similar to the monthly base charge as it recovers the Town's portion of the annual CWS capital improvements costs from customers based on meter size. Since the costs for these improvements are largely out of the Town's control, these costs are segregated out and assessed independently to demonstrate the annual cost the Town must incur to secure CWS capacity.

TIERED VOLUME RATES

The Town assesses tiered variable or "volume" usage rates per 1,000 gallons of metered water use that increase with the level of usage for both water and wastewater. The volume rate structures for both water and wastewater incorporate a three-tiered structure assessed to all customers, with separate rates for water and wastewater usage. This inclining block rate structure was designed to encourage water conservation and enhance the cost of service basis of the usage charges by:

1. Setting the block 1 essential water usage interval to represent usage below the average winter water usage per residential account (0 to 4,000 gallons) and setting the block 1 rate to be less than the average usage rate per 1,000 gallons.

[1] Meter conversion ratios are provided in the American Water Works Association Manual 6 (M-6).

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2. Setting the block 2 average water usage interval between the average winter and average summer water usage per residential account (4,001 to 8,000 gallons) and setting the block 2 average rate to equal the average usage rate per 1,000 gallons.
3. Setting the block 3 discretionary water usage interval to represent usage above the average summer water usage per residential account (above 8,000 gallons) and setting the block 3 discretionary rate to be 50% higher the average usage rate.

The water usage rates are designed to recover CWS water purchases, all O&M other than administrative costs, and all proposed debt service and other capital costs that are not recovered through the monthly base charges.

The FY 2017 water and wastewater rates and charges are summarized in Table 6 below.

Table 6: Current Water and Wastewater User Rates and Charges

	Water Charges			Sewer Charges
	Base	CWS Capital	Total	Base
Monthly Fixed Charges				
Meter Size				
5/8" by 3/4"	$ 13.04	$ 7.92	$ 20.96	$ 29.01
1"	$ 15.54	$ 9.91	$ 25.45	$ 35.12
1.5"	$ 19.58	$ 13.14	$ 32.72	$ 45.01
2"	$ 29.48	$ 21.05	$ 50.53	$ 69.26
3"	$ 118.71	$ 93.32	$ 212.03	$ 287.63
4"	$ 201.26	$ 158.26	$ 359.52	$ 489.67
Variable Usage Rates				
Monthly Usage Intervals		Water		Sewer
0 to 4,000 gals		$ 3.33		$ 8.04
4,000 to 8,000 gals		$ 7.24		$ 10.22
> 8,000 gals		$ 12.09		$ 16.10
Drought Surcharge Rates				
Monthly Usage Intervals				
0 to 4,000 gals		$ 3.33		$ 8.04
4,000 to 8,000 gals		$ 10.86		$ 10.22
> 8,000 gals		$ 18.13		$ 16.10

Because it decided to pay off a remaining $500,000 in G.O. Bonds associated with the water system, the Town reduced its the 2017 water rates to reflect lower annual water revenue requirements. The water base charges were reduced by approximately 40% while the volumetric charges were reduced by approximately 1.5%. However, the CWS capital charge was increased by less than 1.0% based on

costs provided by CWS. Conversely, since it has significant wastewater capital improvements anticipated during the planning period that will require additional SRF Loan obligations, the Town increased its FY 2017 wastewater rates. The wastewater base charges were increased by approximately 16.5% and the volumetric charges were increased by approximately 18%.

OPPORTUNITIES FOR IMPROVEMENT

The existing rate structure has been in place since RFC conducted a Water and Wastewater Rate Study in 2009. However, 95% of the Town's customers utilize 5/8-inch or 3/4-inch meters and are assessed the same monthly fixed charges. Some of these customers include restaurants and seasonal rental properties that use larger amounts of water during the peak vacation season in comparison to the typical use pattern of the year round residential customers. For this reason, the meter size approach is not necessarily the most equitable approach for recovering the fixed cost of water and sewer capacity from customers that require more capacity during seasonal periods.

A similar challenge is the practice of splitting lots, which involves property owners with a pre-existing establishment or residence on a large lot constructing an additional establishment or residence. Although the additional establishment or residence connects to the same existing water meter, splitting lots increases the density of development and the demand impact on the water and sewer systems. To address the potential inequities of high use seasonal users and multiple dwelling units connected to a single meter, the Town would like to develop and implement an REU approach to recover the fixed monthly charges as an alternative to the meter approach. This approach would assign a demand per REU representing the seasonal water use for the typical year-round residential customer. Single-family residential customers would be assigned a single REU while larger and seasonal customers would be assigned multiple REUs based on the number of establishments connected to the meter or their historical usage during peak periods.

CUSTOMER BILL IMPACTS UNDER CURRENT RATE STRUCTURE

Although this report recommends a modified rate structure to be implemented on January 1, 2017, the Town implemented rates on July 1, 2016 which reduced the water rates and charges while increasing the wastewater rates and charges. These rate adjustments reflect reduced water costs and the need for increasing wastewater revenues to fund capital improvements and debt service. While customers will experience a reduced monthly water bill, the more substantial wastewater rate increases will result in an overall increase to the customers combined monthly water and wastewater bill.

Table 7 below presents monthly water, wastewater, and combined utility bills for residential customers with a ¾ inch meter based on the FY 2017 rates and charges implemented by the Town assuming different levels of water usage.

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Table 7: Residential Customer Bill Impacts under Current Rate Structure

Monthly Use	WATER			Sewer			Total		
	Current	Proposed	%	Current	Proposed	%	Current	Proposed	%
4,000	$ 42.39	$ 34.32	-19%	$ 52.21	$ 61.17	17%	$ 94.60	$ 95.45	1%
8,000	$ 71.75	$ 63.24	-12%	$ 87.33	$ 102.05	17%	$ 159.08	$ 165.29	4%
10,000	$ 96.27	$ 87.42	-9%	$ 114.15	$ 134.25	18%	$ 210.42	$ 221.67	5%
15,000	$ 157.57	$ 147.87	-6%	$ 181.20	$ 214.75	19%	$ 338.77	$ 362.62	7%
20,000	$ 218.87	$ 208.32	-5%	$ 248.25	$ 295.25	19%	$467.12	$ 503.57	8%
25,000	$ 280.17	$ 268.77	-4%	$ 315.30	$ 375.75	19%	$595.47	$ 644.52	8%

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SECTION 4: RATE STRUCTURE MODIFICATIONS

To address the potential inequities of high use seasonal and multiple dwelling unit customers connected to a single ¾ inch meter, RFC worked with Town staff to identify those short-term rental and residential split properties with multiple dwellings connected to a single customer meter. In addition, RFC evaluated the seasonal water use patterns for the months of May through September during fiscal year 2015 for residential customers with a single dwelling unit and all commercial customers regardless of meter size. The average seasonal water use of 5,500 gallons per month for the typical residential dwelling unit during this period was used as the basis for determining the number of REU for each commercial customer. Because seasonal water usage represents the peak demand each customer typically puts on the Town's water and wastewater capacity, average seasonal water usage has a correlation with the amount of capacity required to serve each customer. So, a commercial customer with an average seasonal water use of 16,500 gallons per month is assigned 3.0 REU for the purposes of assessing the capacity component of the fixed monthly base charges and the CWS capital charges.

This analysis resulted in an increase in the number of units available for recovering the fixed costs of capacity through the monthly base charges. Under the current meter approach, the fixed costs of capacity are recovered through 1,174 water meter equivalents and 1,005 wastewater meter equivalents.[2] Under the alternative approach, the monthly fixed charges will be recovered through 1,329 water REU and 1,089 wastewater REU.[3] The alternative approach is more equitable in recovering the fixed costs of capacity as it better assigns the true peak demands for multiple dwelling unit, seasonal, and commercial customers than the meter approach does.

Because the REU data and rate analysis was not available in time for implementation by July 1, 2016, RFC recommends the Town adopt the rate structure modifications for implementation on January 1, 2017 according to the same rates adopted July 1. The rate modifications would result in no impact to the typical residential customer with a single dwelling unit connected to the meter. However, residential customers with multiple dwelling units and high use commercial customers will experience an increase to the monthly base charges and CWS capacity charges based on the number of REU assigned to those customers. The increase to the water rates will be limited to the monthly base charges which is currently $13.04 per water REU plus the $7.92 CWS capacity charge ($20.96 total) and the $29.01 monthly wastewater base charge per wastewater REU. There are no changes to the water or wastewater volumetric charges or monthly usage intervals.

[2] The Town serves customers that have separate outside irrigation meters that are not connected to the sewer system.

[3] Town staff is currently evaluating and refining the customer account data to confirm the accuracy of non-residential customer classifications. The amount of REUs may change based on the results of Town staff's evaluation.

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Table 8 presents a comparison of the monthly water and wastewater utility bills for customers with a ¾ inch meter under the current FY 2017 rates and charges along with similar monthly bills under the modified rate structure for customers with either 1 or 2 REUs assuming different levels of water usage. The last column demonstrates the total change in a monthly bill for each additional REU per account.

Table 8: Comparison of Bills Under Current and Modified Rate Structure

	Water Bills			
Usage	3/4" Meter	1 REU	2 REU	$ Change
4,000	$ 34.28	$ 34.28	$ 55.24	$ 20.96
8,000	$ 63.24	$ 63.24	$ 84.20	$ 20.96
10,000	$ 87.42	$ 87.42	$ 108.38	$ 20.96
15,000	$ 147.87	$ 147.87	$ 168.83	$ 20.96
20,000	$ 208.32	$ 208.32	$ 229.28	$ 20.96
25,000	$ 268.77	$ 268.77	$ 289.73	$ 20.96
	Wastewater Bills			
Usage	3/4" Meter	1 REU	2 REU	$ Change
4,000	$ 61.17	$ 61.17	$ 90.18	$ 29.01
8,000	$ 102.05	$ 102.05	$ 131.06	$ 29.01
10,000	$ 134.25	$ 134.25	$ 163.26	$ 29.01
15,000	$ 214.75	$ 214.75	$ 243.76	$ 29.01
20,000	$ 295.25	$ 295.25	$ 324.26	$ 29.01
25,000	$ 375.75	$ 375.75	$ 404.76	$ 29.01

Table 9 presents the modified monthly water and wastewater base charges and CWS capacity charges based on the number of REUs assigned per customer account under the recommended modifications to the FY 2017 rates implemented on July 1, 2016.

Table 9: Water and Wastewater Monthly Fixed Charges Per Residential Equivalent Unit

	Water			Wastewater
REU Per Account	**Base Charge**	**CWS**	**Total**	**Base Charge**
1 REU	$ 13.04	$ 7.92	$ 20.96	$ 29.01
2 REU	$ 26.08	$ 15.84	$ 41.92	$ 58.02
3 REU	$ 39.12	$ 23.76	$ 62.88	$ 87.03
4 REU	$ 52.16	$ 31.68	$ 83.84	$ 116.04