



ISLE OF PALMS WATER & SEWER COMMISSION

WATER AND SEWER FINAL RATE REPORT

Adopted June 17, 2020



June 19, 2020

Chris Jordan
Utilities Director
Isle of Palms Water & Sewer Commission
1300 Palm Boulevard
Isle of Palms, SC 29451

Subject: FY 2021 Final Water and Sewer Rate Report

Dear Chris:

Confluence Consulting, LLC (Confluence) is pleased to submit this fiscal year (FY) 2021 Final Water and Sewer Rate Report (Rate Report) to the Isle of Palms Water & Sewer Commission (Commission). The Final Report documents the five-year financial forecast and provides annual forecasted utility rate adjustments; including water and sewer rates for the Commissioners to consider for implementation in FY 2021.

The FY 2021 rate recommendations include no increases to the water rates and two alternative rate scenarios for the sewer rates which are both designed to generate approximately 2.5% in additional sewer sales revenue. At the June 17 Commission Meeting, the Commissioners voted to adopt Sewer Rate Alternative 2, which is designed to recover the additional FY 2021 sewer user rate revenues through balanced increases to the BFCs, volumetric charges, and penalty surcharges and achieve a similar recovery of the costs for the upgraded wastewater treatment capacity from sewer users at all usage levels.

I want to express my appreciation to you and the Commission staff for your assistance in providing the important financial information and insights needed to prepare this Financial Forecast. Should you and/or the Commissioners have any questions regarding this Rate Report, please do not hesitate to contact me at (704) 577-8133 or fdavis2238@gmail.com. I look forward to presenting the results and recommendations at the June 17 Commission Meeting.

Sincerely yours,

CONFLUENCE CONSULTING, LLC.



Frank Davis
President

EXECUTIVE SUMMARY

In August 2019 the Isle of Palms of Palms Water and Sewer Commission (Commission) engaged Confluence Consulting, Inc. (Confluence) to conduct a five-year financial forecast (Financial Forecast) and evaluate the financial and customer impacts of its on-going operations and financial plan which include an anticipated \$16.0 million revenue bond issue to fund major wastewater treatment upgrades. The Commission's multi-year capital improvements plan (CIP) incorporates a plan to consolidate its treatment capacity at the Forest Trails Wastewater Treatment Plant (WWTP) and serve all existing and future sewer customer demands at that facility. This water and sewer rate report (Rate Report) documents the assumptions, results, and rate recommendations developed as part of the Financial Forecast to ensure that annual water and sewer user rates and charges are sufficient to fund operations, maintain adequate cash reserves, and meet debt coverage requirements during the five-year forecast period.

This Rate Report summarizes the Commission's existing utility rate structures, provides a five-year forecast of utility rate adjustments, and recommends water and sewer rates for the Commissioners to consider for implementation in fiscal year (FY) 2021. While the proposed five-year program of rate adjustments is designed to achieve revenue sufficiency during the five-year planning period, available cash balances allow the Commission the option to consider delaying the projected FY 2021 sewer rate adjustments. Drawing on the available unrestricted cash balances to delay the proposed FY 2021 sewer rate increases to January or July of 2021 would provide additional time for the residents and businesses of the Isle of Palms to adjust to the economic challenges caused by the Covid-19 pandemic.

It should be noted that the Financial Forecast and rate recommendations do not consider any planned capital costs to extend the Commission's wastewater collection system to areas of the island currently served by individual septic systems. Should the City of Isle of Palms (City) and the Commission agree to a plan to extend the collection system to the unsewered areas of the island during the forecast period, it is likely that more significant sewer rate adjustments would be needed than the increases recommended in this Rate Report.

1. Existing Water & Sewer Rate Structures

The current water and sewer rate structures have been in place for many years and the billing system segregates the approximately 4,616 water and 2,648 sewer accounts into 116 different rate codes. The water and sewer rate structures are similar as both consist of three basic charge components which include 1) fixed monthly basic facility charges (BFCs), tiered volumetric charges that increase as the customer's consumption increases, and tiered surcharges that increase as the customer's consumption increases.

A. Basic Facilities Charges (BFCs)

Table E-1 below presents the current water and sewer BFCs assessed to the various rate codes based on billing groups which are defined based on equivalent residential units (ERU), customer class, and/or meter size. It should be noted that the existing rate structure assesses BFCs to the pool rate codes and master metered (multi-family/resorts) residential rate codes based on the number of ERU assigned to an individual account, as determined by Commission staff and based on South Carolina Department of Health and Environmental Control (DHEC) wastewater contributory loading standards.¹

Table E-1: Water and Sewer Basic Facilities Charges

Billing Group (2)	Category	Water Monthly Charge	Sewer Monthly Charge	Charge Ratio (1)
1	Residential and <1-inch meters	\$ 16.00	\$ 34.00	1.00
2	1-inch	\$ 32.00	\$ 65.00	2.00
3	1.5-inch	\$ 59.00	\$ 119.00	3.69
4	2-inch	\$ 107.00	\$ 216.00	6.69
5	3-inch	\$ 199.00	\$ 404.00	12.44
6	4-inch	\$ 320.00	\$ 648.00	20.00

- (1) The BFC for the residential and less than 1-inch meter assumes the base level of capacity required to serve one (1) ERU. For pools and master metered residential customers which are included in Billing Group 1, the BFC assessed per account is based on the number of ERUs assigned to that account multiplied by the BFC for one ERU, or \$16.00 for water.
- (2) Charges for meter sizes greater than 4-inch have been negotiated.

B. Volumetric Charges and Penalty Surcharges

The Commission also assesses volumetric charges and penalty surcharges to customers based on the monthly amount of metered water use per units of 1,000 gallons. Both the volumetric charges and penalty surcharges are tiered block rates that price water and sewer at increasingly higher per unit charges as the customer’s usage increases. Increasing tier volumetric charges are considered conservation rates that encourage efficient use of water resources as they focus on discouraging wasteful and inefficient use.

The water and sewer volumetric charge structures include five (5) increasing block volumetric charges assessed to customers based on water and sewer usage intervals and the demand characteristics of the six different billing group categories. The lowest tier one volumetric charge is assessed to the different billing groups based on increasingly higher tier one usage intervals that reflect higher base demands for higher use commercial customers with larger meters. Each subsequent tier (2 through 5) interval reflects the next 9,000 gallons of water and sewer usage for that billing group. The additional penalty surcharges are assessed for customer water usage above the tier one usage intervals.

¹ The existing billing codes and rate structures refer to pool and multifamily equivalent residential units (ERU) as equivalent living units (ELU). To be consistent with DHEC and accepted industry terminology, this Rate Report will use the term ERU.

Table E-2 summarizes the current increasing water tier block volumetric charges and penalty surcharges assessed based on usage interval for each of the water billing groups.

Table E-2: Water Volumetric Charges and Penalty Surcharges by Usage Interval

Usage	Volume Charges	Surcharges	Consumption in 1,000 gallons					
			Billing Groups					
			1	2	3	4	5	6
Tier 1	\$ 3.60	\$ 0.00	0-9	0-18	0-54	0-80	0-193-	0-326-
Tier 2	\$ 4.30	\$ 2.00	10-18	19-27	55-63	81-89	194-202	327-335
Tier 3	\$ 5.00	\$ 2.50	19-27	28-36	64-72	90-98	203-211	336-344
Tier 4	\$ 5.50	\$ 3.00	28-36	37-45	73-81	99-107	212-220	345-353
Tier 5	\$ 7.20	\$ 4.50	>36	>45	>81	>107	>220	>353

Table E-3 summarizes the current increasing sewer tier block volumetric charges and penalty surcharges assessed based on usage interval for each of the sewer billing groups.

Table E-3: Sewer Volumetric Charges and Penalty Surcharges by Usage Interval

Usage	Volume Charges	Surcharges	Consumption in 1,000 gallons					
			Billing Groups					
			1	2	3	4	5	6
Tier 1	\$ 6.30	\$ 0.00	0-9	0-18	0-54	0-80	0-193	0-326
Tier 2	\$ 7.30	\$ 2.00	10-18	19-27	55-63	81-89	194-202	327-335
Tier 3	\$ 8.30	\$ 3.00	19-27	28-36	64-72	90-98	203-211	336-344
Tier 4	\$ 9.40	\$ 4.00	28-36	37-45	73-81	99-107	212-220	345-353
Tier 5	\$ 12.50	\$ 5.00	>36	>45	>81	>107	>220	>353

2. Annual Revenue Requirements Forecast

The total annual costs for a water and sewer utility to provide services to its customers are referred to as the utility's annual revenue requirements. Revenue requirements include the utilities annual operating and maintenance (O&M) expenses and its annual capital expenditures. It is typical practice for government-owned utilities to recover revenue requirements that are determined on a cash-needs approach, with an objective to provide revenues sufficient to recover the total cash requirements during an annual period.

A. Operating and Maintenance

The forecast of water and sewer O&M during the five-year forecast period is based on the approved FY 2021 Operating Budget, which serves as the base year of the forecast. The FY 2021 O&M expenses are forecasted to escalate based on anticipated annual increases in personal costs (salaries and benefits) of 5.0%, power and chemicals of 5.0%, anticipated water purchases from Charleston Water System (CWS) of

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2.5%, and inflation of 2.5% for all other recurring O&M expenses. The Commission categorizes its O&M expenses into nine (9) operating departments which include the following:

- Billing & Collection – Water
- Administration & General – Water
- Water Treatment – Water
- Transmission & Distribution – Water
- Source of Supply – Water
- Billing & Collection – Sewer
- Administration & General – Sewer
- Wastewater Treatment – Sewer
- Collection – Sewer

The annual O&M expenses are forecasted to range from the \$3.4 million budgeted in FY 2021 to \$3.9 million in FY 2025. Table E-4 presents the annual forecast of water and sewer O&M expenses during the five-year planning period.

Table E-4: Forecasted Annual Utility Operating & Maintenance Expenses

	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>
Water	\$ 1,875,205	\$ 1,926,318	\$ 1,997,646	\$ 2,071,917	\$ 2,149,261
Sewer O&M	<u>1,532,970</u>	<u>1,594,179</u>	<u>1,658,063</u>	<u>1,724,745</u>	<u>1,794,356</u>
Total O&M	\$ 3,408,175	\$ 3,520,497	\$ 3,655,709	\$ 3,796,662	\$ 3,943,617

B. Capital Expenditures

Because the Commission faces capital improvements that will require the issuance of debt, one of the objectives of the rate analysis 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.

Water Capital Improvements

The Commission is required to make total capital payments of nearly \$850,000 during the planning period for its portion of the annual improvements for its contract capacity with the Charleston Water System (CWS). The water CIP also includes several improvements to the Commission's distribution system, including hydrants, water line improvements for looping and increased capacity, and replacing smaller diameter lines with larger lines. The total costs of the five-year water CIP are approximately **\$4.9 million**.

Sewer Capital Improvements

To increase wastewater treatment efficiencies and consolidate all its treatment services at the newer Forest Trails WWTP, the Commission plans to expand the capacity of the Forest Trails WWTP to 1.4 MGD and construct a new pumping station at the Wild Dunes WWTP to divert existing flows to the expanded Forest Trails WWTP. The expansion to the Forest Trails WWTP will cost an estimated \$16.0 million and the new Wild Dunes pumping station will cost an estimated \$1.3 million during the planning period. These projects will allow for the decommission of the old Wild Dunes WWTP and a consolidation of treatment

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operations at the Forest Trails WWTP. The sewer CIP also includes annual improvements to the Commission's collection system, including extending the lift station 20 force main and upgrading electrical systems. The total costs of the five-year sewer CIP are approximately **\$18.3 million**.

Financing Plan

Generally, the Commission utilizes four different financing methods which includes cash from rates, impact fee funds, debt, and grant funded capital. Cash from rates includes the accumulated operating reserves and annual cash reserves generated through monthly rates and charges while impact fee funds represent annual and accumulated balances of impact fee collections. Debt financing, which generally includes revenue bonds and/or SRF Loans for water and sewer, are typically limited to the larger and more expensive projects such as treatment capacity and major infrastructure needs to be met immediately, while spreading out costs over 20 years. The City and Commission intend to issue 20-year revenue bonds to finance \$16.0 million of capital improvement costs for the Forest Trails WWTP expansions, with up to approximately \$2.5 million available through Federal Emergency Management Agency (FEMA) grant funds. The remaining sewer capital improvements will be funded through a combination of cash from rates (\$937,080) and impact fee funds (\$83,000). All \$4.9 million in water capital improvements will be funded through a combination of cash from rates (\$4.8 million) and impact fee funds (\$110,000).

Since the Commission intends to issue debt to fund a significant portion of the Sewer CIP, annual debt service is forecasted as part of the analysis based on actual scheduled debt service payments on existing debt and estimated debt service on the planned \$16.0 million 2020 Series Revenue Bonds. In 2012 the City and Commission issued 10-year Revenue Bonds in 2012 to fund initial construction of Forest Trails WWTP and the final two debt service payments on this bond series will occur in FY 2021 and FY 2022. The planned Series 2020 Revenue Bonds are anticipated to have a 20-year term and an annual interest rate of 2.91%.²

Table E-5 provides the forecast of existing and proposed annual debt service requirements for the Commission's utility debt issues. Since the proceeds from the existing and proposed bonds fund improvements to the Forest Trails WWTP, all the debt service payments are included in the sewer revenue requirements.

² The interest rate represents the All-In Total Interest Cost. All-In TIC and estimated annual debt service payments for Series 2020 Revenue Bonds provided on May 13, 2020 by *First Tryon Advisors*, the Commission's financial advisor.

Table E-5: Forecast of Annual Debt Service Requirements

Annual Debt Service Payments	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>
Series 2012 Revenue Bonds - Existing	\$ 649,100	\$ 646,400			
Series 2020 Revenue Bonds - Proposed	<u>\$ 420,231</u>	<u>\$ 590,950</u>	<u>\$ 1,083,325</u>	<u>\$ 1,082,450</u>	<u>\$ 1,080,325</u>
TOTAL DEBT SERVICE PAYMENTS	\$ 1,069,331	\$ 1,237,350	\$ 1,083,325	\$ 1,082,450	\$ 1,080,325

C. Revenue Sufficiency and Recommended Rate Revenue Adjustments

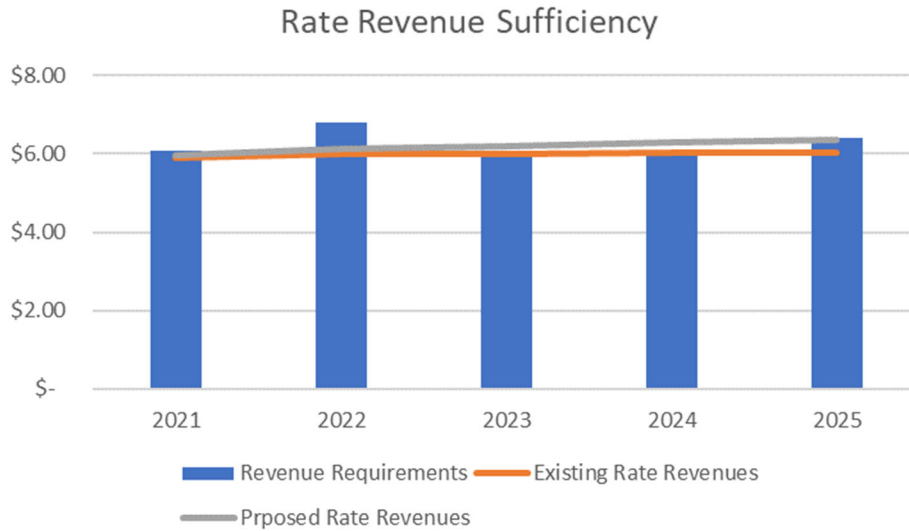
To evaluate whether revenues under existing rates would be adequate, or sufficient to recover the projected revenue requirements over the five-year planning period, revenues were estimated under the existing FY 2020 water and sewer user rates and charges assuming annual growth in new accounts and projected metered water use. (For more information on anticipated customer growth and demand, see Tables 5 and 6 on page 13.)

Forecasted revenue are then compared to the annual revenue requirements of the water and sewer systems. This analysis indicates that with the additional debt service and rate funded capital projects, customer demand and existing user rates and charges are sufficient to recover the annual revenue requirements for the water system, but are not sufficient to recover the annual revenue requirements for the sewer system during the planning period. Specifically, sewer rates are anticipated to need annual inflationary level increases to provide approximately 2.5% in additional user rate revenues each year to maintain sewer revenue sufficiency during the forecast period. When combined with no increases to the water rates, the additional anticipated revenues from user rate and charge increases for both water and sewer remain below 1.2% annually.³

The estimated annual revenue sufficiency/deficiency under the existing water and sewer rates and the proposed five-year program of sewer rate adjustments to address projected revenue deficiencies are shown in Chart E-1 below.

³ Increases to user charge revenues represent the additional revenues estimated to be generated by increases to the Commission’s various rates. The annual increases to user charge revenues do not necessarily equate to the recommended increase to the user rates, as certain rates (i.e. BFCs, volumetric charges, penalty surcharges) may be increased more than others. Similarly, the impact on a particular customer’s bill may not necessarily reflect the annual increase to user charges revenues.

Chart E-1: Utility Revenue Sufficiency Under Recommended Rate Adjustments (\$ in millions)



Annual Rate Revenue Adjustments	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Water Rate Revenues	0.00%	0.00%	0.00%	0.00%	0.00%
Sewer Rate Revenues	2.46%	2.53%	2.40%	2.41%	2.41%
Combined Rate Revenues	1.13%	1.18%	1.14%	1.16%	1.18%

D. Debt Coverage and Unrestricted Cash Reserves

Two key measures of a utility’s financial strength are its debt service coverage ratio and its cash liquidity, or available cash on hand. The debt service coverage ratio measures the utility’s performance in generating sufficient operating revenues to cover its debt service obligations. The second key measure of a utility’s financial health, cash liquidity provides a measure of the utility’s available reserves to maintain operations, fund ongoing investments, and to respond to fiscal uncertainties, should they arise. Based on discussions with First Tryon Advisors, it is recommended that the Commission adopt a debt coverage target of 2.0x and unrestricted cash reserves on hand equal to at least 360 days of annual O&M expenses.

Revenue surpluses and less significant capital project needs over the past five years have provided the Commission with cash reserves representing nearly 1,000 days of its current O&M expenses, which is nearly three times the recommended 360 days cash on hand minimum target. The Commission can now utilize these cash reserves to fund rate and cash funded capital projects while still maintaining the 2.0X debt coverage target during the five-year forecast period. This will allow the Commission to meet its operating and capital needs while mitigating the impact of the Forest Trails WWTP expansion on customer rates.

3. Proposed FY 2021 User Rates & Charges

Again, based on projected revenue requirements no water increases are needed in FY 2021 or any subsequent year in the forecast. However, increases to the sewer rates are recommended to generate approximately 2.5% (or \$62,000) in additional sewer user rate revenues in FY 2021. To achieve these additional sewer rate revenues in FY 2021, Confluence has developed **two alternative sewer rate scenarios** for the Commissioners to consider. The recommended FY 2021 sewer rate increases do not represent equivalent across-the-board increases to all BFCs, volumetric charges (per 1,000 gallons), and penalty surcharges (per 1,000 gallons), but instead are based on meeting the Commission's objective to simplify the billing process through rounding the charges.

A. Sewer Rate Scenario 1

Sewer Rate Scenario 1 is designed to recover all the additional FY 2021 sewer user rate revenues solely through the volumetric charges and penalty surcharges which will affect high sewer use customers more than lower more efficient users. As such, no increase to the current sewer BFCs presented in Table E-1 on page 1 of this Executive Summary are recommended under Sewer Rate Scenario 1. To achieve the 2.5% sewer user rate revenue increase for FY 2021, Confluence recommends \$0.30 increases to the Tier 1 through Tier 4 volumetric charges, and a \$0.50 increase to the Tier 2 penalty surcharge assessed to customers per 1,000 gallons of monthly billed water use.

Table E-6 presents the current FY 2020 and proposed FY 2021 sewer volume charges and penalty surcharges assessed per 1,000 gallons of monthly sewer use. While these charges and surcharges are assessed to all billing groups, the increment or usage tier that a specific customer is assessed these charges depends on the billing group to which that customer belongs.

Table E-6: Current and Proposed FY 2021 Sewer Volumetric Charges – Rate Scenario 1

Usage Tier	Current FY 2020		Proposed FY 2021		Increase	
	Volumetric Charges	Penalty Surcharges	Volumetric Charges	Penalty Surcharges	Volumetric	Surcharge
Tier 1	\$ 6.30	N/A	\$ 6.60	N/A	\$ 0.30	N/A
Tier 2	\$ 7.30	\$ 2.00	\$ 7.60	\$ 2.50	\$ 0.30	\$ 0.50
Tier 3	\$ 8.30	\$ 3.00	\$ 8.60	\$ 3.00	\$ 0.30	\$ 0.00
Tier 4	\$ 9.40	\$ 4.00	\$ 9.70	\$ 4.00	\$ 0.30	\$ 0.00
Tier 5	\$ 12.50	\$ 5.00	\$ 12.50	\$ 5.00	\$ 0.00	\$ 0.00

B. Sewer Rate Scenario 2

Sewer Rate Scenario 2 is designed to recover the additional FY 2021 sewer user rate revenues through more balanced increases to the BFCs, volumetric charges, and penalty surcharges to achieve a more similar recovery of the costs for the wastewater treatment capacity from sewer users at all usage levels. To achieve this rate revenue increase, Confluence recommends increasing the BFCs based on a \$1.00

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increase to the BFC for Billing Group 1. The BFCs for the other billing groups will increase according to the BFC differentials for larger meters.

Table E-7 presents the current FY 2020 and proposed FY 2021 monthly sewer BFCs for the various billing groups which generally reflect customers with different meter sizes.

Table E-7: Current and Proposed FY 2021 Sewer Basic Facilities Charges – Sewer Rate Scenario 2

Billing Group	Meter Size	Current 2020	Proposed 2021	Increase
1	3/4" (1)	\$ 34.00	\$ 35.00	\$ 1.00
2	1"	\$ 65.00	\$ 67.00	\$ 2.00
3	1.5"	\$ 119.00	\$ 123.00	\$ 4.00
4	2"	\$ 216.00	\$ 223.00	\$ 7.00
5	3"	\$ 404.00	\$ 416.00	\$ 12.00
6	4"	\$ 648.00	\$ 667.00	\$ 19.00

(1) The BFC for Billing Group 1 is also applied for to each ERU assigned to a customer. Pools and multi-family residential (hotels, condominiums, resorts, etc.) are assigned ERUs and are included in Billing Group 1.

To achieve the 2.5% sewer user rate revenue increase for FY 2021, along with the increases to the BFCs mentioned above, Confluence recommends \$0.10 increases to the Tier 1 through Tier 4 volumetric charges, and a \$0.50 increase to the Tier 2 penalty surcharge assessed to customers per 1,000 gallons of monthly billed sewer use. Table E-8 presents the current FY 2020 and proposed FY 2021 sewer volume charge and penalty surcharges assessed per 1,000 gallons of monthly sewer use under Sewer Rate Scenario 2. Again, while these charges and surcharges are assessed to all billing groups, the increment or usage tier that a specific customer is assessed these charges depends on the billing group to which that customer belongs.

Table E-8: Current and Proposed FY 2021 Sewer Volumetric Charges – Rate Scenario 2

Usage Tier	Current FY 2020		Proposed FY 2021		Increase	
	Volumetric Charges	Penalty Surcharges	Volumetric Charges	Penalty Surcharges	Volumetric	Surcharge
Tier 1	\$ 6.30	N/A	\$ 6.40	N/A	\$ 0.10	N/A
Tier 2	\$ 7.30	\$ 2.00	\$ 7.40	\$ 2.50	\$ 0.10	\$ 0.50
Tier 3	\$ 8.30	\$ 3.00	\$ 8.40	\$ 3.00	\$ 0.10	\$ 0.00
Tier 4	\$ 9.40	\$ 4.00	\$ 9.50	\$ 4.00	\$ 0.10	\$ 0.00
Tier 5	\$ 12.50	\$ 5.00	\$ 12.50	\$ 5.00	\$ 0.00	\$ 0.00

C. Typical Bill Comparison With Local Communities

To demonstrate the impact and local competitiveness of the proposed FY 2021 user rates and charges, a comparison of the monthly bills for the typical residential customer (Billing Group 1) under the current and proposed FY 2021 user rates and charges (under both rate scenarios) to the monthly bills assessed to similar customers of other local utilities provides a benchmark when considering the impact of the proposed rate increases. Table E-9 provides a comparison of a typical utility customer with average monthly water use of 6,000 gallons per month for the Commission and nine (9) other utilities in coastal South Carolina.

Table 20: Comparison of Typical Monthly Customer Bills with Local Communities

Utility/Community	User Rates and Charges (6,000 gal/month)		
	Water	Sewer	Total
Sullivan's Island	\$ 44.96	\$ 88.53	\$ 133.49
IOPWSC (Rate Scenario 1)	\$ 37.60	\$ 73.60	\$ 111.20
IOPWSC (Rate Scenario 2)	\$ 37.60	\$ 74.40	\$ 112.00
IOPWSC (Current)	\$ 37.60	\$ 71.80	\$ 109.40
Charleston Water System	\$ 24.54	\$ 79.71	\$ 104.25
Mount Pleasant Waterworks	\$ 39.30	\$ 56.03	\$ 95.33
Seabrook Island	\$ 44.59	\$ 39.22	\$ 83.81
Beaufort-Jasper	\$ 30.05	\$ 50.94	\$ 80.99
Berkeley County	\$ 33.46	\$ 44.00	\$ 77.46
Dorchester County	\$ 31.65	\$ 40.00	\$ 71.65
Summerville Public Works	\$ 22.35	\$ 24.00	\$ 46.35
South Island PSD	\$ 19.64	\$ 26.06	\$ 45.70
Average (Excluding IOPWSC)	\$ 31.88	\$ 48.30	\$ 80.18

As the comparison demonstrates, even before the proposed FY 2021 rate adjustments the Commission is above the average of the comparison group. While the water rates are more in line with the comparison group, the Commission's sewer rates are among the highest of the group. The higher sewer rates result as the Commission serves a very small sewer customer base and must recover the costs of wastewater treatment facilities from fewer customers, thus limiting its ability to achieve economies of scale through a larger customers base. Additionally, the Commission recently constructed the Forest Trails WWTP and is planning to expand the capacity of the facility to serve as the lone wastewater treatment facility serving Isle of Palms.

It should also be noted that the bills calculated for the comparison group are based on the utilities' current FY 2020 rates or published rates for FY 2021. It is likely that some of the comparison utilities will also be faced with FY 2021 rate increases that are not reflected in this comparison.

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I. INTRODUCTION

Confluence Consulting, LLC (Confluence) is pleased to submit this water and sewer rate report (Rate Report) documenting the five-year financial planning and utility rate forecast (Financial Forecast) conducted for the Isle of Palms Water & Sewer Commission (Commission). The Commission engaged Confluence in August 2019 to provide this Financial Forecast as part of its long-term financial planning process which includes an anticipated \$16 million revenue bond issue to fund major capital improvements. The Commission plans to expand its Forest Trails Wastewater Treatment Plant (WWTP) and decommission its Wild Dunes WWTP to consolidate its treatment capacity at the Forest Trails WWTP to serve all existing and future customer demands. The Forest Trails WWTP expansion will require the issuance of debt and this Financial Forecast was developed to ensure that annual water and sewer user rates and charges are sufficient to fund operations, maintain adequate cash reserves, and meet debt coverage requirements during five-year forecasts period.

The Commission provides water and sewer service to Isle of Palms, a 6-mile barrier island located in Charleston County. The Commission is governed by a board of elected officials and provides service in areas that cannot be provided for by any other agency. The Commission was created in 1992 through an ordinance enacted by the City of Isle of Palms and Section 5-31-250, et. seq., of the Code of Laws of South Carolina 1976, as amended, to own, operate, and manage the water and sewer systems of the Isle of Palms. The Commission is governed by five Commissioners elected by the residents of the City of Isle of Palms and provides services to approximately 4,616 water accounts and 2,648 sewer accounts. While all current sewer customers also receive water service from the Commission, approximately 1,290 water customers on the island have individual septic systems. The City of Isle of Palms (City) and the Commission are considering working together to investigate possible approaches and funding sources to extend the Commission's wastewater collection system to areas of Isle of Palms currently served by septic systems. Since a plan to extend the collection system to these areas has not yet been developed, assumptions and costs related to the extension of the collection system are not considered as part of this Financial Forecast.

The purpose of this Rate Report is to summarize the analysis and recommendations of the Study. Specifically, the Rate Report is organized in the following sections:

- I. Introduction;
- II. Evaluate Existing Rate Structures and Rate Codes;
- III. Customer Growth and Demand;
- IV. Annual Revenue Requirements Forecast;
- V. Proposed FY 2021 User Rates & Charges;
- VI. Typical Customer Bill Impacts; and
- VII. Comparison With Other Local Utilities.

II. EVALUATE EXISTING RATE STRUCTURES AND RATE CODES

As part of its FY 2020 Financial Forecast, Confluence evaluated the Commission's current water and sewer rate structures to identify opportunities to simplify the current water and sewer rate structures and consolidate the over 100 existing customer rate codes. The current water and sewer rate structures have been in place for many years and the billing system segregates the approximately 4,616 water and 2,648 sewer accounts into 116 different rate codes. This Section describes the current water and sewer rate structures and rate codes and identifies several areas for improvement.

1. Existing Water Rate Structure

The existing and current water rate structure consists of three basic charge components which include 1) fixed monthly basic facility charges (BFCs), tiered volumetric charges that increase as the customer's consumption increases, and tiered surcharges that increase as the customer's consumption increases. The current water rate structure and billing system segregates water customers into six (6) billing groups and 61 rate codes.

A. Basic Facilities Charges (BFCs)

Similar to most utilities, the Commission assesses a monthly fixed charge or BFC, to recover certain fixed costs that do not vary with the amount of water consumed by the customer. These fixed costs include (1) customer service and billing costs, (2) meter installation and maintenance costs, and (3) other costs associated with facilities the Commission has made available to provide basic water service to the customer. Many utilities use basic facilities charges to recover the rising costs of capital improvements, operations, and water resources and to provide revenue stability. Recovering more costs through monthly fixed charges provides greater revenue stability and certainty, and is viewed favorably by bond rating agencies since bond holders are protected against higher degrees of revenue fluctuations that can be influenced by wet weather, economic conditions, and peak use periods. The current water rate structure generates approximately 30% of the water rate revenues through the fixed monthly BFCs, which is close to average for similar utilities across the country. The intent of the BFC is to recover a portion of those costs necessary to service the customer account and a "readiness to serve" component related to providing the basic facilities needed to serve the customer, which is important in a seasonal community such as Isle of Palms which requires capacity to serve customers during peak use seasonal periods.

While the customer account and meter costs are typically distributed among customers on a per account basis, the readiness to serve capacity component varies by meter size. The readiness to serve facility related costs are distributed to customers based on the potential demand that different meter sizes can place on the system. For the Commission, these potential demands or capacity ratios for different meter sizes are based on historical BFC charge ratios.

Table 1 below presents the BFCs assessed to the various rate codes based on billing groups which are defined based on equivalent residential units (ERU), customer class, and/or meter size. It should be noted that the existing rate structure assesses BFCs to the pool rate codes and master metered (multi-family/resorts) residential rate codes based on the number of equivalent residential units (ERUs) assigned to an individual account, as determined by Commission staff based on South Carolina Department of Health and Environmental Control (DHEC) wastewater contributory loading standards.⁴

Table 2: Water Basic Facilities Charges

Billing Group (2)	Category	Monthly Charge	Charge Ratio (1)
1	Residential and <1-inch meters	\$ 16.00	1.00
2	1-inch	\$ 32.00	2.00
3	1.5-inch	\$ 59.00	3.69
4	2-inch	\$ 107.00	6.69
5	3-inch	\$ 199.00	12.44
6	4-inch	\$ 320.00	20.00

- (1) The BFC for the residential and less than 1-inch meter accounts assumes the base level of capacity required to serve one (1) ERU. For pools and master metered residential customers which are included in Billing Group 1, the BFC assessed per account is based on the number of ERUs assigned to that account multiplied by the BFC for one ERU, or \$16.00.
- (2) Charges for meter sizes greater than 4-inch have been negotiated in the past according to policy.

B. Water Volumetric Charges and Penalty Surcharges

The Commission also assesses volumetric charges and penalty surcharges to customers based on the monthly amount of metered water use per units of 1,000 gallons. Both the volumetric charges and penalty surcharges are tiered block rates that price water at increasingly higher per unit charges as the customer’s consumption increases. Increasing tier volumetric charges are considered conservation rates that encourage efficient use of water resources as they focus on discouraging wasteful and inefficient use. By charging increasing volumetric charges and penalty surcharges, the Commission rewards efficient water users and surcharges customers with nonessential or high seasonal consumption.

The volumetric charge structure includes five (5) increasing block volumetric charges assessed to customers based on water usage intervals and the demand characteristics of the six different billing groups categories. The lowest tier one volumetric charge is assessed to the different billing groups based on increasingly higher tier one usage intervals that reflect higher base demands for higher use commercial and irrigation customers which utilize larger capacity meters. Each subsequent tier (2 through 5) interval

⁴ The existing billing codes and rates structure refers to pool and multifamily equivalent residential units (ERU) as equivalent living units (ELU). To be consistent with DHEC and accepted industry terminology, this Report will use the term ERU.

reflects the next 9,000 gallons of water usage. The additional penalty surcharges are assessed for a customer’s water usage that is above the tier one usage intervals.

Table 2 summarizes the current increasing tier block volumetric charges and penalty surcharges assessed based on usage interval to each of the water billing group.

Table 2: Water Volumetric Charges and Penalty Surcharges by Usage Interval

Usage	Volume Charges	Surcharges	Consumption in 1,000 gallons					
			Billing Groups					
			1	2	3	4	5	6
Tier 1	\$ 3.60	\$ 0.00	0-9	0-18	0-54	0-80	0-193-	0-326-
Tier 2	\$ 4.30	\$ 2.00	10-18	19-27	55-63	81-89	194-202	327-335
Tier 3	\$ 5.00	\$ 2.50	19-27	28-36	64-72	90-98	203-211	336-344
Tier 4	\$ 5.50	\$ 3.00	28-36	37-45	73-81	99-107	212-220	345-353
Tier 5	\$ 7.20	\$ 4.50	>36	>45	>81	>107	>220	>353

2. Existing Water Rate Codes

As mentioned above, the water rate structure and billing system segregates the approximately 4,616 water accounts into 61 rate codes.⁵ This consists of 31 general water service rate codes, 9 irrigation rate codes, 10 penalty surcharge rate codes, and 11 non-revenue service rate codes (10 general service and 1 irrigation) that are not assessed any user rate charges.⁶ The customer accounts are categorized into the six (6) billing groups based on meter size, customer class (e.g. residential, commercial, pools, etc.), and the location of the account. As described below, there is considerable redundancy in how the customer accounts are categorized which results in complexity and an unnecessary large number of rate codes.

A. Residential Rate Codes

The largest customer class served by the Commission is the residential class which includes approximately 3,785 single-family detached residential homes which are all assessed the same rates, charges and surcharges as part of Billing Group 1. This includes 1,676 single-family residential accounts with a ¾ Inch water meter located within the Wild Dunes Development (Rate Code H1) and 1,991 single-family residential accounts with a ¾ Inch water meter located in the remainder of the service area (Rate Code W1). Additionally, there are 118 single-family detached residential homes categorized within another five rate codes (DNSZW, T1, R1, DNW2, and R2) that are also assessed rates, charges, and surcharges as part of Billing Group 1. All accounts categorized within these seven (7) unique rate codes are assessed the same rates, charges, and surcharges based on their monthly metered water use. The Commission could

⁵ Customer account data is from fiscal year 2019.

⁶ The 11 non-revenue service rate codes are excluded from the remainder of the rate code discussion. These non-revenue rate codes could be consolidated into a single non-revenue rate code.

eliminate much of the complexity by consolidating these seven residential rate codes into a single residential rate code within Billing Group 1.

B. Commercial Rate Codes

The Commission serves approximately 120 commercial class accounts which are segregated into 11 separate rate codes within the 6 billing groups. The segregation of the commercial accounts into the billing groups is based on meter size. While there are multiple commercial rate codes within each of the 6 billing groups, the rate codes within each billing group are assessed the same rates, charges, and surcharges based on their monthly metered water use. The Commission could eliminate much of the complexity by consolidating all of these commercial accounts into six commercial rate codes within each of the 6 billing groups.

C. Irrigation Rate Codes

The Commission serves approximately 675 irrigation class accounts which are segregated into 9 separate rate codes within the 6 billing groups. The segregation of the irrigation accounts into the billing groups is based on meter size with multiple irrigation rate codes within some of the 6 billing groups. The rate codes within each billing group are assessed the same rates, charges, and surcharges based on their monthly metered water use. The Commission could eliminate some of the complexity by consolidating all irrigation accounts into six irrigation rate codes within each of the 6 billing groups.⁷

D. Pools and Multifamily Rate Codes

The Commission serves approximately 23 pool class accounts and 13 master metered residential (multifamily) class accounts which are segregated into 17 separate water rate codes within the 6 water billing groups.⁸ Although the pool and multifamily class accounts are served by a variety of meter sizes and accounts; and are grouped into the same rate code based on meter size, these accounts and rate codes are all assigned to Billing Group 1 regardless of meter size. This distinction for the pool and multifamily rate codes is based on the assignment of ERUs to each of the pool and multifamily accounts based on a historical determination of potential demand by Commission staff instead of meter size. For example, a pool account with a 2-inch meter may be assigned a lower number of ERUs than a pool account with a smaller ¾-inch meter. Similarly, pool rate codes sometime include multiple accounts with the same meter size, but these accounts are assigned a different number of ERUs. Although these accounts are all included in Billing Group 1, the unique number of ERUs assigned to each account make the BFCs and tiered water usage intervals for each account unique within both the rate code and the billing group. For this reason, each of the pool and multifamily accounts has its own unique set of rates, charges, and surcharges.

⁷ Currently there is no irrigation rate code within Billing Group 5 since there are no irrigation accounts with a 3-inch meter. However, a irrigation rate code for Billing Group 5 should be established to accommodate the potential for a 3-inch irrigation metered customer in future.

⁸ The master metered residential customer class includes apartments, condominiums, and hotels and resorts that have multiple attached residential units served by a single larger master meter.

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The Commission could eliminate much of the complexity by consolidating all of these pool and multifamily accounts into the 6 water billing groups based on meter size similar to the other water customer classes. The pool customer class could be consolidated into six water rate codes based on meter size, and the multifamily customer class could also be consolidated into six water rate codes based on meter size.

E. Penalty Surcharge Rate Codes

Again, the Commission assesses water penalty surcharges to all customers for excessive levels of water use. These surcharges apply to all customer classes and rate codes for all water use that is above the tier 1 usage interval, which is determined based on the customers meter size and/or number of ERUs assigned to the pool and multifamily accounts. Since these penalty surcharges apply to all customer codes, it is redundant and needless to have 10 separate water rate codes for the surcharges. These surcharges could be eliminated altogether by incorporating the application of the surcharges to each rate code within the 6 billing codes.

Diagram 1 summarizes the existing water rate codes included in each of the existing water billing groups.

Diagram 1: Existing Water Rate Codes and Billing Groups

Billing Group	Service Connection	Residential	Commercial	Irrigation	Pools	Multifamily	Surcharges
1	Residential ¾-Inch ERU	<i>DNZSW, H1, W1,</i>	<i>H2, W2</i>	<i>I1, D1</i>	<i>O9</i>		<i>CSW1, SW1</i>
2	1-Inch	<i>T1, R1,</i>	<i>H3, W3</i>	<i>I2, L2</i>	<i>P8</i>	<i>FC</i>	<i>CSW2, SW2</i>
3	1.5-Inch	<i>DNW2, R2</i>	<i>W4</i>	<i>I3, L3</i>	<i>O2</i>		<i>CSW3, SW3</i>
4	2-Inch		<i>H5, W5</i>	<i>I4, L4</i>	<i>O3</i>		<i>CSW4, SW4</i>
5	3-Inch		<i>H6, W6</i>			<i>OC, RV15, SL</i>	<i>CSW5</i>
6	4-Inch		<i>H7</i>	<i>GCI</i>		<i>SH, SP, OL, OS, VWD SE*</i>	<i>CSW6</i>

- (1) Although the residential water rate codes are categorized by meter size in Diagram 1 above, all residential rate codes are included in Billing Group 1. The Commission's billing system categorizes residential accounts within the existing rate codes based on meter size.
- (2) Although the pools and multifamily water rate codes are categorized by meter size in Diagram 1 above, all pool and multifamily rate codes are included in Billing Group 1. The Commission's billing system categorizes pool and multifamily accounts within the existing rate codes based on meter size. However, the pool and multifamily accounts are assessed rates based on the number of ERUs assigned to each account. The SE rate code represents a 6-inch meter account with a negotiated BFC and usage rate intervals.

3. Existing Sewer Rate Structure

Similar to water, the existing and current sewer rate structure consists of three basic charge components which include 1) fixed monthly BFCs, tiered volumetric charges that increase as the customer's consumption increases, and tiered surcharges that increase as the customer's consumption increases. The current sewer rate structure and billing system segregates sewer customers into six (6) billing groups and 55 rate codes.

A. Basic Facilities Charges (BFCs)

As with water, the Commission assesses a monthly fixed charge or BFC, to recover certain fixed costs that do not vary with the amount of sewer discharged by the customer. These fixed costs include (1) customer service and billing costs, (2) water meter installation and maintenance costs, and (3) other costs associated with facilities the Commission has made available to provide basic sewer service to the customer. Many utilities use basic facilities charges to recover the rising costs of capital improvements, operations, and sewer treatment which provides revenue stability. Recovering more costs through monthly fixed charges provides greater revenue certainty and is viewed favorably by bond rating agencies since bond holders are protected against higher degrees of revenue fluctuations that can be influenced by wet weather, economic conditions, and peak use periods. The current sewer rate structure generates approximately 45% of the sewer rate revenues through the fixed monthly BFCs, which provides strong revenue stability. The intent of the BFC is recover a portion of those costs necessary to service the customer account and a "readiness to serve" component related to providing the basic facilities needed to serve the customer, which is important in a seasonal community such as the Isle of Palms which requires capacity to serve customers during peak use seasonal periods.⁹

While the customer account and meter costs are typically distributed among customers on a per account basis, the readiness to serve capacity component varies by meter size. The readiness to serve facility related costs are distributed to customers based on the potential demand that different meter sizes can place on the system. For the Commission, these potential demands or capacity ratios for different meter sizes are based on historical BFC charge ratios.

Table 3 below presents the BFCs assessed to the various rate codes based on billing groups which are defined based on equivalent residential units (ERU), customer class, and/or meter size. It should be noted that the existing rate structure assesses BFCs to the pool and multi-family rate codes based on the number of equivalent residential units (ERUs) assigned to an individual account, which were determined by Commission staff.¹⁰

⁹ Because it is not feasible to meter sewer discharges, the Commission and most utilities use metered water use as a proxy for the customer flows to the sewer system.

¹⁰ The existing billing codes and rate structure refers to pool and multifamily equivalent residential units (ERU) as equivalent living units (ELU). To be consistent with South Carolina Department of Health and Environmental Control (DHEC) and accepted industry terminology, this report will use the term ERU.

Table 3: Sewer Basic Facilities Charges

Billing Group (2)	Category	Monthly Charge	Charge Ratio (1)
1	Residential and <1-inch meters	\$ 34.00	1.00
2	1-inch	\$ 65.00	1.91
3	1.5-inch	\$ 119.00	3.50
4	2-inch	\$ 216.00	6.35
5	3-inch	\$ 404.00	11.88
6	4-inch	\$ 648.00	19.01

- (1) The BFC for the residential and less than 1-inch meter assumes the base level of capacity required to serve one (1) ERU. For pools and master metered residential customers, the BFC assessed per account is based on the number of ERUs assigned to that account multiplied by the BFC for one ERU, or \$34.00.
- (2) Charges for meter sizes greater than 4-inch have been negotiated in the past according to policy.

B. Sewer Volumetric Charges and Penalty Surcharges

The Commission also assesses sewer volumetric charges and penalty surcharges to customers based on the monthly amount of metered water use per units of 1,000 gallons. Both the volumetric charges and penalty surcharges are tiered block rates that price sewer at increasingly higher per unit charges as the customer’s consumption increases. Increasing tier volumetric charges are considered conservation rates that encourage efficient use of water resources as they focus on discouraging wasteful and inefficient use. By charging increasing volumetric charges and penalty surcharges, the Commission rewards efficient water users and surcharges customers with nonessential or high seasonal consumption.

The volumetric charge structure includes five (5) increasing block volumetric charges assessed to customers based on sewer usage intervals and the demand characteristics of the six different billing groups categories. The lowest tier one volumetric charge is assessed to the different billing groups based on increasingly higher tier one usage intervals that reflect higher base demands for higher use commercial customers with larger meters. Each subsequent tier (2 through 5) interval reflects the next 9,000 gallons of water usage. The additional penalty surcharges are assessed for usage for customer water usage above the tier one usage intervals.

Table 4 summarizes the current increasing sewer tier block volumetric charges and penalty surcharges assessed based on usage interval to each of the sewer billing groups.

Table 4: Sewer Volumetric Charges and Penalty Surcharges by Usage Interval

Usage	Volume Charges	Surcharges	Consumption in 1,000 gallons					
			Billing Groups					
			1	2	3	4	5	6
Tier 1	\$ 6.30	\$ 0.00	0-9	0-18	0-54	0-80	0-193	0-326
Tier 2	\$ 7.30	\$ 2.00	10-18	19-27	55-63	81-89	194-202	327-335
Tier 3	\$ 8.30	\$ 3.00	19-27	28-36	64-72	90-98	203-211	336-344
Tier 4	\$ 9.40	\$ 4.00	28-36	37-45	73-81	99-107	212-220	345-353
Tier 5	\$ 12.50	\$ 5.00	>36	>45	>81	>107	>220	>353

4. Existing Sewer Rate Codes

As mentioned above, the sewer rate structure and billing system segregates the approximately 2,648 metered sewer accounts and 79 grinder pump accounts into six (6) billing groups and 55 rate codes.¹¹ This consists of 32 general sewer service rate codes, 1 grinder pump rate code, 12 penalty surcharge rate codes, and 10 non-revenue service rate codes that are not assessed any user rate charges.¹² The customer accounts are categorized into the six (6) billing groups based on meter size, customer class (e.g. residential, commercial, pools, etc.), and the location of the account. As with water and described below, there is considerable redundancy in how the customer accounts are categorized which results in complexity and an unnecessary large number of rate codes.

A. Residential Rate Codes

The largest customer class served by the Commission is the residential class which includes approximately 2,542 single-family detached residential homes which are all assessed the same rates, charges, and surcharges as part of Billing Group 1. This includes 1,672 single-family residential accounts with a ¾ Inch water meter located within the Wild Dunes Development (Rate Code D1) and 769 single-family residential accounts with a ¾ Inch water meter located in the remainder of the service area (Rate Code S1). Additionally, there are 101 single-family detached residential homes categorized within another four rate codes (A1, F1, DNS2, and F2) that are also assessed rates, charges, and surcharges as part of Billing Group 1. All accounts categorized within these six (6) unique rate codes are assessed the same rates, charges, and surcharges based on their monthly metered water use. The Commission could eliminate much of the complexity by consolidating these residential rate codes into a single residential rate code within Billing Group 1.

B. Commercial Rate Codes

The Commission serves approximately 84 commercial class accounts which are segregated into 10 separate rate codes within the 6 billing groups. The segregation of the commercial accounts into the billing groups is based on meter size. While there are multiple commercial rate codes within each of the

¹¹ Customer billing and account data is from fiscal year 2019.

¹² The grinder pump and 10 non-revenue service rate codes are excluded from the remainder of the rate code discussion. The non-revenue rate codes could be consolidated into a single sewer non-revenue rate code.

6 billing groups, the rate codes within each billing group are assessed the same rates, charges, and surcharges based on their monthly metered water use. The Commission could eliminate much of the complexity by consolidating these commercial accounts into six commercial rate codes within each of the 6 billing groups.

C. Grinder Pump Rate Code

The Commission serves approximately 79 grinder pump accounts which are incorporated into a single grinder pump rate code which are assessed a monthly grinder pump maintenance fee. To ensure that these customers are assessed for the unique services the Commission provides to maintain grinder pumps throughout the Isle of Palms, the Commission maintains the separate grinder pump rate code. Since the grinder pumps are not assessed the BFCs, volumetric charges, and penalty surcharges, the 79 grinder pumps are not included in the sewer account totals used to forecast user rates and charges.

D. Pools and Multifamily Rate Codes

The Commission serves approximately 11 pool class accounts and 11 master metered residential (multifamily) class accounts which are segregated into 13 separate sewer rate codes within the sewer 6 billing groups.¹³ Although the pool and multifamily class accounts are served by a variety of meter sizes and accounts; and are grouped into the same rate code based on meter size, these accounts and rate codes are all assigned to Billing Group 1 regardless of meter size. As with water, this distinction for the pool and multifamily rate codes is based on the assignment of ERUs to each of the accounts based on a historical determination of potential demand by Commission staff, instead of by meter size. For example, a pool account with a 2-inch meter may be assigned a lower number of ERUs than a pool account with a smaller ¾-inch meter. Similarly, pool rate codes sometime include multiple accounts with the same meter size, but these accounts are assigned a different number of ERUs. Although these accounts are all included in Billing Group 1, the unique number of ERUs assigned to each account make the BFCs and tiered water usage intervals for each account unique within both the rate code and the Billing Group. For this reason, each of the pool and multifamily accounts has its own unique set of rates, charges, and surcharges.

The Commission could eliminate much of the complexity by consolidating all of these pool and multifamily accounts into the 6 sewer billing groups based on meter size similar to the other sewer customer classes. The pool customer class could be consolidated into six sewer rate codes based on meter size, and the multifamily customer class could also be consolidated into six sewer rate codes based on meter size.

E. Penalty Surcharge Rate Codes

As with water, the Commission assesses sewer penalty surcharges to all sewer customers for excessive levels of sewer use. These surcharges apply to all sewer customer classes and rate codes for all sewer use that is above the tier 1 usage interval, which is determined based on the customers meter size and/or number of ERUs assigned to the pool and multifamily accounts. Since these penalty surcharges apply to

¹³ The master metered residential customer class includes apartments, condominiums, and hotels and resorts that have multiple attached residential units served by a single larger master meter.

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all customer codes, it is redundant and needless to have 12 separate sewer rate codes for the surcharges. These surcharges could be eliminated altogether by incorporating the application of the surcharges to each rate code within the 6 sewer billing codes.

Diagram 2 summarizes the existing sewer rate codes included in each of the existing sewer billing groups.

Diagram 2: Existing Sewer Rate Codes and Billing Groups

Billing Group	Service Connection	Residential (1)	Commercial	Grinder Pump	Pools (2)	Multifamily (2)	Surcharge
1	Residential ¾-Inch ERU	<i>DNSZS, D1, S1,</i>	<i>D2, S2</i>	<i>GR</i>	<i>O91</i>		<i>CSS1, SS1</i>
2	1-Inch	<i>A1, F1,</i>	<i>D3, S3</i>		<i>P81</i>		<i>CSS2, SS2, CSS7</i>
3	1.5-Inch	<i>DNS2, F2</i>	<i>S4</i>		<i>O21</i>		<i>CSS3, SS3</i>
4	2-Inch		<i>D5, S5</i>		<i>O31</i>		<i>CSS4, SS4</i>
5	3-Inch		<i>D6, HOLID</i>			<i>OC1, RV151, SL1</i>	<i>CSS5, CSS8</i>
6	4-Inch		<i>D7</i>			<i>SH1, SP1, OL1, OS1, VWD1 SE1*</i>	<i>CSS6</i>

- (1) Although the residential water rate codes are categorized by meter size in Diagram 1 above, all residential rate codes are included in Billing Group 1. The Commission’s billing system categorizes residential accounts within the existing rate codes based on meter size.
- (2) Although the pools and multifamily water rate codes are categorized by meter size in Diagram 1 above, all pool and multifamily rate codes are included in Billing Group 1. The Commission’s billing system categorizes pool and multifamily accounts within the existing rate codes based on meter size. However, the pool and multifamily accounts are assessed rates based on the number of ERUs assigned to each account. The SE1 rate code represents a 6-inch meter account with a negotiated BFC.

While the existing rate structures and rate codes could be improved and/or simplified to eliminate redundant rates and rate codes, the current structures and rate codes have evolved over the years to incorporate the Wild Dunes customers and in some cases accommodate customers with unique circumstances and use characteristics. Furthermore, implementing rate code consolidations and evaluating the resulting customer impacts has proven to be a challenge under the current billing software. For these reasons, Confluence recommends the Commission maintain the current rate structures and rate codes and delay any potential modifications and/or consolidations until an appropriate evaluation and implementation can be conducted.

III. CUSTOMER GROWTH AND DEMANDS

As a barrier island, Isle of Palms is essentially built-out with few vacant buildable lots remaining. Although there will be some new development, redevelopment of existing properties represents most of the anticipated development on Isle of Palms. The Commission currently provides services to approximately 4,616 water accounts and 2,648 sewer accounts (exclusive of the 79 grinder pump accounts). While all current sewer customers also receive water service from the Commission, there are approximately 1,290 water customers on the island that have individual septic systems. Properties served by individual septic systems are located in areas that do not currently have access or proximity to the Commission's wastewater collection infrastructure. Although there is no plan at the time of this Rate Report, the City and the Commission are considering working together to investigate possible approaches and funding sources to extend the Commission's wastewater collection system to areas of Isle of Palms currently served by individual septic systems. Extending the collection system to serve approximately 1,290 customers would have a significant impact on customer growth and demands for sewer services. However, since the timing and costs of extending the collection system are uncertain at this time, the customer growth assumptions during the planning period do not include extending the wastewater collection system.

Based on a historical analysis of customer account growth and billed demands for water and sewer (customer meter readings), the Commission has added approximately 40 new water (including 19 irrigation accounts) and 30 new sewer accounts since July 2016. Billing data provided for fiscal years 2017, 2018, and 2019 indicated annual growth in customer accounts has been less than 1.0% annually for both water and sewer. The analysis of metered usage by water and sewer accounts during that same period indicates that metered usage has fluctuated according to weather patterns with little to no relationship with growth in accounts. Based on this historical analysis of customer growth and demands and the limited area for growth through developing vacant lots, minimal growth in new customer and metered usage are projected during the five-year planning period. Specifically, annual growth projections assume 5 new water residential accounts (less than 1-inch meter), 10 new irrigation accounts, and 10 new sewer residential accounts (less than 1-inch meter) each year of the five-year planning period. In addition, a new 6-inch meter resort hotel is assumed to begin water and sewer services in FY 2022 with annual metered use of 570,000 gallons per month. Because metered usage has fluctuated with no relationship to residential account growth, no growth in metered usage is assumed as part of this forecast other than the additional metered usage associated with the new 6-inch meter customer.

Table 5 summarizes the recent historical customer account and demand growth and a five-year projection of the water accounts and metered water use (in 1,000 gallons) from FY 17 through FY 25.

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Table 5: Historical and Projected Water Customers and Demand (FY 17 through FY 25)

Accounts	Historical			Projected					
	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25
Residential	3,765	3,780	3,785	3,790	3,795	3,800	3,805	3,810	3,815
Commercial	118	120	120	120	120	121	121	121	121
Pools/Multi-fam	36	36	36	36	36	36	36	36	36
Irrigation	658	670	675	685	695	705	715	725	735
Total Water Accounts	4,577	4,606	4,616	4,631	4,646	4,662	4,677	4,692	4,707

Metered (kgal)	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25
Residential	223,064	223,064	223,064	223,064	223,064	223,064	223,064	223,064	223,064
Commercial	36,617	36,617	36,617	36,617	36,617	43,552	43,552	43,552	43,552
Pools/Multi-fam	27,153	27,153	27,153	27,153	27,153	27,153	27,153	27,153	27,153
Irrigation	100,425	100,425	100,425	100,425	100,425	100,425	100,425	100,425	100,425
Total Water Metered Usage	387,259	387,259	387,259	387,259	387,259	394,194	394,194	394,194	394,194

Table 6 summarizes the recent historical customer account and demand growth and a five-year projection of the sewer accounts and metered sewer flows (in 1,000 gallons) from FY 17 through FY 25.

Table 6: Historical and Projected Sewer Customers and Demand (FY 15-16 through FY 23-24)

Accounts	Historical			Projected					
	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25
Residential	2,522	2,530	2,542	2,552	2,562	2,572	2,582	2,592	2,602
Commercial	83	84	84	84	84	85	85	85	85
Pools/Multi-fam	22	22	22	25	25	25	25	25	25
Total Water Accounts	2,627	2,636	2,648	2,658	2,668	2,679	2,689	2,699	2,709

Metered (kgal)	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25
Residential	134,224	134,224	134,224	134,224	134,224	134,224	134,224	134,224	134,224
Commercial	25,347	25,347	25,347	25,347	25,347	32,282	32,282	32,282	32,282
Pools/Multi-fam	23,967	23,967	23,967	23,967	23,967	23,967	23,967	23,967	23,967
Total Water Metered Usage	183,538	183,538	183,538	183,538	183,538	190,473	190,473	190,473	190,473

IV. ANNUAL REVENUE REQUIREMENTS FORECAST

The total annual costs for a water and sewer utility to provide services to its customers are referred to as the utility’s annual revenue requirements. Revenue requirements include the utilities annual operating and maintenance (O&M) expenses and its annual capital expenditures. It is typical practice for government-owned utilities to recover revenue requirements that are determined on a cash-needs approach, with an objective to provide revenues sufficient to recover the total cash requirements during an annual period. Under the cash-needs approach, operating expenses are based on the utilities budgeted operating expenses for the initial test-year with anticipated inflationary and other demand related adjustments applied to project the operating expenses in the remaining forecast years. Annual capital expenditures include annual debt service (principal and interest) payments, cash funded capital expenditures, and funding of debt and other reserves which typically provide net revenues sufficient to meet annual debt service coverage requirements. Non-cash expenditures, such as depreciation are excluded from the revenue requirements determined under the cash-needs approach.

This section of the Rate Report provides a discussion of the projected annual O&M expenses and capital expenditures (revenue requirements) of the Commission’s enterprise fund.

1. Operating and Maintenance

The first step in determining the program of water and sewer user rates and charges is to develop the forecast of annual O&M expenses for the water and sewer utilities. The forecast of water and sewer O&M during the five-year forecast period is based on the FY 2021 Operating Budget, approved on May 20, 2020 which serves as the base year of the forecast. The FY 2021 O&M expenses are forecasted to escalate based on anticipated annual increases in personal costs (salaries and benefits) of 5.0%, power and chemicals of 5.0%, anticipated water purchases from Charleston Water System (CWS) of 2.5%, and inflation of 2.5% for all other recurring O&M expenses. The Commission categorizes its O&M expenses into nine (9) operating departments identified in Table 7 below.

Table 7: IOPWSC Water & Sewer Operating Departments

Isle of Palms Water & Sewer Commission Operating Departments	
Water Departments	Sewer Departments
Billing & Collection – Water	Billing & Collection – Sewer
Administration & General – Water	Administration & General – Sewer
Water Treatment	Wastewater Treatment
Transmission & Distribution	Collection
Source of Supply	

Billing & collection and administrative costs are shared expenditures that are allocated among water and sewer by the Commission as part of their annual budgeting process.

2. Capital Expenditures

Because the Commission faces capital improvements that will require the issuance of debt, one of the objectives of the rate analysis 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. Generally, the Commission utilizes four different financing methods which includes cash from rates, impact fee funds, debt, and grant funded capital.

A. Water Capital Improvements

The Commission does not have any planned expansions to its Reverse Osmosis WTP or Contract Capacity with CWS. However, the Commission is required to make total capital payments of nearly \$850,000 during the planning period for its portion of the annual improvements to the CWS water system. The water CIP also includes several improvements to the Commission's distribution system, including hydrants, water line improvements for looping and increased capacity, and replacing smaller diameter lines with larger lines. Because these improvements benefit both existing and new customers, impact fee funds are used to fund a portion of the annual capital projects. The total costs of the five-year water CIP are approximately \$4.9 million.

Table 8 provides a summary of the five-year water capital projects and the anticipated funding sources in the water CIP.

Table 8: Five-Year Total for Water Capital Improvements Plan (FY 2021 through FY 2025)

Water Capital Improvements	Total
CCPW Capital Improvement Program	\$ 845,124
Pelican Bay-Replace existing 4" w/l with 8" and hydrants	598,529
Pelican Bay-Engineering	58,144
Duneridge-replace existing w/10"-replace loop across golf course	1,198,201
Duneridge Project-Engineering	63,158
Dunecrest to BCV-replace existing with 8" WL	537,000
Racquet Club Villas-Replace existing w/8" WL	395,610
Racquet Club Villas-Engineering	40,685
Fire Hydrant Testing and Painting	132,500
Beachwood East to Dunecrest - Replace existing 6" and 4"	793,104
Joint Project Allocated to Water	232,990
TOTAL WATER CAPITAL PROJECTS	\$ 4,895,045

Funding Sources	
Annual Rate/Cash Funded	\$ 4,785,045
Impact Fees	110,000
TOTAL FUNDING SOURCES	\$ 4,895,045

B. Sewer Capital Improvements

To increase treatment efficiencies and consolidate all its treatment services at the newer Forest Trails WWTP, the Commission plans to expand the capacity of the Forest Trails WWTP to 1.4 MGD and construct a new pumping station at the Wild Dunes WWTP to divert existing flows to the expanded Forest Trails WWTP. The expansion to the Forest Trails WWTP will cost an estimated \$16.0 million and the new Wild Dunes pumping station will cost an estimated \$1.3 million during the planning period. These projects will allow for the decommission of the old Wild Dunes WWTP and a consolidation of treatment operations at the Forest Trails WWTP.

The sewer CIP also includes annual improvements to the Commission's collection system, including extending the lift station 20 force main and upgrading electrical systems. These improvements benefit both existing and new customers and impact fee funds are used to fund a portion of the annual capital projects. The total costs of the five-year sewer CIP are \$18.3 million.

Table 9 provides a summary of the sewer capital projects and the anticipated funded sources in the sewer CIP.

Table 9: Five-Year Total for Sewer Capital Improvements Plan (FY 2021 through FY 2025)

Sewer Capital Improvements Plan	Total
Upgrade Existing Electrical Systems & Equip.	\$ 65,753
Upgrade Forest Trails WWTP to 1.4 MGD	15,400,000
Upgrade Forest Trails WWTP-Engineering	500,000
New Pump Station-Wild Dunes	1,280,000
12" Forcemain Rehab	310,000
Steel Replacement WDWTP handrails and walkways	50,000
LS 20 Forcemain extension	484,000
Spare Grinder Pumps	55,000
Joint Project Allocated to Sewer	155,327
TOTAL SEWER CAPITAL PROJECTS	\$ 18,300,080

Funding Sources	
Annual Rate/Cash Funded	\$ 937,080
Impact Fees	83,000
Grant Funding	1,280,000
Debt Funding	16,000,000
TOTAL FUNDING SOURCES	\$ 18,300,080

Again, the City and the Commission are considering working together to investigate possible approaches and funding sources to extend the Commission's wastewater collection system to areas of Isle of Palms currently served by individual septic systems. However, since the timing, costs, and funding sources for extending the collection system are uncertain at this time, the sewer CIP does not include any projects to extend the wastewater collection system to areas currently served by septic systems.

C. Financing Plan

In the project summaries in Appendix A, Schedule 2-A and Schedule 2-B, there are four different financing methods used. These methods include cash from rates, impact fee funds, debt, and grant funded capital. Cash from rates includes the accumulated operating reserves and annual cash reserves generated through monthly rates and charges. These funds are available after all annual O&M expenses have been funded. Impact fee funds represent annual and accumulated balances of impact fee collections.¹⁴ Debt financing, which generally includes revenue bonds and/or State Revolving Fund ("SRF") Loans for water and sewer,

¹⁴ The Commission's long-term practice in funding its capital improvements is to use annual rate revenues and accumulated operating reserves. In those years where rate revenues are in excess of annual cash funded capital needs, the Commission builds up cash reserves. The accumulated unrestricted cash reserves as of July 30, 2019 totaled approximately \$8.5 million providing the Commission with significant flexibility to fund capital projects during the five-year planning period. Utilizing these cash reserves to fund capital projects allows the Commission to mitigate annual user rate increases during the five-year planning period.

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are generally limited to the larger and more expensive projects such as treatment capacity and major infrastructure needs to be met immediately, while spreading out costs over 20 years.

The Commission intends to issue 20-year revenue bonds to finance \$16.0 million of capital improvement costs to the Forest Trails WWTP expansions, with up to approximately \$2.5 million available through Federal Emergency Management Agency (FEMA) grant funds.¹⁵ The remaining sewer capital improvements will be funded through a combination of cash from rates (\$937,080) and impact fee funds (\$83,000). All \$4.9 million in water capital improvements will be funded through a combination of cash from rates (\$4.8 million) and impact fee funds (\$110,000).

The CIP is a multi-year schedule that lays out a series of water and sewer capital projects and costs over a five-year capital planning period (FY 2021 through FY 2025). The CIP provides a specific plan for how the Commission expects to expand or construct its facilities and services to meet the demands of existing and/or new population and businesses. The Commission has designed a CIP to coordinate the financing and timing of capital improvements in a way that maximizes the benefits to the Commission and its water and sewer customers.

Since the Commission intends to issue debt to fund a significant portion of the sewer CIP, annual debt service is forecasted as part of the analysis based on actual scheduled debt service payments on existing debt and estimated debt service on the planned \$16.0 million 2020 Series Revenue Bonds. The Commission issued 10-year Revenue Bonds in 2012 to fund initial construction of Forest Trails WWTP and the final two debt service payments on this bond series will occur in FY 2021 and FY 2022. The planned Series 2020 Revenue Bonds are anticipated to have a 20-year term and an annual interest rate of 2.91%.¹⁶

Table 10 provides the forecast of existing and proposed annual debt service requirements for the Commission's utility debt issues. Since the proceeds from the existing and proposed bonds fund improvements to the Forest Trails WWTP, all the debt service payments are included in the sewer revenue requirements.

Table 10: Forecast of Annual Debt Service Requirements

Annual Debt Service Payments	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>
Series 2012 Revenue Bonds - Existing	\$ 649,100	\$ 646,400			
Series 2020 Revenue Bonds - Proposed	<u>\$ 420,231</u>	<u>\$ 590,950</u>	<u>\$ 1,083,325</u>	<u>\$ 1,082,450</u>	<u>\$ 1,080,325</u>
TOTAL DEBT SERVICE PAYMENTS	\$ 1,069,331	\$ 1,237,350	\$ 1,083,325	\$ 1,082,450	\$ 1,080,325

¹⁵ The financial plan is based on the prevailing assumptions at of the time of this analysis. The actual amounts of FEMA grand funding and the amount and terms of the revenue bond issue will be determined closer to construction of the Forest Trails WWTP expansion project.

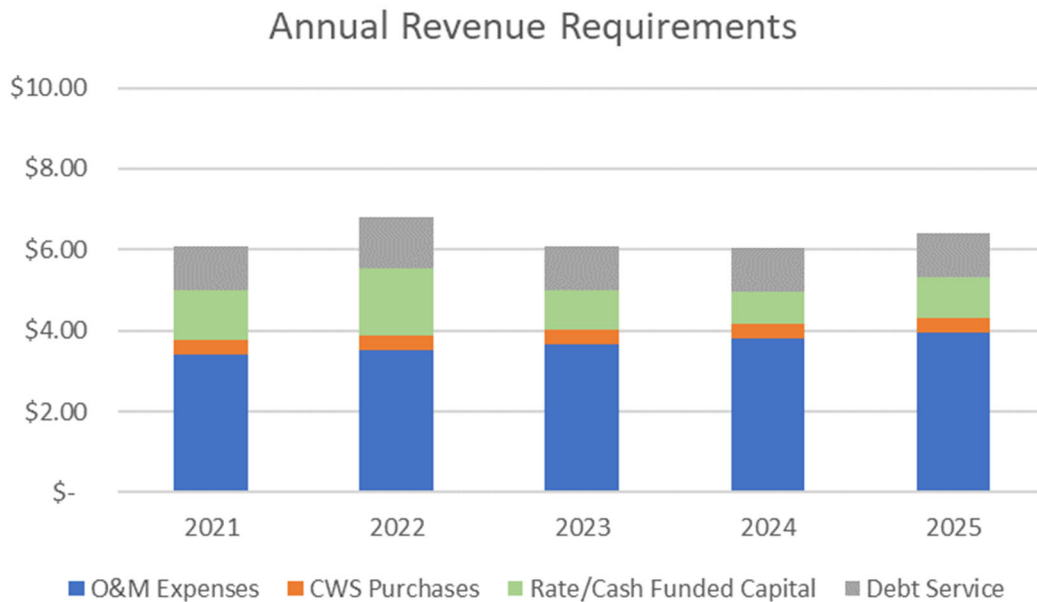
¹⁶ The interest rate represents the All-In Total Interest Cost. All-In TIC and estimated annual debt service payments for Series 2020 Revenue Bonds provided on May 13, 2020 by *First Tryon Advisors*, the Commission's financial advisor.

3. Annual Revenue Requirements

The annual revenue requirements include the five-year forecast of O&M expenses, wholesale water purchases, annual capital costs based on the Commission’s five-year financial plan, and debt service on existing and proposed revenue bond issues.

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

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



A. Revenue Sufficiency and Recommended Rate Revenue 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 planning period. First, revenues were estimated under current FY 2020 water and sewer user rates and charges assuming annual growth in new accounts and projected metered water use from Section III. Forecasted revenue were then compared to the annual revenue requirements of the water and sewer systems. This analysis indicates that with the additional debt service and rate funded capital projects, customer demand and existing user rates and charges are sufficient to recover the annual revenue requirements for the water system, but are not sufficient to recover the annual revenue requirements for the sewer system during the planning period. To maintain the Commission’s minimum unrestricted cash balance target of at least 360 days of annual operating expenses, and its debt service coverage ratio of at least 2.0x; the Commission will need to implement a program of minor annual adjustments to its sewer rates.

Specifically, sewer rates are anticipated to need annual inflationary level increases to provide approximately 2.5% in additional user rate revenues in each year of the forecast period to ensure sewer

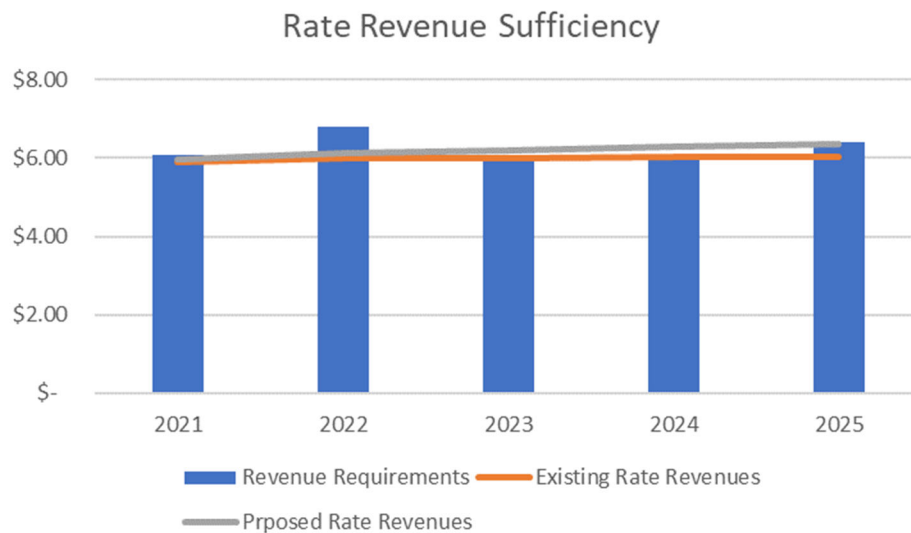
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revenue sufficiency. When combined with no increases to the water rates, the additional anticipated revenues from user rates and charges for water and sewer combined remain below 1.2% annually.¹⁷

It should be noted that the projected annual adjustments to user rates and charges are designed to fully recover the anticipated O&M water and sewer expenses and capital expenditures during the five-year forecast period. Should operating conditions or capital needs change during the later years of the financial forecast period, the annual rate adjustments may need to be re-evaluated. For example, should the City and the Commission decide to extend the wastewater collection system to those areas currently served by individual septic systems during the forecast period, additional sewer rate increases may be needed.

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

Chart 2: Water Revenue Sufficiency Under Recommended Rate Adjustments (\$ in millions)



Annual Rate Revenue Adjustments	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Water Rate Revenues	0.00%	0.00%	0.00%	0.00%	0.00%
Sewer Rate Revenues	2.46%	2.53%	2.40%	2.41%	2.41%

Combined Rate Revenues	1.13%	1.18%	1.14%	1.16%	1.18%
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¹⁷ Increases to user charge revenues represent the additional revenues estimated to be generated by increases to Commission’s various rates. The annual increases to user charge revenues do not necessarily equate to the recommended increase to the user rates, as certain rates (i.e. BFCs, volumetric charges, penalty surcharges) may be increased more than others to meet the Commission’s rate objectives. Similarly, the impact on a particular customer’s bill may not necessarily reflect the annual increase to user charges revenues.

While the proposed five-year program of rate adjustments is designed to achieve revenue sufficiency during the five-year planning period, available cash balances allow the Commission the option to consider delaying the projected FY 2021 sewer rate adjustments. Drawing on the available unrestricted cash balances to delay the proposed FY 2021 sewer rate increases to January or July of 2021 would provide additional time for the residents and businesses of the Isle of Palms to adjust to the economic challenges caused by the Covid-19 pandemic. Similarly, additional capital projects could be funded in the future through the available unrestricted cash reserves to reduce or avoid additional debt funding. Debt coverage and cash reserves and are discussed below.

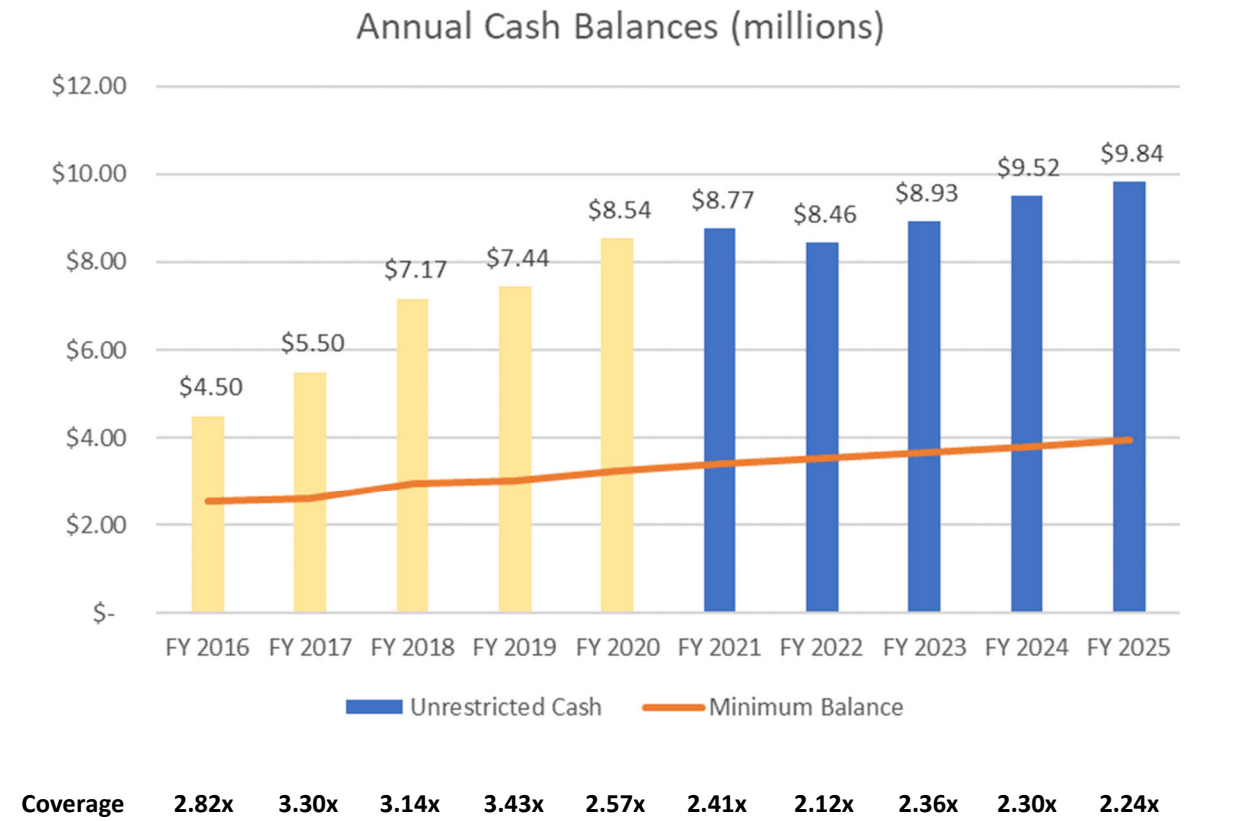
B. Debt Coverage and Unrestricted Cash Reserves

Two key measures of a utility's financial strength are its debt service coverage ratio and its cash liquidity, or available cash on hand. The debt service coverage ratio measures the utility's performance in generating sufficient operating revenues to cover its debt service obligations. Bond rating agencies give this metric significant weight when evaluating utility enterprise systems. Based on discussions with First Tryon Advisors, it is recommended that the Commission adopt a debt coverage target of at least 2.0x. This level is consistent with the expectation of Aa2-rated utilities and the Commission has maintained debt coverages well above this target over the past five-years. The recommended rate adjustment program is expected to help the Commission maintain this measure throughout the five-year planning period.

The second key measure of a utility's financial health, cash liquidity provides a measure of the utility's available reserves to maintain operations, fund ongoing investments and to respond to fiscal uncertainties, should they arise. Annual revenue surpluses and less significant capital project needs over the past five years have provided the Commission with cash reserves representing nearly 1,000 days of its current O&M expenses, which is nearly three times the recommended 360 days minimum target. The Commission can now utilize these cash reserves to fund rate and cash funded capital projects while still maintaining the 2.0X debt coverage target during the five-year forecast period. This will allow the Commission to meet its operating and capital needs while mitigating the impact of the Forest Trails WWTP expansion on customer rates.

Chart 3 provides a five-year history and the projected annual debt coverage and end of each fiscal year unrestricted cash reserves during the five-year planning period.

Chart 3: Historical and Projected Debt Coverage Ratios and Unrestricted Cash Reserves (\$ in millions)



As Chart 3 indicates, the Commission has steadily accumulated unrestricted cash reserves and maintained strong coverage ratios over the past five years which provides additional liquidity and flexibility to fund those planned water and sewer projects that will not be funded through the Series 2020 Bond Issue. It is the Commission’s practice and goal to fund the majority of its capital projects through pay-as-you-go revenues and available cash reserves; and to limit debt issues for funding major projects like the Forest Trails WWTP.

V. PROPOSED FY 2021 USER RATES & CHARGES

The FY 2021 water and sewer rate recommendations in this section are limited to increases to the existing fiscal year (FY) 2020 rates, charges, and/or surcharges. As mentioned in the previous section, based on projected revenue requirements no water increases are needed in FY 2021 or any subsequent year in the forecast. However, increases to the sewer rates are recommended to generate approximately 2.5% (or \$62,000) in additional sewer user rate revenues in FY 2021. To achieve these additional sewer rate revenues in FY 2021, Confluence has developed two alternative sewer rate scenarios for the Commissioners to consider. The two scenarios are described later in this section.

The proposed FY 2021 user rates and charges represent increases to the Commission's current rate structure and other than introducing a Billing Group 7 for 6-inch meter water and sewer accounts, do not include any recommended changes to the rate structures, customer classes, and/or rate codes. While the existing rate structures and rate codes could be improved and/or simplified to eliminate redundant rates and rate codes, the current structures and rate codes have evolved over the years to incorporate the Wild Dunes customers and in some cases accommodate customers with unique circumstances and use characteristics. Furthermore, implementing rate code consolidations and evaluating the resulting customer impacts has proven to be a challenge under the current billing software. For these reasons, Confluence recommends the Commission maintain the current rate structures and rate codes and delay any potential modifications and/or consolidations until an appropriate evaluation and implementation can be conducted.

1. FY 2021 Water Rate Recommendations

Again, no water rate increases are needed in FY 2021 or any subsequent year in the forecast because the debt service associated with the planned Series 2020 Revenue Bonds will fund the Forest Trails WWTP expansion and be recovered through sewer rates.

Based on projections of the FY 2020 rate revenues, the current water rate structure generates approximately 35% of the water rate revenues through the fixed monthly BFCs which is close to the national average for smaller utilities.

A. FY 2021 Water Basic Facilities Charges

Table 11 presents the current FY 2020 and proposed FY 2021 monthly water BFCs for the various billing groups which generally reflect customers with different meter sizes.

Table 11: Current and Proposed FY 2021 Water Basic Facilities Charges

Billing Group	Meter Size	Current 2020	Proposed 2021	Increase
1	3/4" (1)	\$ 16.00	\$ 16.00	\$ 0.00
2	1"	\$ 32.00	\$ 32.00	\$ 0.00
3	1.5"	\$ 59.00	\$ 59.00	\$ 0.00
4	2"	\$ 107.00	\$ 107.00	\$ 0.00
5	3"	\$ 199.00	\$ 199.00	\$ 0.00
6	4"	\$ 320.00	\$ 576.00	\$ 0.00
7	6"	N/A	\$ 612.00	N/A

(1) The BFC for Billing Group 1 is also applied for to each ERU assigned to a customer. Pools and multi-family residential (hotels, condominiums, resorts, etc.) are assigned ERUs and are included in Billing Group 1.

Since no water rate increase in FY 2021 is needed, the only recommended change in the water BFCs is the implementation of a new Billing Group 7 for 6-inch meters. As mentioned earlier, the Commission anticipates a new 6-inch meter resort hotel will begin water and sewer services by FY 2022 with annual metered use of 570,0000 gallons per month. To accommodate this resort hotel and potential future customers with 6-inch meters, Confluence recommends introducing Billing Group 7 with a BFC of \$612.00 per month. This BFC has a charge ratio of 36 times that of the Billing Group 1 BFC.

B. FY 2021 Water Volumetric Charges and Penalty Surcharges

Table 12 presents the current FY 2020 and proposed FY 2021 water volumetric charges and penalty surcharges assessed per 1,000 gallons of monthly water use. While these volumetric charges and surcharges are assessed to all billing groups, the increment or usage tier a particular customer is assessed these charges depends on the billing group to which that customer belongs.

Table 12: Current and Proposed FY 2021 Water Basic Facilities Charges

Usage Tier	Current FY 2020		Proposed FY 2021		Increase	
	Volumetric Charges	Penalty Surcharges	Volumetric Charges	Penalty Surcharges	Volumetric	Surcharge
Tier 1	\$ 3.60	N/A	\$ 3.60	N/A	\$ -	\$ -
Tier 2	\$ 4.30	\$ 2.00	\$ 4.30	\$ 2.00	\$ -	\$ -
Tier 3	\$ 5.00	\$ 2.50	\$ 5.00	\$ 2.50	\$ -	\$ -
Tier 4	\$ 5.50	\$ 3.00	\$ 5.50	\$ 3.00	\$ -	\$ -
Tier 5	\$ 7.20	\$ 4.50	\$ 7.20	\$ 4.50	\$ -	\$ -

Again, the volumetric charge structure includes five (5) increasing block volumetric charges assessed to customers based on water usage intervals and the demand characteristics of the seven (7) different billing group categories. The lowest Tier 1 volumetric charge is assessed to the different billing groups based on increasingly higher tier one usage intervals that reflect typical base demands for higher use commercial and irrigation customers with larger meters. Each subsequent tier (2 through 5) interval reflects the next 9,000 gallons of water usage. The additive penalty surcharges are assessed for customer water usage above the tier one usage intervals.

Table 13 summarizes the increasing water usage intervals at which each of the water billing groups are assessed the tiered block volumetric charges and penalty surcharges. The recommended water usage intervals for the new Billing Group 7 is also presented in Table 13.

Table 13: Usage Intervals for Each Billing Group

Usage Tier	Consumption in 1,000 gallons Billing Groups						
	1	2	3	4	5	6	7
Tier 1	0-9	0-18	0-54	0-80	0-193-	0-326	0-723
Tier 2	10-18	19-27	55-63	81-89	194-202	327-335	724-732
Tier 3	19-27	28-36	64-72	90-98	203-211	336-344	733-741
Tier 4	28-36	37-45	73-81	99-107	212-220	345-353	742-750
Tier 5	>36	>45	>81	>107	>220	>353	>750

To accommodate the new resort hotel and potential future customers with 6-inch meters, Confluence recommends introducing the Billing Group 7 with a Tier 1 usage interval of 0 to 723,000 gallons per month.

2. FY 2021 Sewer Rate Recommendations

Because the debt service associated with the planned Series 2020 Revenue Bonds will fund the Forest Trails WWTP expansion and be recovered through sewer rates, Confluence recommends sewer rate increases in FY 2021 and during the subsequent years of the planning period. Increases to the sewer rates are recommended to generate approximately 2.5% (or \$62,000) in additional sewer user rate revenues in FY 2021. To achieve these additional sewer rate revenues in FY 2021, Confluence has developed two alternative sewer rate scenarios for the Commissioners to consider. The two scenarios include:

1. **Sewer Rate Scenario 1:** Increases to the sewer volumetric charges and penalty surcharges only to further promote the efficient use of water resources and recover more of the cost of the wastewater treatment capacity from higher sewer users; and
2. **Sewer Rate Scenario 2:** More balanced increases to the sewer BFC's, volumetric charges, and penalty surcharges to recover the costs of the wastewater treatment capacity more similarly from sewer users at all usage levels.

The recommended FY 2021 sewer rate increases do not represent equivalent across-the-board increases to all BFCs, volumetric charges (per 1,000 gallons), and penalty surcharges (per 1,000 gallons), but instead are based on meeting the Commission’s objective to simplify the billing process through rounding the charges. Under both scenarios, the adjustments to the existing FY 2020 sewer rates were developed to address the Commission’s objective to simplify the customer’s bill and staff’s monthly payment posting process by rounding the customer rates and charges. Specifically, the objective is to round the monthly fixed BFCs to reflect multiples of \$1.00 (where possible) and all volumetric charges and surcharges to reflect multiples of \$0.05 or \$0.10.

A. FY 2021 Sewer Basic Facilities Charges –Rate Scenario 1

Sewer Rate Scenario 1 is designed to recover all the additional FY 2021 sewer user rate revenues through the volumetric charges and penalty surcharges which will affect high sewer usage customers more than lower more efficient users. As such, no increase to the current sewer BFCs are recommended under Sewer Rate Scenario 1.

Table 14 presents the current FY 2020 and proposed FY 2021 monthly sewer BFCs for the various billing groups which generally reflect customers with different meter sizes.

Table 14: Current and Proposed FY 2021 Sewer Basic Facilities Charges –Rate Scenario 1

Billing Group	Meter Size	Current 2020	Proposed 2021	Increase
1	3/4" (1)	\$ 34.00	\$ 34.00	\$ 0.00
2	1"	\$ 65.00	\$ 65.00	\$ 0.00
3	1.5"	\$ 119.00	\$ 119.00	\$ 0.00
4	2"	\$ 216.00	\$ 216.00	\$ 0.00
5	3"	\$ 404.00	\$ 404.00	\$ 0.00
6	4"	\$ 648.00	\$ 648.00	\$ 0.00
7	6"	N/A	\$ 1,225.00	N/A

(1) The BFC for Billing Group 1 is also applied for to each ERU assigned to a customer. Pools and multi-family residential (hotels, condominiums, resorts, etc.) are assigned ERUs and are included in Billing Group 1.

Again, the Commission anticipates a new 6-inch meter resort hotel will begin water and sewer services by FY 2022 with annual metered use of 570,000 gallons per month. To accommodate this resort hotel and potential future customers with 6-inch meters under Sewer Rate Scenario 1, Confluence recommends introducing a Billing Group 7 with an FY 2021 BFC of \$1,225.00 per month. This BFC has a charge ratio of 36 times that of the Billing Group 1 BFC.

B. FY 2021 Sewer Basic Facilities Charges –Rate Scenario 2

Sewer Rate Scenario 2 is designed to recover the additional FY 2021 sewer user rate revenues through more balanced increases to the BFCs, volumetric charges, and penalty surcharges to achieve a more balanced recovery of the costs for the wastewater treatment capacity from sewer users at all usage levels. To achieve this rate revenue increase, Confluence recommends increasing the BFCs based on a \$1.00 increase to the BFC for Billing Group 1. The BFCs for the other billing groups will increase according to the BFC differentials for larger meters and rounding objectives. These charge differentials have been in place for years and approximate the capacity equivalents assigned to each meter size based on the potential capacities of meters in relation to the capacity of the ¾-inch meter.

Table 15 presents the current FY 2020 and proposed FY 2021 monthly sewer BFCs for the various billing groups which generally reflect customers with different meter sizes.

Table 15: Current and Proposed FY 2021 Sewer Basic Facilities Charges –Rate Scenario 2

Billing Group	Meter Size	Current 2020	Proposed 2021	Increase
1	3/4" (1)	\$ 34.00	\$ 35.00	\$ 1.00
2	1"	\$ 65.00	\$ 67.00	\$ 2.00
3	1.5"	\$ 119.00	\$ 123.00	\$ 4.00
4	2"	\$ 216.00	\$ 223.00	\$ 7.00
5	3"	\$ 404.00	\$ 416.00	\$ 12.00
6	4"	\$ 648.00	\$ 667.00	\$ 19.00
7	6"	N/A	\$ 1,260.00	N/A

(1) The BFC for Billing Group 1 is also applied for to each ERU assigned to a customer. Pools and multi-family residential (hotels, condominiums, resorts, etc.) are assigned ERUs and are included in Billing Group 1.

To accommodate the new 6-inch meter resort hotel and potential future customers with 6-inch meters, Confluence recommends introducing a Billing Group 7 with an FY 2021 BFC of \$1,260.00 per month. This BFC has a charge ratio of 36 times that of the Billing Group 1 BFC.

C. FY 2021 Sewer Volumetric Charges and Penalty Surcharges – Rate Scenario 1

Sewer Rate Scenario 1 is designed to recover all the additional FY 2021 sewer user rate revenues through the volumetric charges and penalty surcharges. To achieve the 2.5% sewer user rate revenue increase for FY 2021, Confluence recommends \$0.30 increases to the Tier 1 through Tier 4 volumetric charges, and a \$0.50 increase to the Tier 2 penalty surcharge assessed to customers per 1,000 gallons of monthly billed water use.

Table 16 presents the current FY 2020 and proposed FY 2021 sewer volume charge and penalty surcharges assessed per 1,000 gallons of monthly sewer use. While these charges and surcharges are assessed to all billing groups, the increment or usage tier that a specific customer is assessed these charges depends on the billing group to which that customer belongs.

Table 16: Current and Proposed FY 2021 Sewer Volumetric Charges – Rate Scenario 1

Usage Tier	Current FY 2020		Proposed FY 2021		Increase	
	Volumetric Charges	Penalty Surcharges	Volumetric Charges	Penalty Surcharges	Volumetric	Surcharge
Tier 1	\$ 6.30	N/A	\$ 6.60	N/A	\$ 0.30	N/A
Tier 2	\$ 7.30	\$ 2.00	\$ 7.60	\$ 2.50	\$ 0.30	\$ 0.50
Tier 3	\$ 8.30	\$ 3.00	\$ 8.60	\$ 3.00	\$ 0.30	\$ 0.00
Tier 4	\$ 9.40	\$ 4.00	\$ 9.70	\$ 4.00	\$ 0.30	\$ 0.00
Tier 5	\$ 12.50	\$ 5.00	\$ 12.50	\$ 5.00	\$ 0.00	\$ 0.00

D. FY 2021 Sewer Volumetric Charges and Penalty Surcharges – Rate Scenario 2

Sewer Rate Scenario 2 is designed to recover the additional FY 2021 sewer user rate revenues through more balanced increases to the BFCs, volumetric charges, and penalty surcharges to achieve a more balanced recovery of the costs for the wastewater treatment capacity from sewer users at all usage levels. To achieve the 2.5% sewer user rate revenue increase for FY 2021, along with the increases to the BFCs mentioned above, Confluence recommends \$0.10 increases to the Tier 1 through Tier 4 volumetric charges, and a \$0.50 increase to the Tier 2 penalty surcharge assessed to customers per 1,000 gallons of monthly billed water use.

Table 17 presents the current FY 2020 and proposed FY 2021 sewer volume charge and penalty surcharges assessed per 1,000 gallons of monthly water use under Sewer Rate Scenario 1. While these charges and surcharges are assessed to all billing groups, the increment or usage tier that a specific customer is assessed these charges depends on the billing group to which that customer belongs.

Table 17: Current and Proposed FY 2021 Sewer Volumetric Charges – Rate Scenario 2

Usage Tier	Current FY 2020		Proposed FY 2021		Increase	
	Volumetric Charges	Penalty Surcharges	Volumetric Charges	Penalty Surcharges	Volumetric	Surcharge
Tier 1	\$ 6.30	N/A	\$ 6.40	N/A	\$ 0.10	N/A
Tier 2	\$ 7.30	\$ 2.00	\$ 7.40	\$ 2.50	\$ 0.10	\$ 0.50
Tier 3	\$ 8.30	\$ 3.00	\$ 8.40	\$ 3.00	\$ 0.10	\$ 0.00
Tier 4	\$ 9.40	\$ 4.00	\$ 9.50	\$ 4.00	\$ 0.10	\$ 0.00
Tier 5	\$ 12.50	\$ 5.00	\$ 12.50	\$ 5.00	\$ 0.00	\$ 0.00

Under both sewer rate scenarios, the volumetric charge structure includes five (5) increasing block volumetric charges assessed to customers based on sewer usage intervals and the demand characteristics of the seven different billing groups categories. The lowest tier one volumetric charge is assessed to the different billing groups based on increasingly higher tier one usage intervals that reflect higher base demands for higher use commercial customers with larger meters. Each subsequent tier (2 through 5) interval reflects the next 9,000 gallons of water usage. The additive penalty surcharges are assessed for customer sewer usage above the tier one usage intervals.

Table 18 summarizes the increasing sewer usage intervals at which each of the sewer billing groups are assessed the tiered block volumetric charges and penalty surcharges. The sewer usage intervals are consistent with the water usage intervals and Confluence does not recommend any changes to the sewer usage intervals as part of this analysis other than the introduction of a new Billing Group 7 with a Tier 1 usage interval of 0 to 723,000 gallons per month.

Table 18: Usage Intervals for Each Billing Group

Usage Tier	Consumption in 1,000 gallons Billing Groups						
	1	2	3	4	5	6	7
Tier 1	0-9	0-18	0-54	0-80	0-193	0-326	0-723
Tier 2	10-18	19-27	55-63	81-89	194-202	327-335	724-732
Tier 3	19-27	28-36	64-72	90-98	203-211	336-344	733-741
Tier 4	28-36	37-45	73-81	99-107	212-220	345-353	742-750
Tier 5	>36	>45	>81	>107	>220	>353	>750

At the June 17 Commission Meeting, the Commissioners voted to adopt Sewer Rate Alternative 2, which is designed to recover the additional FY 2021 sewer user rate revenues through balanced increases to the BFCs, volumetric charges, and penalty surcharges and achieve a similar recovery of the costs for the upgraded wastewater treatment capacity from sewer users at all usage levels.

VI. CUSTOMER BILL IMPACTS

Section V presented the proposed user charge and rate increases for FY 2021 based on specific increases to the monthly water and sewer BFCs and tiered volumetric charges per 1,000 gallons under two sewer rate scenarios. This section compares the impacts of the proposed FY 2021 rate adjustments on typical residential water and sewer customers to provide additional information for policy makers. For comparison purposes, the typical residential customer of the Commission has a ¾-inch water meter and is included in Billing Group 1.

1. Water Residential Customer Bill Impacts

Residential customers with ¾-inch meters represent approximately 81% of the Commission's water accounts. Based on detailed FY 2017 billing data, the yearly residential customers use approximately 6,000 gallons per month.

Table 19 demonstrates how residential water customers (Billing Group 1) at different amounts of monthly water use will be impacted by the proposed FY 2021 water user rates. Since no water rate increases are recommended, water customers will experience no change to their monthly bills.

Table 19: ¾-Inch Meter Residential Customer Impacts Under Proposed FY 2021 Water Rates

Residential Water Customer With ¾-inch Meter				
Monthly Usage	Current FY 2020	Proposed FY 2021	Increase	
			(\$)	(%)
0	\$ 16.00	\$ 16.00	\$ 0.00	0.0%
4,000	\$ 30.40	\$ 30.40	\$ 0.00	0.0%
6,000	\$ 37.60	\$ 37.60	\$ 0.00	0.0%
10,000	\$ 54.70	\$ 54.70	\$ 0.00	0.0%
18,000	\$ 105.10	\$ 105.10	\$ 0.00	0.0%
20,000	\$ 120.10	\$ 120.10	\$ 0.00	0.0%

All residential water customers with a ¾-inch water meter (Billing Group 1) will experience a \$0.00 increase to their monthly bill regardless of monthly water use.

2. Sewer Residential Customer Bill Impacts – Rate Scenario 1

Residential customers with ¾-inch meters represent approximately 94% of the Commission's sewer accounts.

Table 20 demonstrates how residential sewer customers (Billing Group 1) at different levels of monthly sewer use will be impacted by the proposed FY 2021 sewer user rates under Sewer Rate Scenario 1.

Table 20: ¾-Inch Meter Residential Customer Impacts Under Proposed FY 2021 Sewer Rates Rate Scenario 1

Residential Sewer Customer With ¾-inch Meter				
Monthly Usage	Current FY 2020	Proposed FY 2021	Increase	
			(\$)	(%)
0	\$ 34.00	\$ 34.00	\$ -	0.0%
4,000	\$ 59.20	\$ 60.40	\$ 1.20	2.0%
6,000	\$ 71.80	\$ 73.60	\$ 1.80	2.5%
10,000	\$ 100.00	\$ 103.50	\$ 3.50	3.5%
18,000	\$ 174.40	\$ 184.30	\$ 9.90	5.7%
20,000	\$ 197.00	\$ 207.50	\$ 10.50	5.3%

Residential sewer customers with a ¾-inch water meter (Billing Group 1) will experience a range of impacts to their monthly bill under Sewer Rate Scenario 1 depending on monthly water use. Since the sewer user rate increases focus solely on increasing the volumetric charges and penalty surcharges, customers with no monthly usage will see no increase while the customer impacts as a percentage increase with the amount of the customer's monthly sewer use. The typical residential sewer customer with 6,000 gallons of monthly water use will experience a \$1.80, or 2.5% bill increase per month. While focusing the rate increases on monthly customer sewer usage levels enhances efficient use of water resources and recovers a greater portion of costs from higher use customers, it is less effective in providing revenue stability. The impacts for customers with larger meters within other billing groups differs from Billing Group 1 based on higher BFCs and usage tiers which provide larger usage increments in the initial tier for larger meter customers (See Table 18 for tier usage increments for all billing groups).

3. Sewer Residential Customer Bill Impacts – Rate Scenario 2

Table 21 demonstrates how residential sewer customers (Billing Group 1) at different levels of monthly sewer use will be impacted by the proposed FY 2021 sewer user rates under Sewer Rate Scenario 2.

Table 21: ¾-Inch Meter Residential Customer Impacts Under Proposed FY 2021 Sewer Rates Rate Scenario 2

Residential Sewer Customer With ¾-inch Meter				
Monthly Usage	Current FY 2020	Proposed FY 2021	Increase	
			(\$)	(%)
0	\$ 34.00	\$ 35.00	\$ 1.00	2.9%
4,000	\$ 59.20	\$ 60.60	\$ 1.40	2.4%
6,000	\$ 71.80	\$ 73.40	\$ 1.60	2.2%
10,000	\$ 100.00	\$ 102.50	\$ 2.50	2.5%
18,000	\$ 174.40	\$ 181.70	\$ 7.30	4.2%
20,000	\$ 197.00	\$ 204.50	\$ 7.50	3.8%

Residential sewer customers with a ¾-inch water meter (Billing Group 1) will experience a range of impacts to their monthly bill depending on monthly water use. Since the sewer user rate increases are more balanced by increasing the BFCs, volumetric charges, and penalty surcharges, all customers will experience a monthly bill increase. The typical residential sewer customer with 6,000 gallons of monthly water use will experience a \$1.60, or 2.2% bill increase per month. Again, the impacts for customers with larger meters within other billing groups differs from Billing Group 1 based on higher BFCs and usage tiers which provide larger usage increments in the initial tier for larger meter customers (See Table 18 for tier usage increments for all billing groups).

4. Combined Residential Customer Bill Impacts

All of the approximately 2,542 residential sewer customers receive water service from the Commission while approximately 1,245 residential water customers on the island that have individual septic systems. So, approximately 67% of the Commission’s residential customers with ¾-inch meters will receive a bill for both water and sewer services.

Table 22 demonstrates how residential customers (Billing Group 1) receiving both water and sewer services at different amounts of monthly water use will be impacted by the proposed FY 2021 water and sewer user rates under Sewer Rate Scenario 1.

Table 22: ¾-Inch Meter Residential Customer Impacts Under Proposed FY 2021 Water and Sewer Rates Rate Scenario 1

Residential Water & Sewer Customer With ¾-inch Meter				
Monthly Usage	Current FY 2020	Proposed FY 2021	Increase	
			(\$)	(%)
0	\$ 50.00	\$ 50.00	\$ -	0.0%
4,000	\$ 89.60	\$ 90.80	\$ 1.20	1.3%
6,000	\$ 109.40	\$ 111.20	\$ 1.80	1.6%
10,000	\$ 154.70	\$ 158.20	\$ 3.50	2.3%
18,000	\$ 279.50	\$ 289.40	\$ 9.90	3.5%
20,000	\$ 317.10	\$ 327.60	\$ 10.50	3.3%

Residential customers with a ¾-inch water meter (Billing Group 1) receiving both water and sewer services from the Commission will experience a range of impacts to their monthly bill depending of monthly water use. A residential customer with no monthly water use will experience a no monthly bill increase. The typical residential sewer customer with 6,000 gallons of monthly water use will experience a \$1.80, or 1.6% bill increase. The impacts for customers receiving both water and sewer with larger meters within other billing groups differs from Billing Group 1 based on higher BFCs and usage tiers which provide larger usage increments in the initial tier for larger meter customers (See Table 18 for tier usage increments for all billing groups).

Table 23 demonstrates how residential customers (Billing Group 1) receiving both water and sewer services at different amounts of monthly water use will be impacted by the proposed FY 2021 water and sewer user rates under Sewer Rate Scenario 2.

Table 23: ¾-Inch Meter Residential Customer Impacts Under Proposed FY 2021 Water and Sewer Rates Rate Scenario 2

Residential Water & Sewer Customer With ¾-inch Meter				
Monthly Usage	Current FY 2020	Proposed FY 2021	Increase	
			(\$)	(%)
0	\$ 50.00	\$ 51.00	\$ 1.00	2.0%
4,000	\$ 89.60	\$ 91.00	\$ 1.40	1.6%
6,000	\$ 109.40	\$ 111.00	\$ 1.60	1.5%
10,000	\$ 154.70	\$ 157.20	\$ 2.50	1.6%
18,000	\$ 279.50	\$ 286.80	\$ 7.30	2.6%
20,000	\$ 317.10	\$ 324.60	\$ 7.50	2.4%

Residential customers with a ¾-inch water meter (Billing Group 1) receiving both water and sewer services from the Commission will experience a range of impacts to their monthly bill depending on monthly water use. A residential customer with no monthly water use will experience a \$1.00, or 2.0% monthly bill increase. The typical residential sewer customer with 6,000 gallons of monthly water use will experience a \$1.60, or 1.5% bill increase. The impacts for customers receiving both water and sewer with larger meters within other billing groups differs from Billing Group 1 based on higher BFCs and usage tiers which provide larger usage increments in the initial tier for larger meter customers (See Table 18 for tier usage increments for all billing groups).

VII. COMPARISON WITH LOCAL UTILITIES

One of the Commission's objectives is determining a rate structure that maintains competitive water and sewer rates in comparison to similar customers in other coastal communities in South Carolina. Therefore, a comparison of the monthly bills for the typical residential customer (Billing Group 1) under the current FY 2020 and proposed FY 2021 user rates and charges (under both sewer rate scenarios) to the monthly bills assessed to similar customers served by other local utilities provides a benchmark when considering the impact of the proposed rate increases.

Table 24 provides a comparison of the typical monthly combined water and sewer bills for the Commission and nine (9) other utilities in coastal South Carolina. Again, for comparison purposes a typical customer is assumed to use 6,000 gallons per the average month.

Table 24: Comparison of Typical Monthly Customer Bills with Local Communities

Utility/Community	User Rates and Charges (6,000 gal/month)		
	Water	Sewer	Total
Sullivan's Island	\$ 44.96	\$ 88.53	\$ 133.49
IOPWSC (Rate Scenario 1)	\$ 37.60	\$ 73.60	\$ 111.20
IOPWSC (Rate Scenario 2)	\$ 37.60	\$ 73.40	\$ 111.00
IOPWSC (Current)	\$ 37.60	\$ 71.80	\$ 109.40
Charleston Water System	\$ 24.54	\$ 79.71	\$ 104.25
Mount Pleasant Waterworks	\$ 39.30	\$ 56.03	\$ 95.33
Seabrook Island	\$ 44.59	\$ 39.22	\$ 83.81
Beaufort-Jasper	\$ 30.05	\$ 50.94	\$ 80.99
Berkeley County	\$ 33.46	\$ 44.00	\$ 77.46
Dorchester County	\$ 31.65	\$ 40.00	\$ 71.65
Summerville Public Works	\$ 22.35	\$ 24.00	\$ 46.35
South Island PSD	\$ 19.64	\$ 26.06	\$ 45.70
Average (Excluding IOPWSC)	\$ 31.88	\$ 48.30	\$ 80.18

As the comparison demonstrates, even before the proposed FY 2021 rate adjustments the Commission is above the average of the comparison group. While the water rates are more in line with the comparison group, the Commission's sewer rates are among the highest of the group. The higher sewer rates result as the Commission serves a very small sewer customer base and must recover the costs of wastewater treatment facilities from fewer customers, thus limiting its ability to achieve economies of scale through a larger customers base. Additionally, the Commission recently constructed the Forest Trails WWTP and

ISLE OF PALMS WATER & SEWER COMMISSION

is planning to expand the capacity of the facility to serve as the lone wastewater treatment facility serving Isle of Palms.

It should also be noted that the bills calculated for the comparison group are based on the utilities' current FY 2020 rates or published rates for FY 2021. It is likely that some of the comparison utilities will also be faced with FY 2021 rate increases that are not reflected in this comparison.

APPENDIX A

Schedule 1
Isle of Palms Water & Sewer Commission
Water and Sewer Financial Planning & Rate Model
Forecast for Water & Sewer Revenue Requirements

Annual Revenue Requirements	Fiscal Year Ending, June 30				
	2021	2022	2023	2024	2025
	Budget				
Water Operating & Maintenance Expense					
Source of Supply	\$ 395,330	\$ 405,906	\$ 416,781	\$ 427,964	\$ 439,464
Water Treatment	194,800	202,820	211,198	219,951	229,096
Transmission & Distribution	522,275	542,192	562,950	584,587	607,143
Billing & Collection	169,900	177,758	185,992	194,622	203,666
Administrative & General	592,900	597,643	620,726	644,794	669,892
Subtotal Water O&M	\$ 1,875,205	\$ 1,926,318	\$ 1,997,646	\$ 2,071,917	\$ 2,149,261
Annual Water Capital Expenditures					
Rate Funded	870,834	1,565,738	564,827	794,296	989,350
Existing Debt Service	-	-	-	-	-
Proposed Debt Service	-	-	-	-	-
Subtotal Water Capital	\$ 870,834	\$ 1,565,738	\$ 564,827	\$ 794,296	\$ 989,350
TOTAL WATER REVENUE REQUIREMENTS	\$ 2,746,039	\$ 3,492,055	\$ 2,562,473	\$ 2,866,213	\$ 3,138,611
Sewer Operating & Maintenance Expense					
Wastewater Treatment	631,520	656,373	682,301	709,352	737,580
Collection	324,850	338,901	353,600	368,978	385,067
Billing & Collection	113,700	118,990	124,535	130,346	136,438
Administrative & General	462,900	479,915	497,628	516,069	535,271
Total Sewer O&M	\$ 1,532,970	\$ 1,594,179	\$ 1,658,063	\$ 1,724,745	\$ 1,794,356
Annual Sewer Capital Expenditures					
Rate Funded	373,412	115,118	415,583	16,324	16,643
Existing Debt Service	649,100	646,400	-	-	-
Proposed Debt Service	420,231	590,950	1,083,325	1,082,450	1,080,325
Subtotal Sewer Capital	\$ 1,442,743	\$ 1,352,468	\$ 1,498,908	\$ 1,098,774	\$ 1,096,968
TOTAL SEWER REVENUE REQUIREMENTS	\$ 2,975,713	\$ 2,946,647	\$ 3,156,971	\$ 2,823,519	\$ 2,891,324
TOTAL UTILITY REVENUE REQUIREMENTS	\$ 5,721,752	\$ 6,438,703	\$ 5,719,444	\$ 5,689,732	\$ 6,029,935

Schedule 2-A
 Isle of Palms Water & Sewer Commission
 Water and Sewer Financial Planning & Rate Model
 Water Capital Improvements Plan (CIP)

	Fiscal Year Ending, June 31					FY 2021 - 2025
	2021	2022	2023	2024	2025	Total
Water Capital Improvements						
1 W1 CCPW Capital Improvement Program	\$ 185,820	\$ 185,820	\$ 101,844	\$ 185,820	\$ 185,820	\$ 845,124
2 W2 Pelican Bay-Replace existing 4" w/l with 8" and hydrants				598,529		598,529
3 ENG Pelican Bay-Engineering			58,144			58,144
4 W5 Duneridge-replace existing w/10"-replace loop across golf course		1,198,201				1,198,201
5 ENG Duneridge Project-Engineering	63,158					63,158
6 W11 Dunecrest to BCV-replace existing with 8" WL	537,000					537,000
8 W12 Racquet Club Villas-Replace existing w/8" WL			395,610			395,610
9 ENG Racquet Club Villas-Engineering		40,685				40,685
10 W13 Fire Hydrant Testing and Painting		132,500				132,500
11 W35 Beachwood East to Dunecrest - Replace existing 6" and 4"					793,104	793,104
24 Joint Project Allocated to Water	\$ 114,856	\$ 28,532	\$ 29,229	\$ 29,947	\$ 30,426	232,990
Total Water Capital Projects	\$ 900,834	\$ 1,585,738	\$ 584,827	\$ 814,296	\$ 1,009,350	\$ 4,895,045
Water Capital Funding Sources						
Annual Rate Funded	\$ 870,834	\$ 1,565,738	\$ 564,827	\$ 794,296	\$ 989,350	\$ 4,785,045
Impact Fees	30,000	20,000	20,000	20,000	20,000	110,000
Grant Funding						-
Debt Funding						-
Total Funding Sources	\$ 900,834	\$ 1,585,738	\$ 584,827	\$ 814,296	\$ 1,009,350	\$ 4,895,045

Schedule 2 - B
 Isle of Palms Water & Sewer Commission
 Water and Sewer Financial Planning & Rate Model
 Sewer Capital Improvements Plan (CIP)

	Fiscal Year Ending, June 31					FY 2021 - 2026
	2021	2022	2023	2024	2025	Total
Sewer Capital Improvements						
S1 Upgrade Existing Electrical Systems & Equip.	\$ 12,841	\$ 13,097	\$ 13,097	\$ 13,359	\$ 13,359	\$ 65,753
S2 Upgrade Forest Trails WWTP to 1.4 MGD	7,100,000	5,800,000	2,500,000			15,400,000
ENG Upgrade Forest Trails WWTP-Engineering	300,000	100,000	100,000			500,000
S3 New Pump Station-Wild Dunes	1,280,000					1,280,000
S5 12" Forcemain Rehab	310,000					310,000
S7 Steel Replacement WDWTP handrails and walkways	50,000					50,000
S8 LS 20 Forcemain extension	484,000					484,000
S10 Spare Grinder Pumps	55,000					55,000
Joint Project Allocated to Sewer	76,571	19,021	19,486	19,965	20,284	155,327
Total Sewer Capital Projects	\$ 9,668,412	\$ 5,932,118	\$ 2,632,583	\$ 33,324	\$ 33,643	\$ 18,300,080
Sewer Capital Funding Sources						
Annual Rate Funded	\$ 373,412	\$ 115,118	\$ 415,583	\$ 16,324	\$ 16,643	\$ 937,080
Impact Fees	15,000	17,000	17,000	17,000	17,000	83,000
Grant Funding	1,280,000	-				1,280,000
Debt Funding	8,000,000	5,800,000	2,200,000			16,000,000
Total Funding Sources	\$ 9,668,412	\$ 5,932,118	\$ 2,632,583	\$ 33,324	\$ 33,643	\$ 18,300,080

Schedule 3
Isle of Palms Water & Sewer Commission
Water and Sewer Financial Planning & Rate Model
Forecast for Debt Service Requirements

	Fiscal Year Ending, June 30											
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Annual Debt Service Requirements												
Existing Debt Service Requirements												
Series 2012 Bonds												
Principal	\$ 630,000	\$ 640,000										
Interest	19,100	6,400										
Total Existing Debt Service	\$ 649,100	\$ 646,400	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Allocation of Existing Debt Service												
Water Debt	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sewer Debt	649,100	646,400	-	-	-	-	-	-	-	-	-	-
	\$ 649,100	\$ 646,400	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Proposed Sewer Debt Service Requirements												
Series 2020 Bonds	420,231	590,950	1,083,325	1,082,450	1,080,325	1,081,825	1,081,825	1,080,325	1,082,200	1,082,325	1,080,700	
Total Proposed Debt Service	\$ 420,231	\$ 590,950	\$ 1,083,325	\$ 1,082,450	\$ 1,080,325	\$ 1,081,825	\$ 1,081,825	\$ 1,080,325	\$ 1,082,200	\$ 1,082,325	\$ 1,080,700	
Allocation of Debt Service												
Water Debt Service	60% \$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Wastewater Debt Service	40%	1,069,331	1,237,350	1,083,325	1,082,450	1,080,325	1,081,825	1,081,825	1,080,325	1,082,200	1,082,325	1,080,700
Total Utility Debt Service	\$ 1,069,331	\$ 1,237,350	\$ 1,083,325	\$ 1,082,450	\$ 1,080,325	\$ 1,081,825	\$ 1,081,825	\$ 1,080,325	\$ 1,082,200	\$ 1,082,325	\$ 1,080,700	

Schedule 4
Isle of Palms Water & Sewer Commission
Water and Sewer Financial Planning & Rate Model
Utility Revenue Sufficiency and Financial Strength

Annual Revenue and Expenses	Fiscal Year Ending, June 30				
	2021	2022	2023	2024	2025
Annual Operating Revenues					
Sale of Water	\$ 2,655,679	\$ 2,690,437	\$ 2,693,317	\$ 2,696,197	\$ 2,699,077
Sale of Sewer	2,517,051	2,644,024	2,711,363	2,778,906	2,846,653
Other Revenues	206,950	211,089	215,311	219,617	224,009
Investment Income	72,000	72,000	72,000	72,000	72,000
Interest on Debt Service Fund	500	502	504	506	508
Total Operating Revenue	\$ 5,452,181	\$ 5,618,053	\$ 5,692,495	\$ 5,767,227	\$ 5,842,248
Capital Revenues					
Impact Fees	45,000	37,000	37,000	37,000	37,000
Water Surcharges	375,000	375,000	375,000	375,000	375,000
Sewer Surcharges	107,892	107,892	107,892	107,892	107,892
Total Capital Revenue	\$ 527,892	\$ 519,892	\$ 519,892	\$ 519,892	\$ 519,892
Total Revenue	\$ 5,980,072	\$ 6,137,944	\$ 6,212,387	\$ 6,287,118	\$ 6,362,139
Revenue Requirements					
Operating & Maintenance Expense	3,408,175	3,520,497	3,655,709	3,796,662	3,943,617
Debt Service	1,069,331	1,237,350	1,083,325	1,082,450	1,080,325
Rate Funded Capital	1,289,246	1,717,856	1,017,410	847,620	1,042,993
Total Revenue Requirements	\$ 5,766,752	\$ 6,475,703	\$ 5,756,444	\$ 5,726,732	\$ 6,066,935
Revenue Surplus/(Deficit)	\$ 213,320	\$ (337,759)	\$ 455,943	\$ 560,386	\$ 295,205
Debt Service Coverage					
Net Revenues	2,571,897	2,617,447	2,556,678	2,490,456	2,418,523
Debt Service	1,069,331	1,237,350	1,083,325	1,082,450	1,080,325
Coverage	1.2X	2.41	2.12	2.36	2.24

Schedule 5
Isle of Palms Water & Sewer Commission
Water and Sewer Financial Planning & Rate Model
Forecast for Fund Balances

Annual Fund Balances	Fiscal Year Ending, June 30				
	2021	2022	2023	2024	2025
Water Operating Fund					
Beginning Fund Balance: (1)	\$ 4,865,756	\$ 5,320,985	\$ 5,067,500	\$ 5,749,070	\$ 6,132,425
Plus: Net Operating Income (2)	951,064	937,253	871,397	802,652	730,887
Plus: Transfer from Impact Fees	30,000	20,000	20,000	20,000	20,000
Plus: Surcharge Revenue	375,000	375,000	375,000	375,000	375,000
Less: Annual Debt Service	-	-	-	-	-
Less: Rate Funded Capital	(900,834)	(1,585,738)	(584,827)	(814,296)	(1,009,350)
Ending Fund Balance	\$ 5,320,985	\$ 5,067,500	\$ 5,749,070	\$ 6,132,425	\$ 6,248,962
Assignment to Funds	\$ 455,230	\$ (253,486)	\$ 681,570	\$ 383,356	\$ 116,536
Sewer Operating Fund					
Beginning Fund Balance: (1)	\$ 3,649,513	\$ 3,407,604	\$ 3,323,331	\$ 3,097,704	\$ 3,274,734
Plus: Net Operating Income (2)	1,092,941	1,160,303	1,165,389	1,167,912	1,167,744
Plus: Transfer from Impact Fees	15,000	17,000	17,000	17,000	17,000
Plus: Surcharge Revenue	107,892	107,892	107,892	107,892	107,892
Less: Annual Debt Service	(1,069,331)	(1,237,350)	(1,083,325)	(1,082,450)	(1,080,325)
Less: Rate Funded Capital	(388,412)	(132,118)	(432,583)	(33,324)	(33,643)
Ending Fund Balance	\$ 3,407,604	\$ 3,323,331	\$ 3,097,704	\$ 3,274,734	\$ 3,453,402
Assignment to Funds	\$ (241,910)	\$ (84,273)	\$ (225,627)	\$ 177,030	\$ 178,668
Combined Utility Operating Fund					
Beginning Fund Balance: (1)	\$ 8,515,269	\$ 8,728,589	\$ 8,390,831	\$ 8,846,773	\$ 9,407,159
Plus: Net Operating Income (2)	2,044,006	2,097,556	2,036,786	1,970,564	1,898,631
Plus: Transfer from Impact Fees	45,000	37,000	37,000	37,000	37,000
Plus: Surcharge Revenue	482,892	482,892	482,892	482,892	482,892
Less: Annual Debt Service	(1,069,331)	(1,237,350)	(1,083,325)	(1,082,450)	(1,080,325)
Less: Rate Funded Capital	(1,289,246)	(1,717,856)	(1,017,410)	(847,620)	(1,042,993)
Ending Fund Balance	\$ 8,728,589	\$ 8,390,831	\$ 8,846,773	\$ 9,407,159	\$ 9,702,364
Assignment to Funds	\$ 213,320	\$ (337,759)	\$ 455,943	\$ 560,386	\$ 295,205

(1) Beginning fund balance for FY 2021 estimated based on financial information provided by Commission staff.

(2) From Schedule 4 - A, and Schedule 4 - B.