



INDIAN RIVER COUNTY, FLORIDA DEPARTMENT OF UTILITY SERVICES

Date: September 21, 2018
To: Jason E. Brown, County Administrator
From: Vincent Burke, P.E., Director of Utility Services
Prepared By: Cindy Corrente, Utility Finance Manager
Subject: Comprehensive Water, Wastewater, and Reclaimed (Reuse) Water Rate Study, and Water and Sewer Impact Fee Study Recommendations

BACKGROUND

On December 20, 2016, the Indian River County Board of County Commissioners (BCC) approved several items in regard to the North County Septic to Sewer (S2S) Phase 1 project. One of those items included a decision to conduct an updated rate study to look at recouping construction costs as well as the future renewal and replacement (R&R) costs. Indian River County Department of Utility Services (IRCDUS) has not conducted a comprehensive rate study since 1999. During the past nineteen years, IRCDUS has steadily grown, along with related revenues and operating expenses. With this in mind, it was important to evaluate the appropriateness of existing rate structures to determine whether the existing rates provide sufficient revenues for near and long-term fiscal needs. It was also important to include an analysis of impact fees and line extension charges in order to ensure these fees are meeting the capital costs affiliated with the related growth.

On July 18, 2017, the BCC approved the award of two professional Services Agreements with Raftelis Financial Consultants, Inc. The first agreement provided for conducting a Comprehensive Water, Wastewater, and Reclaimed Water Rate Study. The study was to include:

- A review of customer data to be used in developing the user rates and charges
- A review of utility financial information to use as the basis for revenue requirements
- An allocation of fiscal requirements based on cost of service principles
- An update to the ancillary services list to current time and material costs
- A five-year pro forma operating statement
- A capital improvements plan (CIP) funding module to allow for reviews of alternative funding sources
- A uniform S2S policy
- A final report

The second agreement provided for conducting a Water and Wastewater Impact Fee Study. This study was to include:

- A review of current capital costs, near-term expansion plans, system capacities, and customer demand
- A development of impact fees
- A review of the level of service criteria for each utility service
- A final report

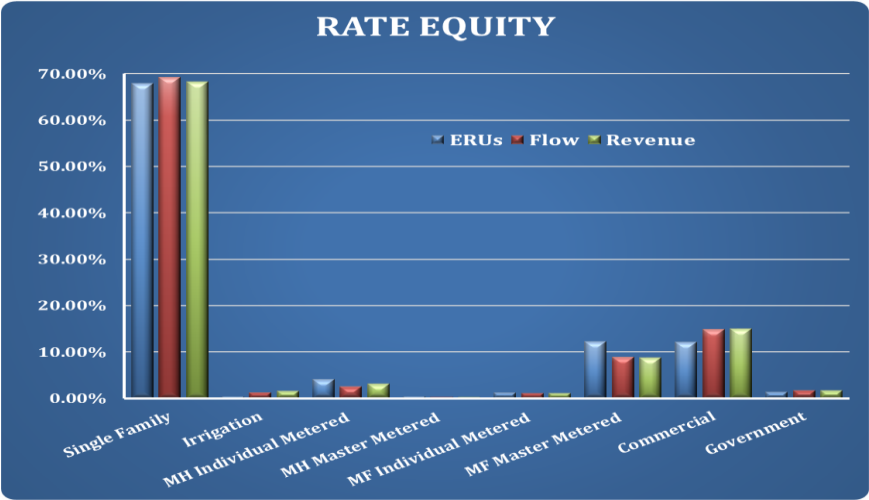
ANALYSIS

Part I- Rates

During the Comprehensive Water, Wastewater, and Reclaimed Water Rate Study, the consultant reviewed the customer data received from IRCDUS as well as the corresponding utility financial data for the same time period and concluded that the data appears complete and representative of the customer classifications, Equivalent Residential Units (ERUs), and consumption (flow). An ERU is defined as “the amount of water used or wastewater produced by a typical residential unit”, or a maximum of 7,500 gallons per month. Emphasis of this effort was based on equitable cost recovery, revenue sufficiency, the Capital Improvement Plan (CIP), and credit worthiness.

Equitable Cost Recovery

The consultant did a comparative analysis between ERUs, consumption, and revenue for each customer classification. The key customer classifications include single family residential, manufactured homes, multi-family residential, irrigation, governmental and commercial accounts. Data shows that there are similar percentages between the ERUs, consumption, and revenue for each of the customer classifications, thereby suggesting that the existing rate structure generates revenue on a reasonable cost of service basis and thus is just and equitable.



Revenue Sufficiency

A review of whether operating revenues adequately cover operating costs to meet or exceed bond coverage covenants was conducted. Inflation and customer growth were factored into this analysis. The analysis confirms that revenues from existing user rates are adequate for operating and maintenance costs as well as debt service payments. However, the revenues fall short in addressing renewal and replacement and operating capital outlay (OCO) costs. R&R costs include expenses such as repairs to water mains or replacement of lift station pumps. Operating capital outlay items are new fixed assets that are needed for operations but not to facilitate growth. An example of operating capital outlay is replacement of a service truck. For the near future, the unrestricted fund reserves are sufficient to cover these costs but reserves should not be relied upon as a long-term funding source. An alternative suggested by the consultant is to use impact fee reserves to pay for expansion-related portions of debt service, thereby freeing up additional unrestricted operating funds. Long-term funding of R&R and OCO should not be problematic as the remaining Series 2015 Refunding Note will reach maturity in 2022 and the remainder of the Series 2009 bonds will mature in 2024. Once again, this will free up more operating funds and with the debt paid off, the utility will be in even stronger financial shape.

Capital Improvement Plan (CIP)

The County’s CIP includes a five-year Capital Improvements Program under the Capital Improvements Element (CIE) of the plan. On December 5, 2017, the BCC approved the County’s five-year CIE for Fiscal Year (FY) 2017-18 through 2021-22. Although Florida Statute no longer requires local CIPs to be financially feasible, the County’s CIP is financially feasible. In other words, the County does not have to borrow funds in order to fund its CIP. A comparison of the utility section of the CIE with utility unencumbered reserve funds confirms that IRCDUS has adequate reserves to fund its five year CIP.

Credit Worthiness

There shall be an appropriate balance between debt service coverage, reserve fund balances, and requirements of primary credit rating agencies. Typically, debt service coverage requirements are at 1.5 times the required funding needed to pay principal and interest on existing debt. Since 1999, IRCDUS has far exceeded the requirement. A snapshot of the most recent five years is reflected on schedule 14 of the County’s Comprehensive Annual Financial Report (CAFR) for FY 2016-17. In addition, the 2016 Fitch Ratings review affirmed the County’s “AAA” status for its series 2009 Water and Sewer System Revenue Refunding bonds. Below is a table depicting the most recent five years of debt service coverage as depicted in the 2016-17 CAFR.

Fiscal Year	2012-13	2013-14	2014-15	2015-16	2016-17
Debt Coverage	2.60	2.63	2.68	3.34	3.44

Although the four major areas reviewed did not reveal any inequities, glaring revenue shortfalls or credit concerns, certain revenue neutral modifications to the rate structure were suggested in order to simplify the presentation of the utility bill, better reflect customer usage characteristics, and encourage water conservation. Some changes in business practices are suggested as well in order to ensure that prudent levels of unrestricted reserve funds are available to cover emergencies, provide rate stability, and manage CIPs while maintaining credit worthiness.

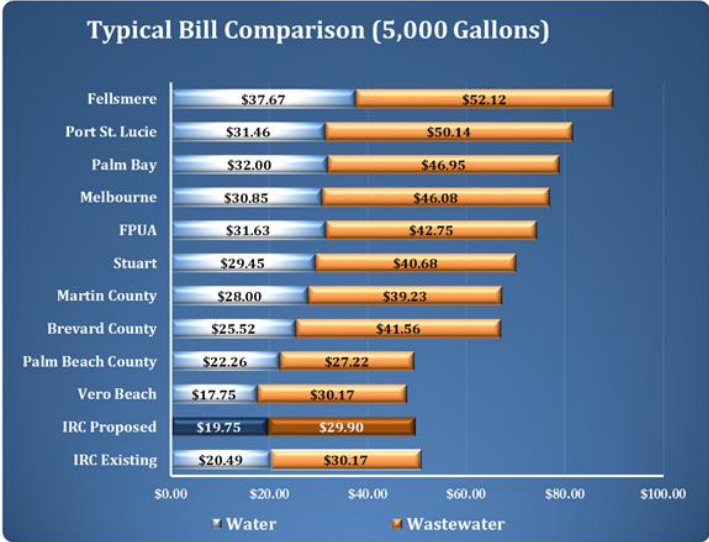
First, to provide for simplification of the bill presentment, it is suggested to roll the utility billing charge and service availability charge into one line, still referred to as the service availability charge. The costs

to provide billing services and maintain capacity per ERU was reviewed, and it was concluded that the combined fees adequately cover the cost of the services. Combining the two fees into one charge code will simplify the bill without changing the overall cost to the customer. Second, reducing the number of water volume billing blocks or usage tiers will further simplify the bill. It will also encourage conservation since the highest tier will start with 10,001 gallons of usage rather than 13,001. Keep in mind that an ERU is defined as 7,500 gallons per month. Therefore, a consumer does not reach the highest tier until using services beyond that which their ERUs cover. Third, bill all water and wastewater volume in hundreds of gallons rather than thousands. This change will benefit the customer in that their billing will be more consistent from month to month. For the utility, the revenues will more closely reflect the distribution and treatment levels. The table below depicts the current usage tiers with those being proposed.

Current Usage Tiers	Current Cost per 1,000 gallons	Proposed usage tiers	Proposed cost per 1,000 gallons
0-3,000	\$ 2.20	0-5,000	\$ 2.20
3,001 to 7,000	\$ 2.42	5,001-10,000	\$ 2.97
7,001 to 13,000	\$ 3.85	10,001 and over	\$ 7.04
13,001 and over	\$ 7.70		

The typical end users bill will not change significantly as a result of these modifications. A sample bill for a single-family residence using 5,000 gallons of water and wastewater service in one month will decrease from \$50.66 to \$49.65. A commercial customer with three ERUs, using 25,000 gallons per month, will increase slightly from \$205.34 to \$207.25.

Comparison of the proposed rates with neighboring utilities using the average single-family home’s typical monthly bill is presented below. It should be noted that, although such comparisons are typical in relation to rate studies, the information is often misinterpreted. Many factors such as the size of the customer base, level of treatment and disposal methods, plant age and capacities, general fund transfers, and bond covenants influence rates. Commonalities of these items often do not exist amongst neighboring utilities.



Since modification of the rates being recommended will entail modifying the back end of both the meter reading software and the utility billing software, staff recommends any rate modifications go into effect on March 1, 2019. That will give staff time to address the programming requirements needed to incorporate the modifications as well as test the meter reading and billing for a few months before going live with the changes.

Along with the typical user rates and charges, reclaimed rates, sludge rates, and miscellaneous service charges were reviewed as well. Miscellaneous charges are event-based charges that are designed to recover costs of providing the related service. Many of these charges needed to be updated in order to ensure the cost of providing the service was being reimbursed through the related charge. Other charges are considered obsolete, and it is recommended to omit them from the revised rate schedule.

A general service call fee shall be assessed to service calls not related to issues caused by IRCDUS. Examples may include investigation of low pressure or a leak that turns out to be in the customer's line from the meter to their house. Costs of such calls include the average labor and vehicle cost necessary to respond to the location. The average cost of such a call is \$122.00. Although the actual cost of providing this service is \$122.00, staff believes providing such services is part of doing business as a utility and thus recommends setting this fee at \$35.00.

Much like general service calls, Turn Off and Turn on Charges should recoup the average labor and vehicle costs affiliated with the service. Turn off and Turn on charges may be voluntary or involuntary. For an involuntary turn off (due to non-payment) and subsequent turn on, the consultant calculated the fee required to offset expenses related to that service as \$182.00. For a customer requested disconnect or reconnect, the fee was calculated to be \$103.00. However, staff is recommending a rate of \$75.00 for these services.

Water and low-pressure sewer service connection charges are associated with the tap and installation of the service lateral from an existing line to the property's point of connection. Costs include the average labor cost, vehicles and/or equipment as applicable, and materials. Based on current costs, the water service connection for lines sized under two inches are \$2,785 for water and \$2,895 for sewer. Connections two inches and larger will be unique to each situation, and an actual cost plus overhead approach is recommended.

Line extension charges are designed to recover costs of the distribution lines located in front of the property served. Since the cost of these lines differs greatly from one area to the next depending on line size, depth of the line, soil conditions, etc., it is recommended that an actual cost plus overhead method be used rather than a fixed cost per linear foot.

A septage and sludge rate is required in order to offset costs affiliated with the acceptance of sewage and sludge from various sources for treatment. Septage and sludge are highly concentrated forms of wastewater, and thus the treatment of such is beyond the average treatment cost of wastewater treatment. Costs for this service were derived from the sludge division's operating budget. The rate necessary to recover such costs is consistent with the current per wet ton rate of \$15.00.

Reclaimed water fees are perhaps one of the more complicated fees for a utility. Idealistically, it seems logical to treat reclaimed water as a retail commodity, as a substitute for potable water, to be used for irrigation. However, the factors influencing that concept are many. First, there is not a widespread distribution system to move the reclaimed water from the disposal site to the individual users. Second, to construct one would be cost prohibitive compared to the little revenue that would be generated from the commodity. Therefore, a far more effective disposal method is to target large scale users such as

golf courses. Distribution lines are already in place to several golf courses within the county. Second, these sites have lakes and ponds that can serve as wet weather storage. A complicating factor is that these golf courses also have wells from which they can withdraw water for irrigation purposes. Thus, the cost to purchase reclaimed water from the county has to be competitive with the courses pumping from their wells. A costly consequence of not getting rid of reclaimed water is related to meeting IRCDUS permit requirements as well as nitrogen and phosphorus loading or disposal limits. Therefore, the pricing of reclaimed water is designed toward disposal of the effluent rather than a commodity. The recommended rate is \$0.21 per thousand gallons of non-pressurized reclaimed water.

Part II- Impact Fees

The Water and Sewer Impact Fee Study concentrated on capital cost recovery and level of service (LOS). An impact fee is the mechanism by which IRCDUS recovers the cost of capacity-related treatment and major transmission facilities. Impact fees are intended to ensure that existing customers are not paying for capacity assets that will benefit future customers. Impact fees are intended to cover the capital cost of construction and related costs for expansion of capacity requirements related to growth. The LOS provided for one impact fee, or one ERU, equates to an average of 250 gallons per day.

Capacity assets include water treatment facilities, major water transmission facilities, major wastewater transmission lines, and wastewater treatment facilities. They do not include localized water distribution or wastewater distribution facilities, nor the items associated with the customer’s point of connection such as the meter, laterals, or meter boxes. Recovery of those costs of water distribution and wastewater collection facilities are recoverable through the utility’s water and wastewater user connection costs, also referred to as the line extension policy. Line extension fees are addressed in the Comprehensive Water, Wastewater, and Reclaimed Water Rate Study. A description of capacity assets is detailed below:

Water Treatment

Included in this category are the water treatment plants, the source of water supply (wells), raw water transmission piping, storage tanks and high service pumps

Water Transmission

These facilities include water mains that serve as the backbone of the piping system

Wastewater Treatment

This category consists of treatment and disposal of wastewater, as well as the management of wastewater and sludge facilities

Wastewater Transmission

Included in this group are major trunk gravity lines and pump stations as well as force mains that serve as the backbone to move wastewater from the localized collection facilities to the wastewater treatment plant

The consultant used a “Buy In” methodology for developing impact fees. That assumes that new service connections will use a portion of existing facilities as well as new facilities. This method provides that

impact fees recover adequate and reasonable current costs in the expansion of facilities. In order to complete this exercise, the consultant identified the following items:

- The current costs for each service provided
- Capacity and engineering design criteria for each service
- Historic and current policies for funding capital costs of treatment and transmission facilities
- Financing costs and interest expenses related to funding policies

Secondly, the consultant reviewed the County’s LOS policy for each service provided. This is important in determining whether or not the recovery of costs through impact fees is equitable amongst the customer types. It was determined that the current LOS is reasonable and appropriate.

The consultant used this data to calculate a proposed impact fee for both water and wastewater. The tables below depict those calculations.

Water Impact Fee Calculation

Item	Treatment	Transmission	Total
Current Cost Basis:	\$117,372,000	\$129,303,000	\$246,675,000
Financing Cost	371,000	409,000	780,000
Interest Expense(NPV)	6,233,000	6,867,000	13,100,000
Subtotal	\$123,976,000	\$136,579,000	\$260,555,000
User Fee Credit (NPV)	26,080,000	28,731,000	54,811,000
Total Current Cost Basis	\$97,896,000	\$107,848,000	\$205,744,000
Capacity:			
Total Capacity in MGD	23.00	28.00	
Maximum Day Factor	1.50	1.50	
Average Day Capacity in MGD	15.33	18.67	
Unaccounted For Water	8.50%	8.50%	
Level of Service Capacity MGD	14.03	17.08	
Impact Fee Determinants:			
Net Cost Per Gallon of Capacity	\$6.98	\$6.31	\$13.29
Level of Service (gpd)	250	250	
Calculated Impact Fee*	\$1,745.00	\$1,577.50	\$3,322.50

*calculated based on full cost recovery

Sewer Impact Fee Calculation

Item	Treatment	Transmission	Total
Current Cost Basis:	\$113,975,000	\$89,042,000	\$203,017,000
Financing Cost	420,000	328,000	748,000
Interest Expense (NPV)	7,062,000	5,517,000	12,579,000
Subtotal	\$121,457,000	\$94,887,000	\$216,344,000
User Fee Credit (NPV)	9,849,000	7,695,000	17,544,000
Total Current Cost Basis	\$111,608,000	\$87,192,000	\$198,800,000
Capacity:			
Average Day Capacity in MGD	12.87	14.50	
Allowance for Infiltration and Inflow	10.00%	10.00%	
Level of Service Capacity MGD	11.58	13.05	
Impact Fee Determinants:			
Net Cost Per Gallon of Capacity	\$9.64	\$6.68	\$16.32
Level of Service (gpd)	250	250	
Calculated Impact Fee*	\$2,410.00	\$1,670.00	\$4,080.00

*calculated based on full cost recovery

A comparison of surrounding utility impact fees is presented below:

	Water		Wastewater		Total
	Amount	LOS (gpd)	Amount	LOS (gpd)	
Indian River County					
Existing	\$1,300.00	250	\$2,796.00	250	\$4,096.00
Allowable	\$3,322.50	250	\$4,080.00	250	\$7,402.50
Other Utilities					
City of Fellsmere	\$1,340.00	250	\$249.50	250	\$1,589.50
City of Melbourne	\$1,540.00	240	\$2,210.00	240	\$3,750.00
City of Vero Beach	\$1,499.00	275	\$2,290.00	250	\$3,789.00
Martin County Utilities	\$1,710.00	250	\$2,100.00	250	\$3,810.00
City of Stuart	\$1,933.00	250	\$2,092.00	250	\$4,025.00
Brevard County Utilities	\$1,903.00	200	\$2,257.00	200	\$4,160.00
City of Port St. Lucie	\$2,060.00	250	\$2,430.00	250	\$4,490.00
Ft. Pierce Utilities Authority	\$1,841.00	300	\$2,815.00	240	\$4,656.00
City of Palm Bay	\$2,151.39	275	\$3,139.20	210	\$5,290.59
St. Lucie County Utilities	\$3,773.00	300	\$3,425.00	240	\$7,198.00
Average of Other Utilities	\$1,975.04		\$2,300.77		\$4,275.81

1. Per the community's Equivalent Residential Unit (ERU) unless otherwise noted.

*calculated based on full cost recovery

Although the results of the impact fee study justify an increase in IRCDUS impact fees, staff is not recommending such an increase. Given that the County's most recent five year CIP is financially feasible, staff does not feel such an increase is warranted at this time and therefore recommends that the current impact fee schedule remain unchanged. Staff recommends adopting the consultant's proposed rate schedule as described in the Comprehensive Water, Wastewater, and Reclaimed Water Rate Study to take effect on March 1, 2019.

RECOMMENDATIONS

Below is a summary of the key components of the proposed rate recommendations:

Part I- Rates

- Modify the billing tiers from four tiers to three tiers
- Present the billing charge and service availability fee as one line item on the bill
- Maintain the current bulk sewer rates
- Modify the reclaimed water rate to reflect the disposal rate of \$0.21 per 1,000 gallons
- Maintain the current Sludge rate of \$15.00 per wet ton
- Modify the billing to reflect usage to the nearest 100 gallons rather than 1,000 gallons
- Modify the water service connection fees as proposed
- Modify the meter installation fees as proposed
- Implement changes to go into effect on March 1, 2019

Part II- Impact Fees

- Maintain the current impact fees of \$1,300 per ERU for water and \$2,796 per ERU for sewer

Schedule

Staff recommends conducting a rate study within the next five years or by 2024 to evaluate the financial stability of the utility after the remaining bond obligations are satisfied, to ensure rate equity for all customer classifications and to capture the changing dynamics of the utility system.

Attachment

Comprehensive Water, Wastewater, and Reclaimed (Reuse) Water Rate Study
Water and Wastewater Impact Fee Study
Proposed Rate Schedule