INDIAN RIVER COUNTY

Comprehensive Water, Wastewater and Reclaimed Water Rate Study

September 27, 2018

RAFTELIS

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Mr. Vincent Burke
Director of Utilities
Indian River County Department of Utility Services
1801 27th Street
Vero Beach, FL 32960

Subject: Comprehensive Water, Wastewater and Reclaimed Water Rate Study

Dear Mr. Burke:
Pursuant to our agreement with Indian River County (County), Raftelis Financial Consultants, Inc. (Raftelis) conducted a water and wastewater rate study including a review of the existing rate structure to determine the appropriateness and adequacy of the County's User Rates, Fees and Charges. The Executive Summary is a brief overview of the study's salient components provided in the body of the report that contains discussions, analysis, tables and schedules supporting and documenting the study process. Professional care was used in identifying and utilizing data, assumptions and estimates such that the rate structure and rates reasonably recover the costs of providing services to customers within the County's service area.

As a final note, our thanks and appreciation is extended to you, Cindy Corrente, and other County staff members for their assistance and to the County for this opportunity to be of service.

Sincerely,

RAFTELIS FINANCIAL CONSULTANTS, INC.

Marco H. Rocca
Principal Consultant

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TABLE OF CONTENTS

EXECUTIVE SUMMARY OVERVIEW 1
EQUITABLE COST RECOVERY 1
REVENUE SUFFICIENCY 3
OTHER RATE ADJUSTMENTS 8
POST RATE STRUCTURE MODIFICATIONS, RATE STRUCTURE ADJUSTMENTS AND BUDGET POLICY CONSIDERATION RESULTS 8
TYPICAL BILL COMPARISON TO OTHER UTILITIES 11
OTHER ITEMS CONSIDERED IN THIS STUDY 11
FINDINGS, CONCLUSIONS AND RECOMMENDATIONS 13
GENERAL 17
COMPREHENSIVE RATE MODEL 17
MEETINGS AND ACKNOWLEDGEMENTS 17
GENERAL 18
EXISTING WATER AND WASTEWATER RATE STRUCTURE AND RATES 18
HISTORIC WATER AND WASTEWATER CUSTOMERS AND REVENUE GENERATION SUMMARY 19
EXISTING RATE STRUCTURE OBSERVATIONS 21
PROJECTED WATER AND WASTEWATER CUSTOMERS AND CONSUMPTION 22
GENERAL 23
PROJECTED NET RATE REQUIREMENTS 23
GENERAL 26
REVENUE SUFFICIENCY UNDER EXISTING RATES 26
OBSERVATIONS CONCERNING FUTURE REVENUE GENERATION 29
GENERAL 30
RATE STRUCTURE MODIFICATIONS AND REVENUE NEUTRAL RATE ADJUSTMENTS 30
RECLAIMED WATER, SEPTAGE AND SLUDGE RATE ADJUSTMENTS 33
BUDGETED R&R, OPERATING CAPITAL OUTLAY AND CAPITAL IMPROVEMENTS 34
PROFORMA RESULTS POST RATE STRUCTURE MODIFICATIONS, RATE ADJUSTMENTS AND BUDGET POLICY CONSIDERATIONS 36
CAPITAL IMPROVEMENT PROGRAM 40
TYPICAL BILL COMPARISON TO OTHER UTILITIES 40
GENERAL 42
SUMMARY OF MISCELLANEOUS SERVICE CHARGES 45
GENERAL 47
EXISTING RESERVE ACCOUNTS 47
GENERAL 50
UNIFORM SEPTIC TO SEWER POLICY 50
FINDINGS 52
CONCLUSIONS 52
RECOMMENDATIONS 53

LIST OF TABLES, GRAPHS AND SCHEDULES

Table 1 – Current Monthly Water and Wastewater Rates 2
Graph 1– Rate Equity 3
Graph 2 – Annual Operating Surplus (Deficit) Existing Rates 4
Table 2 – Existing and Proposed User Rates and Charges 5
Graph 3A – Rate Change Impact on Single Family Connections 6
Graph 3B – Rate Change Impact on Commercial Connections 6

TABLE OF CONTENTS

Graph 4 – R&R and OCO Funding Sources and Expenditures 7
Table 3 – R&R and OCO Funding Sources and Expenditures 8
Table 4 – Proforma Operating Results Post Proposed Adjustments 8
Graph 5 – Annual Operating Results Post Proposed Adjustments 9
Table 5 – Fund Balances Post Proposed Adjustments 10
Graph 6 – Fund Balances Post Proposed Adjustments 10
Graph 7 – Typical Bill Comparison to Other Utilities 11
Table 1 – Current Monthly Water and Wastewater Rates 19
Graph 1 – Rate Equity 20
Table 6 – Fiscal Year 2016/17 Accounts, ERUs, Consumption and Revenues[1] 21
Table 7 – Projection of Average Customer Accounts, ERUs and Billable Consumption 22
Table 8 – Projected Water and Wastewater Revenue Requirements 25
Table 9 – Annual Operating Results Existing Rates 26
Graph 2 – Annual Operating Surplus (Deficit) Existing Rates 27
Table 10 – Unrestricted and Restricted Reserve Funds Existing Rates 28
Graph 8– Reserve Fund Balances Existing Rates 28
Table 2 – Existing and Proposed User Rates and Charges 31
Graph 3A – Rate Change Impact on Single Family Connections 32
Graph 3B – Rate Change Impact on Commercial Connections 32
Table 11 – Revenue Difference Post Proposed Adjustments 33
Table 12 – R&R and Operating Capital Outlays 34
Graph 4 –R&R and OCO Funding Sources and Expenditures 35
Table 3 –R&R and OCO Funding Sources and Expenditures 36
Table 13 – Five-Year Capital Improvement Program Sources and Uses 36
Table 4 – Proforma Operating Results Post Proposed Adjustments 37
Graph 5 – Annual Operating Results Post Proposed Adjustments 37
Table 5 – Fund Balances Post Proposed Adjustments 38
Graph 6 – Fund Balances Post Proposed Adjustments 39
Table 14 – Fund Balance Differences Post Proposed Adjustments 39
Graph 7 – Typical Bill Comparison to Other Utilities 41
Table 15 – Existing and Proposed Miscellaneous Service Charges 46
Table 16 – Accounts with Current Reserve Payments 47
Table 17 – Accounts with Delinquent Reserve Payments 48
Schedule 1 – Water Customer Growth and Billable Consumption Projections 55
Schedule 2 – Wastewater Customer Growth and Billable Consumption Projections 57
Schedule 3 – Septic to Sewer Unit Absorption and Revenue Forecast 59
Schedule 4 – Water Operating Expense & Cost Projections 60
Schedule 5 – Wastewater Operating Expense & Cost Projections 62
Schedule 6 – Water Proforma Operating Statement 64
Schedule 7 – Wastewater Proforma Operating Statement 65
Schedule 8 – Basis for Proposed Miscellaneous Service Charges 66
Appendix A – Billing Frequency Report

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY OVERVIEW

Indian River County (the "County") retained Raftelis Financial Consultants, Inc. (Raftelis) to conduct a comprehensive water, wastewater and reclaimed water rate study addressing revenue sufficiency, including the appropriateness of the existing rate structure and cost recovery of the Miscellaneous Service Charges. Indian River County Department of Utility Services (IRCDUS or "Utility") provides water and wastewater services throughout most of the County except for those areas served by the City of Fellsmere and the City of Vero Beach, which also serves the Town of Indian River Shores, unincorporated parts of the south barrier island and certain unincorporated areas around the City of Vero Beach. Additionally, IRCDUS provides some limited reclaimed water services, primarily to golf courses as an effluent disposal option. Revenues generated from User Rates, Fees and Charges together with other income (collectively "Operating Revenue") provide for the payment of operating and maintenance ("O&M") expenses, debt service, renewal and replacement (R&R), and operating capital outlay (OCO), collectively "Operating Costs".

The County recently authorized this comprehensive review of User Rates, Fees and Charges for the current and ensuing five fiscal years, with special emphasis on:

1. *Equitable Cost Recovery* – where User Rates, Fees and Charges for services, including reclaimed water, bulk and miscellaneous services, generate revenues in reasonable proportion to costs of providing such services to the customers.
2. *Revenue Sufficiency* – where Operating Revenues are adequate to pay for Operating Costs and meet or exceed bond debt service coverage covenants.
3. *Capital Improvement Program (CIP)* – where revenue sufficiency and creditworthiness considerations are sufficient to adequately provide for system improvement funding through: (i) reserve funds; (ii), long term debt; (iii) grants; (iv) assessments; or (v) a combination of (i) through (iv).
4. *Creditworthiness* – where consideration is given to an appropriate balance between debt service coverage achieved from Operating Revenues, the Utility's reserve fund balances and requirements of primary credit rating agencies.

EQUITABLE COST RECOVERY

The majority of the Utility's current User Rates, Fees and Charges were established pursuant to Resolution 99-58 and with minor exceptions have remained constant since their effective date of October 1, 1999. The User Rates, Fees and Charges for water and wastewater services consist of a billing charge per bill, monthly Service Availability Charges per Equivalent Residential Unit (ERU) and inclining volume block rates per 1,000 gallons of metered service as shown on **Table 1**.

Table 1 – Current Monthly Water and Wastewater Rates

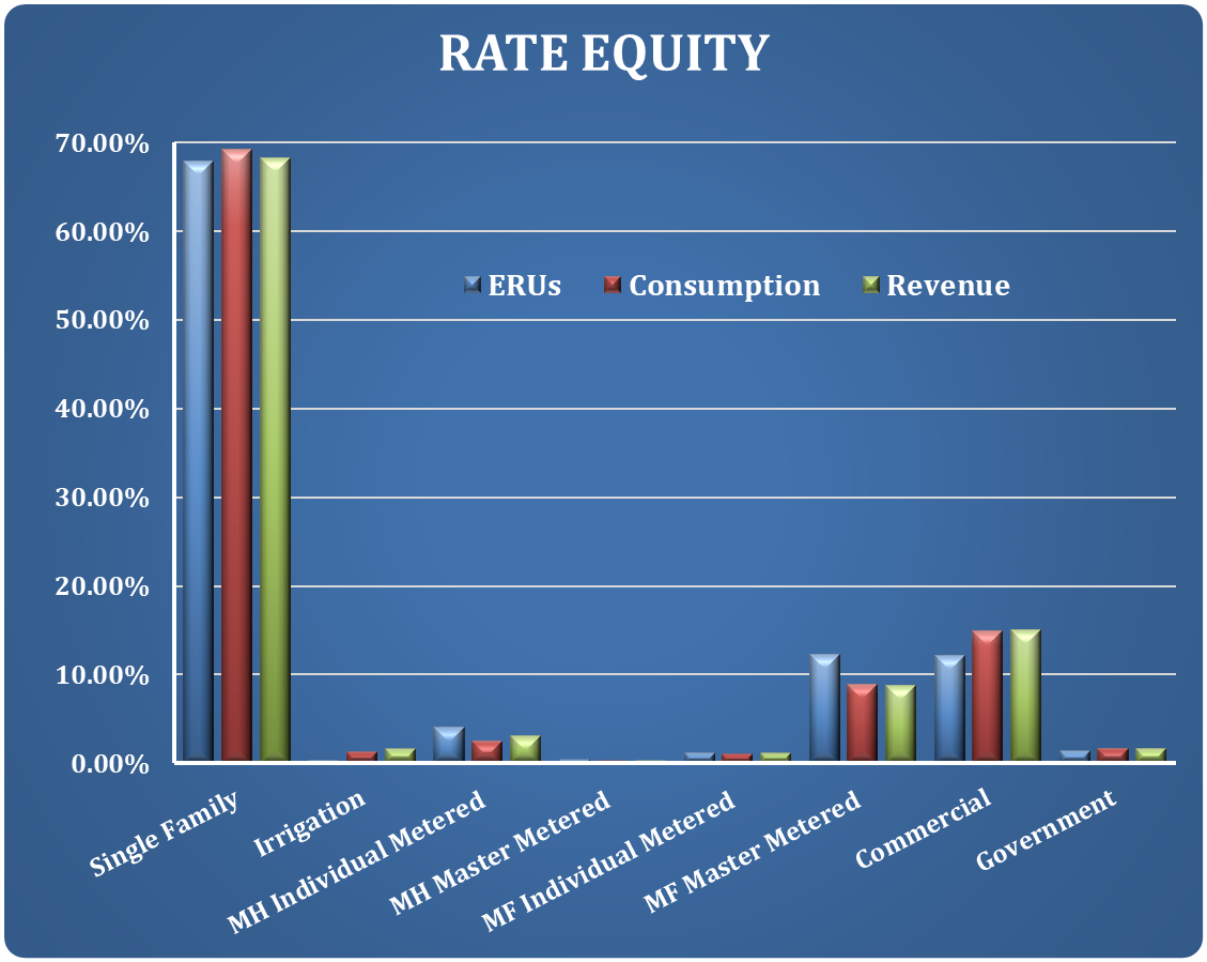
	Block Volume Tiers (gallons)	Amount
Water		
Billing Charge Per Bill		$1.29
Service Availability Charge Per Month Per ERU		$7.76
Volume Charges per 1,000 Gallons		
Block 1 Per Month Per ERU	0 - 3,000	$2.20
Block 2 Per Month Per ERU	3,001 - 7,000	$2.42
Block 3 Per Month Per ERU	7,001 - 13,000	$3.85
Block 4 Per Month Per ERU	above 13,000	$7.70
Wastewater		
Billing Charge Per Bill		$1.29
Service Availability Charge Per Month Per ERU		$14.58
Volume Charges per 1,000 Gallons		
Individually Metered Residential [1]	cap 12,000	$2.86
Multi-Family & Commercial:		
Block 1 Per Month Per ERU	0-13,000	$2.86
Block 2 Per Month Per ERU	above 13,000	$4.29
Bulk Sewer[2]		
Billing Charge Per Bill		$1.29
Service Availability Charge Per Month Per ERU		$13.41
Volume Charges Per 1,000 Gallons		$2.98
Fire Protection		
Per Account		$14.17
Reclaimed Water		
Rate Per 1,000 Gallons		$0.67
Sludge, Grease & Septage		
Rate Per Wet Ton		$15.00

1. Single Family, Multi-Family and Manufactured Homes individually and master metered customers.

2. Currently, the City of Fellsmere is the County's only bulk sewer customer.

The appropriateness of these rates and how equitable the rate structure is can be determined by analyzing the relationship between service and costs for each customer classification. Service is measured by ERU and Consumption and costs is measured by corresponding revenue for each customer classification. The comparative relationships between ERUs, Consumption and Revenue for each customer class were tabulated from the billing frequency data provided by the Utility and attached as **Appendix A**. Analysis of the billing frequency data for each customer classification showed relatively similar percentages between ERUs, Consumption and Revenues, as illustrated in **Graph 1**. This strongly suggests that the existing rate structure generates revenue on a reasonable cost of service basis and remains just and equitable. It should be noted that such relationships will vary slightly year to year; however, the goal is that the relationships are relatively balanced for each customer classification, as it would be highly unusual for the relationship or percentages to be exactly equal.

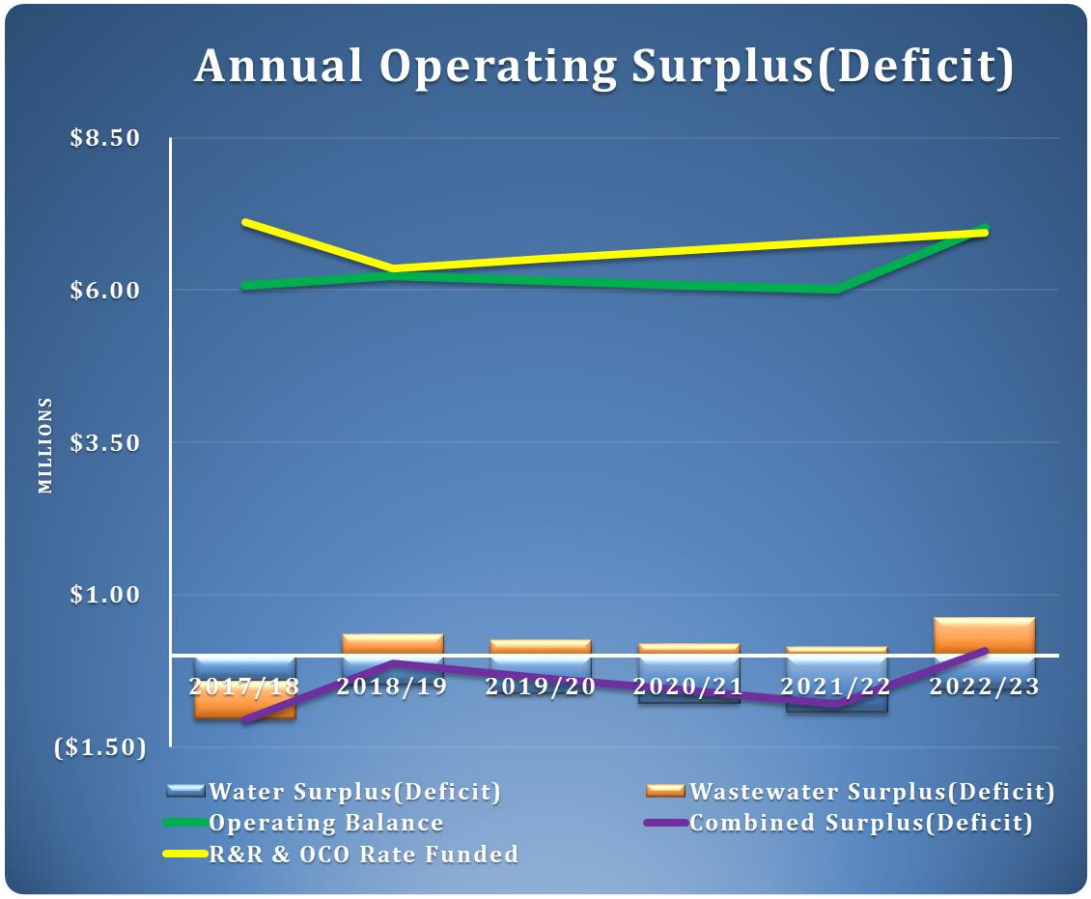
Graph 1– Rate Equity



REVENUE SUFFICIENCY

Projected Operating Revenues from existing user rates adequately provide for anticipated operating and maintenance (O&M) expenses and debt service requirements but fall short of addressing the necessary renewal and replacement (R&R) and operating capital outlay (OCO) needs of the Utility through fiscal year 2022/23; this can be observed in **Graph 2**, where the yellow line should be below the green line and the purple line should be above the x axis. The blue and orange bars represent the individual water and wastewater net surplus or deficit, whereas, the purple line represents the combination of the water and wastewater surplus or deficit. Additionally, it was observed that certain rate structure modifications and rate adjustments to the water and wastewater inclining volume blocks along with budget policy considerations of using reserves to fund a portion of R&R would be of benefit to the Utility, the County and customers. These items are further addressed in the Rate Structure Modifications, Rate Adjustments and Budget Policy Considerations section below.

Graph 2 – Annual Operating Surplus (Deficit) Existing Rates



The modifications to water and wastewater inclining volume block structure will better address customer water conservation trends and simplify billing. Modifications to the inclining volume rate structure necessitated adjustments to the inclining volume block rates such that the rates will generate approximately the same level of revenue as before the modifications (revenue neutral). The water volume block modifications and accompanying rate per block are as follows:

1. Reduction in the number of water inclining volume blocks and corresponding volume allowances:
    a. Block 1 from 0 to 3,000 to 0 to 5,000 gallons per ERU per month;
    b. Block 2 from 3,001 to 7,000 to 5,001 to 10,000 gallons per ERU per month;
    c. Block 3 from 7,001 to 13,000 to above 10,000 gallons per ERU per month;
    d. Block 4 from above 13,000 to eliminate Block 4.
2. Water inclining volume block rate per 1,000 gallons adjustments:
    a. Block 1 remains the same at $2.20:
    b. Block 2 from $2.42 to $2.97;
    c. Block 3 from $3.85 to $7.04;
    d. Block 4 from $7.70 to Eliminated.

The rate structure for both water and wastewater were also modified, for simplification of the bill presentation, whereby, costs associated with the billing charge are incorporated into the service availability charge. A new surcharge of 100 percent is suggested to be applied on both blocks of the

wastewater volume rates for certain master metered customers on the difference between measured wastewater flow and the metered water flow for such customers. This surcharge is provided as encouragement for customers to address excessive on-site inflow and infiltration (I&I).

Comparative existing and proposed rates and charges, including those associated with bulk wastewater, reclaimed water and septage/sludge are shown on **Table 2**.

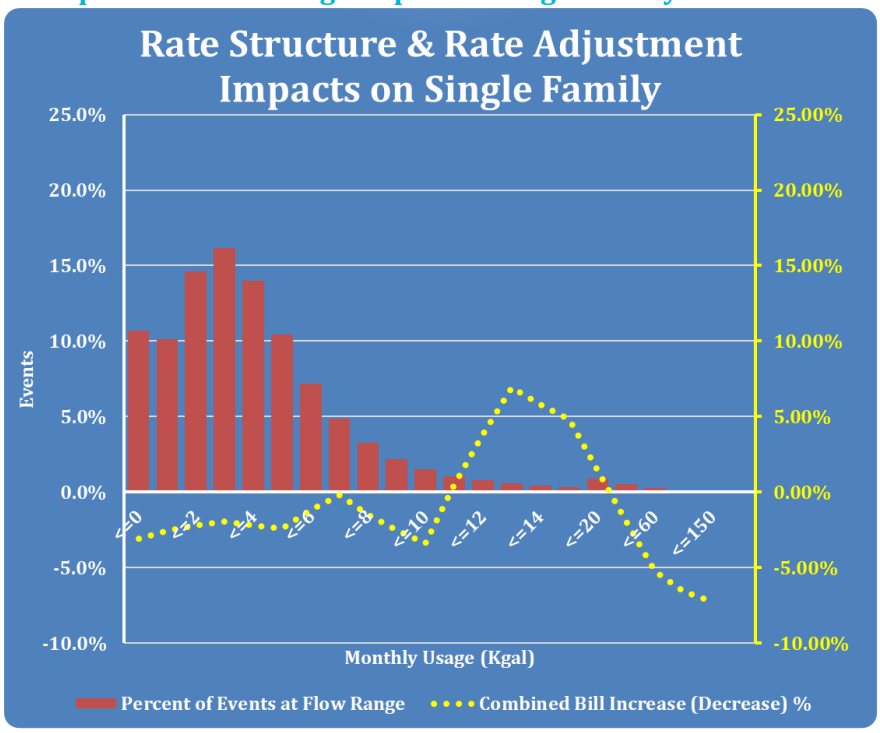
Table 2 – Existing and Proposed User Rates and Charges

	Existing		Proposed	
	Block Volume Tiers (gallons)	Amount	Block Volume Tiers (gallons)	Amount
Water				
Billing Charge Per Bill		$1.29		Eliminated
Service Availability Charge:				
Single Family Per ERU		$7.76		$8.75
Manufactured Home @ 0.85 Per ERU		$6.60		$7.44
Multi-Family @ 0.85 Per ERU		$6.60		$7.44
Commercial Per ERU		$7.76		$8.75
Volume Charges per 1,000 Gallons:				
Block 1 Per Month Per ERU	0 - 3,000	$2.20	0 - 5,000	$2.20
Block 2 Per Month Per ERU	3,001 - 7,000	$2.42	5,001 - 10,000	$2.97
Block 3 Per Month Per ERU	7,001 - 13,000	$3.85	above 10,000	$7.04
Block 4 Per Month Per ERU	above 13,000	$7.70	N/A	
Wastewater				
Billing Charge Per Bill		$1.29		Eliminated
Service Availability Charge:				
Single Family Per ERU		$14.58		$15.60
Manufactured Home @ 0.85 Per ERU		$12.39		$13.26
Multi-Family @ 0.85 Per ERU		$12.39		$13.26
Commercial Per ERU		$14.58		$15.60
Volume Charges per 1,000 Gallons:				
Individually Metered Residential [1]	cap 12,000	$2.86	cap 12,000	$2.86
Multi-Family & Commercial:				
Block 1 Per Month Per ERU	0-13,000	$2.86	0-12,000	$2.86
Block 2 Per Month Per ERU	above 13,000	$4.29	above 12,000	$4.29
I&I Surcharge [2]				100.00%
Bulk Sewer [3]				
Billing Charge Per Bill		$0.00		$0.00
Service Availability Charge Per Month Per ERU		$13.41		$13.41
Volume Charges Per 1,000 Gallons – Water Reading		$2.63		$2.63
Volume Charges Per 1,000 Gallons – Sewer Reading		$2.98		$2.98
Fire *Protection*				
Per Account		$14.17		$15.16
Reclaimed Water				
Disposal Rate Per 1,000 Gallons		$0.67		$0.21
Sludge, Grease & Septage				
Rate Per Wet Ton		$15.00		$15.00

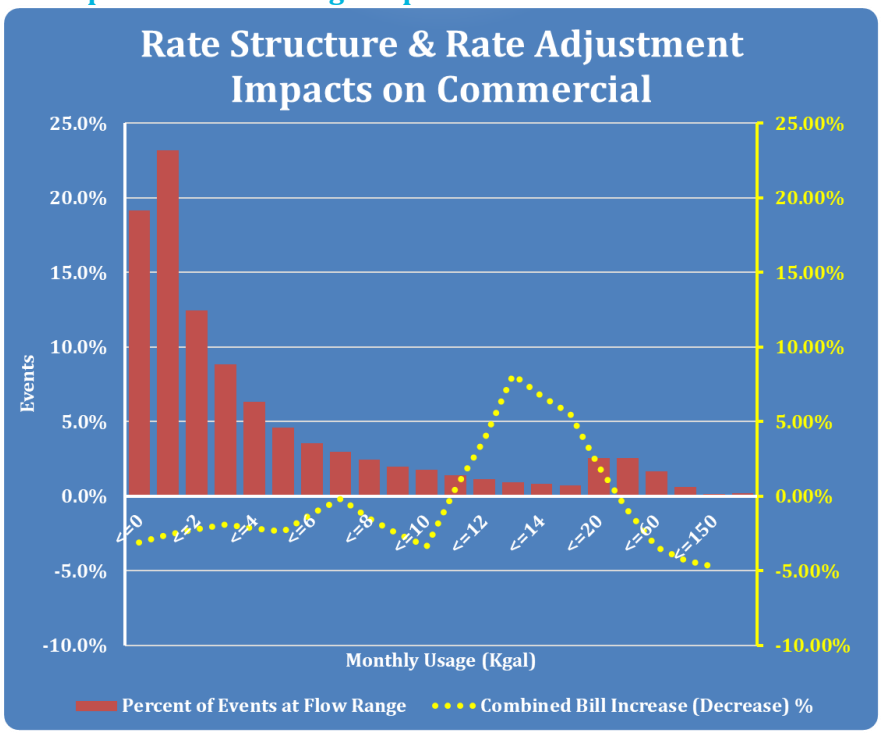
1. Single Family, Multi-Family and Manufactured Homes individually and master metered customers.
2. Applicable to Blocks 1 and 2 wastewater volume rates on the difference between the measured wastewater flow and metered water flow.
3. Currently, the City of Fellsmere is the County's only bulk sewer customer.

The results of these rate structure modifications and rate adjustments for Single Family and Commercial customer classifications, are illustrated on **Graphs 3A and 3B**, indicating no material impact on most customers. It should be noted that other customer classifications will experience results similar to those shown for Single Family and Commercial.

Graph 3A – Rate Change Impact on Single Family Connections



Graph 3B – Rate Change Impact on Commercial Connections



Changes to financial/budget policies concerning the accumulation and use for both restricted and unrestricted reserve funds should be considered to address both R&R and OCO requirements. These requirements are addressed primarily through the balance of Operating Revenues after payment of O&M expenses and debt service; however, expenditure of budgeted R&R and OCO requirements are not consistent year to year, which results in some years with surpluses and some with deficits. Therefore, to address rate stabilization, funding requirements for R&R and OCO should consider:

1. A budget policy where:
    a. The annual R&R transfer amount from operating rate revenue is based on a percentage of prior year gross revenues; and
    b. The annual OCO amounts are based on the last five-year averages with allowances for inflation.
2. Funding additional R&R and OCO from available unrestricted reserves as needed; and
3. When financially prudent, using Impact Fee Reserve funds to pay for the expansion related portions of annual debt service; thereby, providing additional unrestricted funds for additional R&R and OCO requirements. In this Study, water and wastewater impact fees were used to pay 25 percent of water and 75 percent of wastewater expansion related debt service through fiscal year 2022/23.

These R&R and OCO budget policies for the five fiscal years ending 2022/23 are illustrated on **Graph 4** and tabulated on **Table 3**.

Graph 4 – R&R and OCO Funding Sources and Expenditures

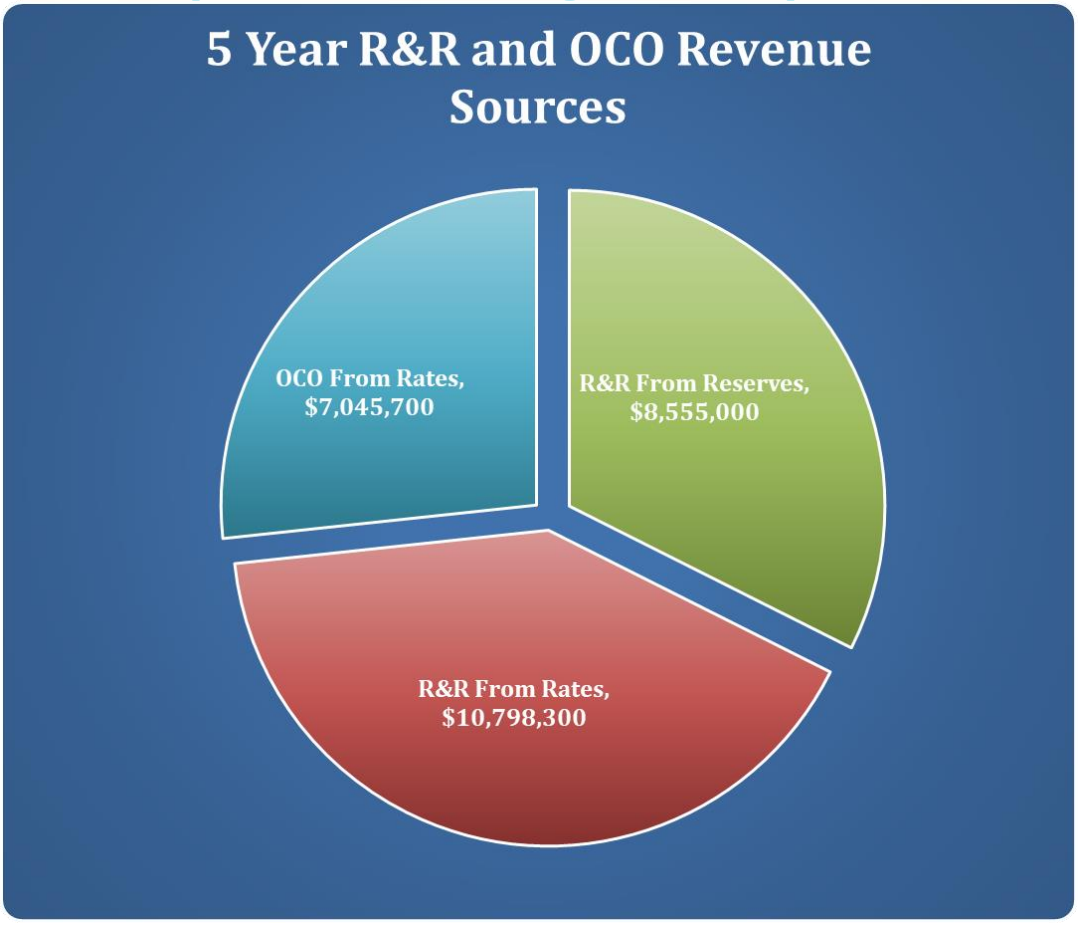


Table 3 – R&R and OCO Funding Sources and Expenditures

	2018/19	2019/20	2020/21	2021/22	2022/23
Sources:					
Annual Rate R&R Transfers	$3,386,400	$3,506,000	$3,576,500	$3,649,300	$3,725,800
Reserve Fund R&R Transfers	1,628,800	1,680,800	1,713,800	1,747,900	1,783,700
Annual Rate OCO	1,339,700	1,373,600	1,408,300	1,443,800	1,480,300
Reserve Fund OCO Transfers	0	0	0	0	0
Total Sources	$6,354,900	$6,560,400	$6,698,600	$6,841,000	$6,989,800
Expenditures:					
R&R Expenditures	$5,015,200	$5,186,800	$5,290,300	$5,397,200	$5,509,500
OCO Expenditures	1,339,700	1,373,600	1,408,300	1,443,800	1,480,300
Total Expenditures	$6,354,900	$6,560,400	$6,698,600	$6,841,000	$6,989,800

OTHER RATE ADJUSTMENTS

Three other rate adjustments were identified during the course of the study and are more fully discussed later in this report including the development of a Reclaimed Water Rate, Septage and Sludge Rate, and Miscellaneous Service Charges.

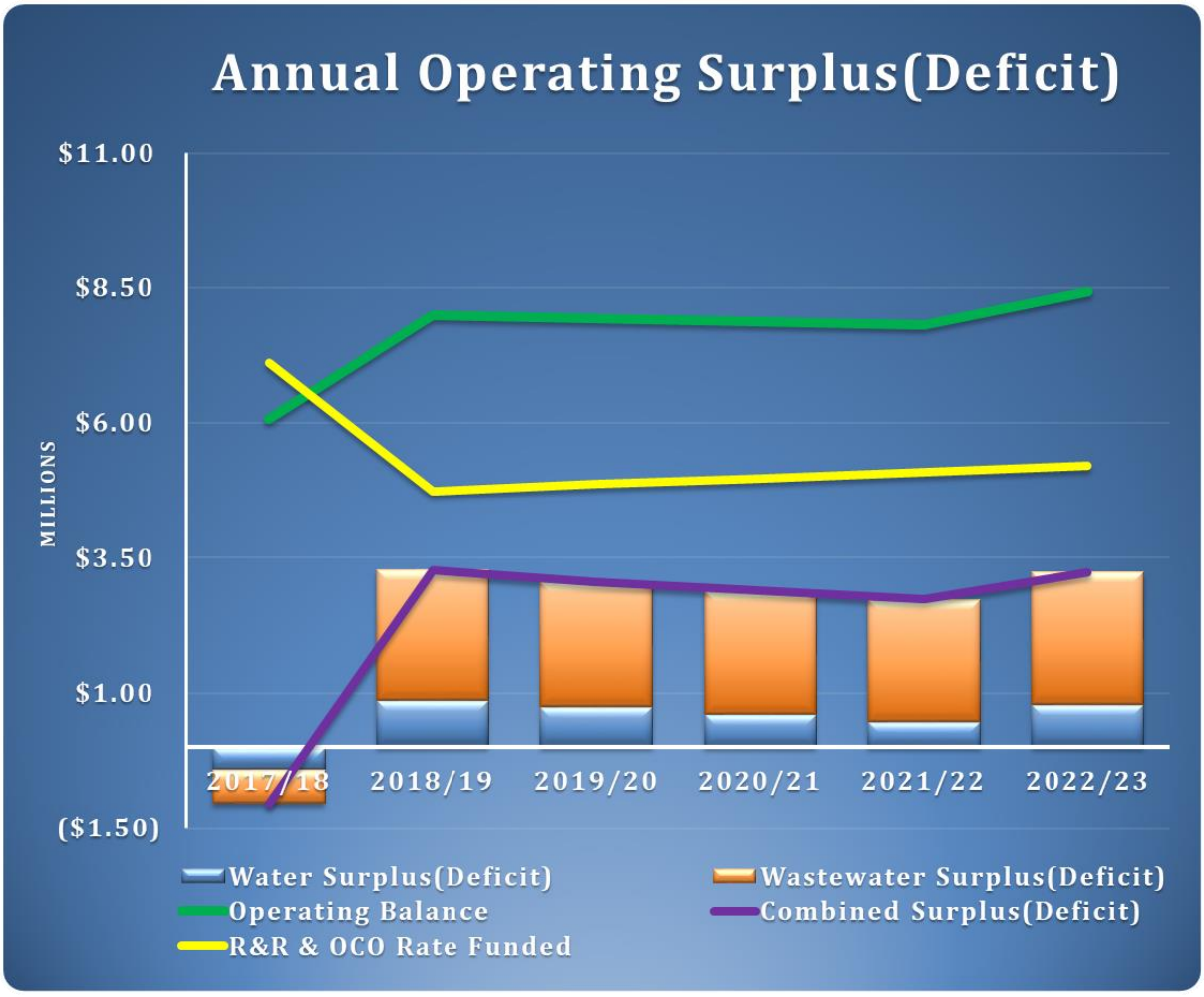
POST RATE STRUCTURE MODIFICATIONS, RATE STRUCTURE ADJUSTMENTS AND BUDGET POLICY CONSIDERATION RESULTS

The revenue neutral rate structure modifications and rate adjustments do not materially change the Operating Balances after debt service; however, limiting the amount of R&R and OCO from rates does provide for more Operating Surpluses. Provided in **Table 4** and illustrated in **Graph 5** are proforma results based on the rate structure modifications, rate adjustments and budget policy changes.

Table 4 – Proforma Operating Results Post Proposed Adjustments

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
User Rate Revenue	$28,393,500	$29,214,900	$29,849,400	$30,487,400	$31,137,100	$31,806,800
Other Revenues	2,245,100	2,569,900	2,584,400	2,616,100	2,669,900	2,724,500
Gross Revenues	$30,638,600	$31,784,800	$32,433,800	$33,103,500	$33,807,000	$34,531,300
O&M Expenses	20,576,200	21,260,100	21,968,700	22,702,300	23,461,800	24,249,500
Net Revenue	$10,062,400	$10,524,700	$10,465,100	$10,401,200	$10,345,200	$10,281,800
Impact Fees	0	1,484,300	1,484,300	1,483,500	1,482,500	1,075,700
Net Rev & Impact Fees	$10,062,400	$12,009,000	$11,949,400	$11,884,700	$11,827,700	$11,357,500
Debt Service	3,983,800	3,985,400	3,985,200	3,983,200	3,980,400	2,891,000
Operating Balance	$6,078,600	$8,023,600	$7,964,200	$7,901,500	$7,847,300	$8,466,500
R&R Transfers	5,017,400	3,386,400	3,506,000	3,576,500	3,649,300	3,725,800
Operating Capital Outlay	2,101,300	1,339,700	1,373,600	1,408,300	1,443,800	1,480,300
Net Surplus (Deficit)	($1,040,100)	$3,297,500	$3,084,600	$2,916,700	$2,754,200	$3,260,400
Debt Service Coverage (Net Revenue):						
Required	1.20	1.20	1.20	1.20	1.20	1.20
Projected	2.53	2.64	2.63	2.61	2.60	3.56

Graph 5 – Annual Operating Results Post Proposed Adjustments



The primary differences on Operating Revenues resulting from the proposed rate structure modification, rate adjustment and budget policy considerations are:

1. Operating Revenue transfers to the R&R fund and OCO expenditures are now adequately addressed resulting in Operating Revenue surpluses.
2. Both water and wastewater have Operating Surpluses (as clearly illustrated when comparing Graph 2 to Graph 5)

These changes are the result of:

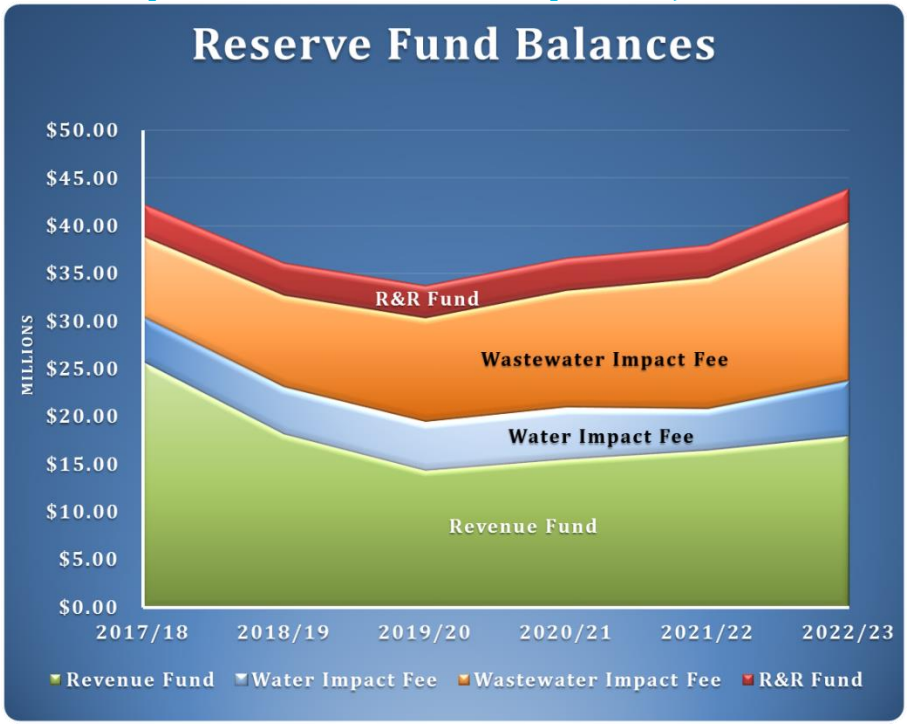
1. Limiting R&R transfers for water to 12 % and wastewater to 10 % of prior year revenues;
2. Funding the balance of the R&R requirement from unrestricted Operating Reserves; and
3. Using water and wastewater impact fees for a portion of the expansion related debt service.

In addition to debt service coverage requirements it is important that the Utility enterprise maintain prudent levels of unrestricted reserve funds to provide rate stability, address emergencies, manage existing and future CIPs and enhance creditworthiness. Projections of unencumbered balances from fiscal years 2017/18 through FY 2022/23 are provided in **Table 5** and illustrated in **Graph 6**.

Table 5 – Fund Balances Post Proposed Adjustments

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Revenue Fund						
Beginning Balance	$30,903,100	$25,827,000	$18,285,700	$14,489,500	$15,692,400	$16,698,700
Cash Inflows	(1,040,100)	3,297,500	3,084,600	2,916,700	2,754,200	3,260,400
Cash Outflows	(4,036,000)	(10,838,800)	(6,880,800)	(1,713,800)	(1,747,900)	(1,783,700)
Ending Balance	$25,827,000	$18,285,700	$14,489,500	$15,692,400	$16,698,700	$18,175,400
Suggested Min Bal	*$7,919,700*	*$7,900,100*	*$8,128,600*	*$8,346,000*	*$8,570,800*	*$8,532,600*
R&R Fund						
Beginning Balance	$3,485,900	$3,485,900	$3,485,900	$3,485,900	$3,485,900	$3,485,900
Cash Inflows	5,017,400	5,015,200	5,186,800	5,290,300	5,397,200	5,509,500
Cash Outflows	(5,017,400)	(5,015,200)	(5,186,800)	(5,290,300)	(5,397,200)	(5,509,500)
Ending Balance	$3,485,900	$3,485,900	$3,485,900	$3,485,900	$3,485,900	$3,485,900
Suggested Min Bal	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*
Water Impact Fee Fund						
Beginning Balance	$3,998,000	$4,526,500	$4,783,200	$5,007,100	$5,327,400	$4,175,600
Cash Inflows	1,528,500	1,560,700	1,592,900	1,624,100	1,651,800	1,689,200
Cash Outflows	(1,000,000)	(1,304,000)	(1,369,000)	(1,303,800)	(2,803,600)	(220,300)
Ending Balance	$4,526,500	$4,783,200	$5,007,100	$5,327,400	$4,175,600	$5,644,500
Suggested Min Bal	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*
Wastewater Impact Fee Fund						
Beginning Balance	$5,997,000	$8,489,900	$9,655,400	$10,924,000	$12,299,800	$13,788,900
Cash Inflows	3,242,900	3,345,800	3,448,900	3,555,500	3,668,000	3,789,500
Cash Outflows	(750,000)	(2,180,300)	(2,180,300)	(2,179,700)	(2,178,900)	(855,400)
Ending Balance	$8,489,900	$9,655,400	$10,924,000	$12,299,800	$13,788,900	$16,723,000
Suggested Min Bal	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*

Graph 6 – Fund Balances Post Proposed Adjustments

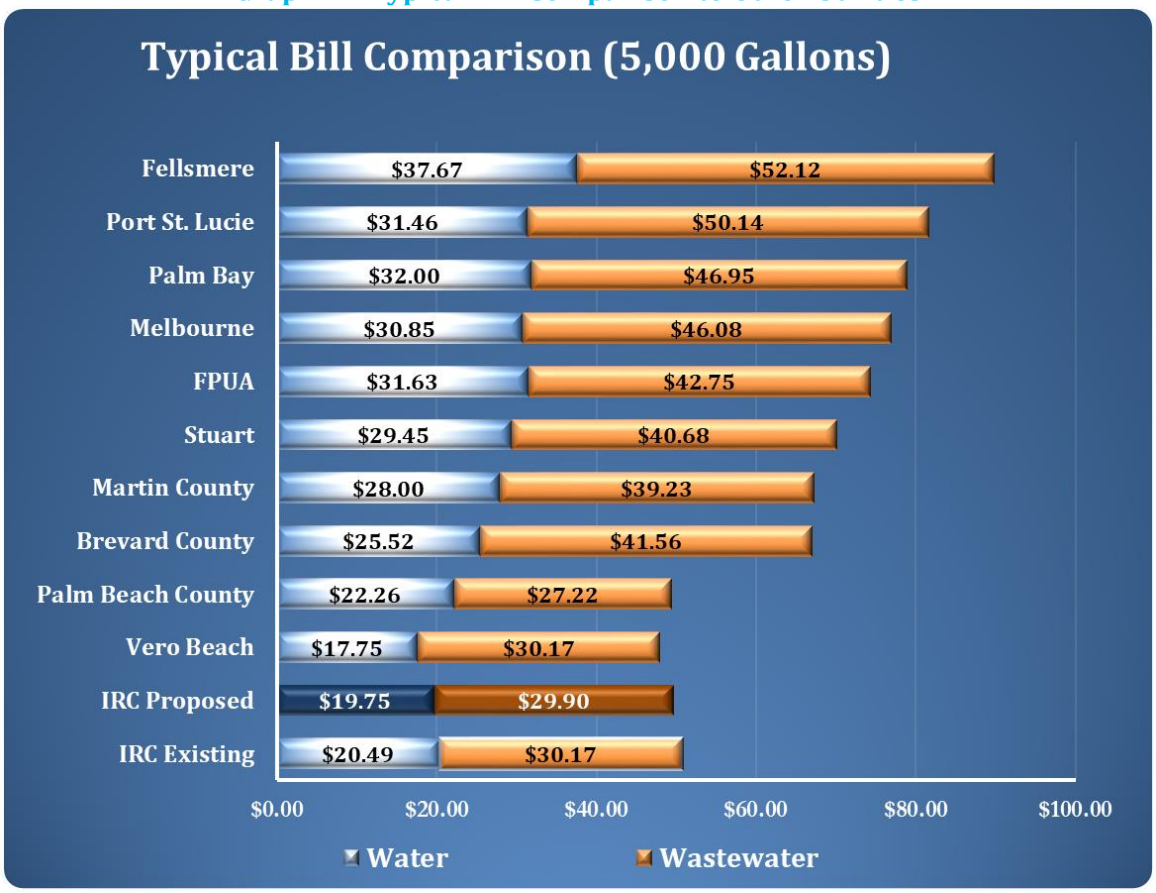


TYPICAL BILL COMPARISON TO OTHER UTILITIES

A common activity used by administrators, management, customers and media during a utility rate setting process is a comparison of the existing and proposed rates to those of other nearby communities/utilities. Although this activity provides a comparison, it generally is misinterpreted and utilized incorrectly. Cost recovery through User Rates, Fees and Charges is a multifunctional activity of utility enterprises, which for the most part, use common or similar names for the rate, charge and fee components; however, in many instances are formulated using different methodologies, costs and policies. The cost allocations and formulation of determinants for each rate, charge or fee generally varies significantly. Therefore, comparisons of other utilities should be considered as illustrations of the amount paid by the customers and not functional cost of service.

Nearby communities were contacted to obtain current water and wastewater rates. The results for a typical 5,000 gallons per month single family water and wastewater customer were calculated and illustrated on **Graph 7**. The amounts shown on the graph represent the monthly billings before any franchise, service or other applicable fees or charges not directly related to the cost for the subject utility service.

Graph 7 – Typical Bill Comparison to Other Utilities



OTHER ITEMS CONSIDERED IN THIS STUDY

In addition to rate structure and revenue sufficiency the IRCDUS requested that: 1) ERU Reserve accounts be review with consideration of providing guidance toward reimbursements and accounts

receivable issues; and 2) a Uniform Septic to Sewer (S2S) policy be developed to provide financial support for future S2S assessment programs. These are summarized below and more fully discussed in the body of this report.

ERU Reserve Accounts

The IRCDUS has a policy of allowing property owners to advance purchase water and wastewater capacity through the payment in full of the then current water and/or wastewater impact fee. This policy also requires monthly payments based on the then current Service Availability Charge to help defray O&M and other costs of maintaining the reserve capacity. Property owners voluntarily subscribe to advance capacity purchases to ensure that water and wastewater capacity will be available when development occurs at a future date.

Discussions and information provided by IRCDUS staff, indicate that advance capacity purchase accounts can be broadly classified as either current or delinquent. Current meaning that all required service availability payments have been made and delinquent meaning that such payments have not been fully made and are accruing penalties. As of June 30, 2018, there were approximately 8,147 current and delinquent combined water and wastewater reserve ERUs on record.

It is understood that certain current accounts may desire reimbursement of impact fees not being used; however, unless a provision exists in the advance capacity purchase agreement for reimbursement of all or a portion of the impact fees, the Utility is currently limited to allowing such accounts to suspend reserve payment and forfeit all rights to the capacity. Since the number of such accounts are unknown the amount of financial impact cannot be exactly determined except that suspension and forfeiture would not have a material financial impact on the Utility.

Delinquent reserve accounts account for approximately $4.67 million in accounts receivable that have accumulated through nonpayment of monthly charges and penalties. It is believed that the account holders of delinquent accounts should first be notified of any pending administrative, accounting and/or legal action such that failure of a delinquent account to be made current within 90 days will result in:

1. Capacity associated with the delinquent account is considered abandoned and is no longer reserved for such properties; and
2. Amounts accumulated in the Utility enterprise accounts receivable associated with the delinquent account shall be written off.

Uniform Septic to Sewer Policy

To address environmental concerns in the Indian River Lagoon the Board of County Commissioners is promoting a S2S program to assist with the construction of localized wastewater collection facilities in areas of the County that otherwise are or would be dependent on septic tanks a means for wastewater treatment and disposal. Costs associated with S2S projects include: 1) construction of the localized wastewater collection facilities that benefit all properties; 2) on-site connection to the localized wastewater collection facilities and septic tank abandonment for those properties with existing septic tanks; and 3) wastewater impact fees paid prior to connection, currently $2,796 per ERU.

The Uniform S2S policy recognizes that each project will be unique with its own set of constraints including costs, socioeconomics, number of existing septic tanks, contribution to pollution, etc.; however, the policy provides for a uniform basis to address the financial responsibilities of each assessment project.

1. Project Funding

a. Property owners are responsible for a minimum of one third of the project costs.
b. The County will seek the balance of the funding from other sources.

2. Assessments Program

a. Maximum interest rates for each benefit assessment program will be limited to the greater of: (i) two percent; or (ii) one half the current Board of County Commission approved rate.
b. Amortization of a property's total assessment shall be through equal annual installments, plus assessment expenses, over a period not exceeding 20 years.

3. IRCDUS Connection Incentives

a. Option 1 provides a credit of 100 percent of the then applicable wastewater impact fee when a single family property owner with an existing septic tank commits to connect prior to wastewater service being available at the property's location.
b. Option 2 provides a credit of 50 percent of the then applicable wastewater impact fee when a single family property owner with an existing septic tank commits to connect within one year of wastewater service being available at the property's location.

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Findings

This study undertook a comprehensive review of the Utility's critical customer and financial data to understand how and if the existing rate structure and rates are just and equitable and generates sufficient revenues to fully fund operations including R&R and OCO, remain in compliance with bond covenants and address future capital improvements. The review of customer billing data determined that the existing water and wastewater rate structure remains a just and equitable cost recovery mechanism; however, the review also determined that certain rate components within the rate structure should be modified to better reflect customer conservation and usage characteristics. Forecasts of operating revenues, fiscal requirements, R&R and capital improvements indicated existing rates are adequate to address O&M expenses, debt service and coverage, but fall short of fully funding the IRCDUS' desired levels of R&R and OCO.

Additional reviews were conducted on the IRCDUS' schedule of Miscellaneous Service Charges and reserve funds. Based on an understanding of current and future miscellaneous service requirements, the review identified a need to update costs associated with labor, material and equipment together with the addition/deletion of certain miscellaneous services. Projections of the Utility's Operating Reserve Fund, R&R Fund, Water Impact Fee Fund and Wastewater Impact Fee Fund found each could adequately fund projected improvement projects and maintain sufficient reserves for emergencies and creditworthiness. It further identified that transfers and management among these reserve fund could address additional R&R needs and assist in avoidance of future rate increases.

Conclusions

Based on study findings it was concluded that the existing rate structure and rates have been and are providing sufficient revenues on a just and equitable basis. However, several minor water and wastewater user rate structure modifications and rate adjustments were identified to: 1) improve and administratively simplify the structure on a revenue neutral basis; and 2) adjust for current customer conservation disciplines. The study additionally concluded that several specific limited application user rates along with the Miscellaneous Service Charges need to be adjusted to adequately recover the costs of such services.

It is concluded that levels of R&R funding to maintain the facilities in excellent serviceable condition for the health, safety and welfare of the community will vary year to year such that the Utility should: 1) fund all R&R projects through the R&R Reserve Fund; 2) transfer a minimum amount of operating revenues to the R&R Reserve Fund based on a percentage of prior years' revenue and not on a basis of amounts determined from annual budgeted R&R projects; 3) if required supplement the R&R transfers from the unrestricted Operating Reserve Fund; and 4) set and maintain a minimum amount for the R&R Reserve Fund.

It is also concluded that consideration be afforded to more frequent rate studies due to there being approximately 18 years since the last rate study in 1999. It is common practice for utilities to undertake periodic (3 to 5 years) comprehensive rate studies along with annual revenue sufficiency reviews between such studies. Such practice allows the IRCDUS to address organizational, financial, rate and policy issues in advance of anticipated impacts due to operations, fiscal requirements, capital needs, customer characteristics and environmental items that may impact the continued success of the Utility. Another practice that utilities use to address unanticipated changes to the customer base, operating expenses, environmental requirements or other items that impact fiscal requirements is providing an indexing mechanism to adjust user rates without having to commission a rate study. The indexing mechanism can be used when the utility is confident that customer demand and usage characteristics have not materially changed to where the existing rate structure would no longer provide for just and equitable cost recovery. There are several different indexing methods available, however, it is generally preferable to use one that is simple and familiar to the County, such as the Consumer Price Index (CPI) limited to a maximum of 3.0 percent.

Recommendations

Based on the information, analysis and discussions included in the report, it is recommended that:

1. The County proceed to establish the following rate structure modifications and rate adjustments with an effective date of on or after March 1, 2019.
    a. Recover existing billing charge costs through the Service Availability Charge except for Bulk and Reclaimed Water customers.
    b. Adjust Service Availability Charges to recover respective billing costs.
        i. Water
            - Single Family Water to $8.75 per ERU
            - Manufactured Home to $7.44 per ERU
            - Multi-Family to $7.44 per ERU
            - Commercial to $8.75 per ERU
        ii. Wastewater

- Single Family Water to $15.60 per ERU
- Manufactured Home to $13.26 per ERU
- Multi-Family to $13.26 per ERU
- Commercial to $15.60 per ERU

c. Reduce the number of water inclining volume blocks and corresponding volume allowances:
   i. Block 1 from 0 to 3,000 to 0 to 5,000 gallons per ERU per month;
   ii. Block 2 from 3,001 to 7,000 to 5,001 to 10,000 gallons per ERU per month;
   iii. Block 3 from 7,001 to 13,000 to above 10,000 gallons per ERU per month; and
   iv. Block 4 from above 13,000 to eliminate Block 4.

d. Water inclining volume block rate per 1,000 gallons adjustments:
   i. Block 1 remains the same at $2.20:
   ii. Block 2 from $2.42 to $2.97;
   iii. Block 3 from $3.85 to $7.04; and
   iv. Block 4 from $7.70 to Eliminated.

e. Bill all water and wastewater volume in hundreds of gallons.
f. Establish wastewater volume Block 2 to 12,000 gallons for all classifications.
g. Establish I&I 100 percent surcharge for Wastewater Volume Blocks 1 and 2.
h. Adjust monthly Fire Protection Fee to $15.16 per account.
i. Maintain the Septage and Sludge Rate at $15.00 per wet ton.
j. Establish a Large User Non-Pressurized Interruptible Service Disposal Reclaimed Water Rate of $0.21 per 1,000 gallons available only through agreement; where a Large User is required to accept a minimum number of gallons per day on an average annual basis as specified in their Reclaimed User Agreement.
k. Adjust the Miscellaneous Service Charges as proposed herein.

2. Establish R&R policies of: a) annual transfers of 12 percent of prior year's water gross revenue and 10 percent of prior year's wastewater gross revenue to the R&R Reserve Fund; b) fund balance of R&R requirements, if needed from unrestricted Revenue Reserve Fund; c) funding all R&R from the R&R Reserve Fund; and d) maintain minimum R&R Reserve Fund balance of $2,500,000.
3. Utilize Impact Fee Reserves, when available, pay minimum of 25 percent water expansion related debt service and 75 percent of wastewater expansion related debt service.
4. Address delinquent Reserve Accounts and establish policy moving forward.
5. Consider the Uniform Septic to Sewer Policy (S2S) as proposed herein.
6. Provide appropriate notice to customers regarding the rate structure modifications and rate adjustments.
7. Conduct a rate study and policy reviews periodically (minimum of 3-year to 5-year intervals) to ensure that the existing rates and cost recovery program equitably provide sufficient revenues to address the fiscal and creditworthiness requirements of the Utility.
8. Adopt a provision for indexing the user rates by lessor of:
   a. the annual difference not less than zero between the CPI for All Urban Consumers for twelve months prior to April of the current year; or
   b. 3.0 percent.

The expenses, costs, and criteria associated with rate making are representative of averages that are developed primarily from historic data along with projections based on opinions and assumptions. Significant amounts of historical review and analysis, together with the development of assumptions based on prudent engineering, financial and ratemaking relationships were utilized in the development of the customers, operating activity, costs and proposed rate and changes. Some of the assumptions will inevitably change or not materialize, and unanticipated events may occur which could significantly change the results presented herein.

INTRODUCTION

GENERAL

As a matter of prudent management, IRCDUS authorized a study to determine the appropriate level of User Rates, Fees and Charges for just and equitable recovery of operating expenses, Renewal and Replacement (R&R) and Operating Capital Outlay, along with maintaining reasonable levels of unrestricted reserves and addressing debt covenants. This report provides discussions, tables and schedules relative to the study process including reviews, data analysis, findings and conclusions regarding revenue generation and budget policy recommendations for the next five fiscal years ending September 30, 2023.

The rate study focuses on several important customer, budget and financial elements consisting of:

1. Rate structure:
    a. Equivalency basis for Multi-Family and Manufacture Home customers;
    b. Inclining water conservation volume blocks; and
    c. Incremental rate for each water conservation volume block.
2. Operating revenue sufficiency;
3. Fund balance requirements for:
    a. Unrestricted Revenue Reserve Fund;
    b. R&R Reserve Fund;
    c. Water Impact Fee Reserve Fund; and
    d. Wastewater Impact Fee Reserve Fund.
4. Five-year Capital Improvement Plan (CIP) funding.
5. Uniform policy for septic to sewer elements of CIP.
6. Cost recovery for miscellaneous, ancillary and penalty charges.

COMPREHENSIVE RATE MODEL

In addressing the study needs, a Microsoft Excel-based comprehensive rate model was developed and utilized. The computer rate model has the capability to project the salient attributes associated with the review, analysis and development of comprehensive rates, including but not limited to customer statistics, budgets, fiscal requirements, existing User Rates, Fees and Charges, proforma statements, sources and uses of the capital funding program and Utility reserve fund balances. The computer model is a dynamic tool that was used to identify the effect of various alternatives with respect to changes in fiscal requirements, customer growth, rate structure modifications, rate adjustments and operating results.

MEETINGS AND ACKNOWLEDGEMENTS

During the course of the study, several meetings were conducted with County staff members including those from the IRCDUS and Administration. The meetings focused on obtaining a clear understanding of existing issues, future needs and other management and financial requirements of the IRCDUS. The projected expenses, costs and requirements contained herein and used as the basis for the proposed multi-year rates were identified and prepared with the assistance, work and guidance provided by Utility staff members. It should also be noted that prudent ratemaking requires a conservative approach where revenues are not overstated, and expenses are not understated. The assumptions herein adhere to this conservative approach and it should be expected that actual results will exceed expectations reflected in this study.

EXISTING RATES, CUSTOMER CHARACTERISTICS AND PROJECTIONS

GENERAL

The County uses an enterprise fund to account for its water, wastewater and reclaimed water services and like any self-sustaining business is required to generate revenues sufficient to pay for 100 percent of all O&M expenses along with the requirements of any existing debt service, R&R, and minor capital costs (collectively Operating Costs). Major capital improvement costs are funded from several sources including but not limited to operating reserves, impact fees, grants and assessments. Gross revenue of the enterprise is derived from: (i) User Rates; and (ii) miscellaneous service fees and charges for specifically requested services. The primary source of revenues, approximately 93 percent, is obtained from the monthly user rates which consists of Billing Charges, Service Availability Charges, four inclining water volume charges, and two inclining wastewater volume charges. The water and wastewater rate structures have remained consistent and no significant rate adjustments have occurred since 1999. It should be noted that reclaimed water services are provided through certain customer connections primarily for effluent disposal purposes. Reclaimed water connections are and anticipated to remain limited to a small number or large usage customers in the foreseeable future.

EXISTING WATER AND WASTEWATER RATE STRUCTURE AND RATES

The User Rates, Fees and Charges established pursuant to Resolution 99-58 have remained, for the most part, the same since their effective date of October 1, 1999 and consist of the following:

1. A monthly Billing Charge per bill for water and wastewater service; this charge is designed to recover a portion of the expenses associated with billing and customer services.
2. A monthly Service Availability Charge per Equivalent Residential Unit (ERU); this charge is designed to recover a portion of expenses, debt service, R&R, minor capital and other requirements generally related to ongoing operations. Service Availability Charges for manufactured home and multi-family connections are determined based on 0.85 ERU per dwelling unit.
3. Volume rates are designed to encourage conservation of resources and recover the balance of operating requirements and are structured as follows:
    a. Water volume rates consist of four inclining rates per 1,000 gallons associated with four inclining blocks per ERU: Block 1 (0 - 3,000 gal), Block 2 (3,001 - 7,000 gal), Block 3 (7,001 – 13,000) and Block 4 (above 13,000 gal).
    b. The wastewater volume rates consist of a single rate per 1,000 gallons for single family and manufactured homes to a maximum of 12,000 gallons and two inclining blocks per ERU for commercial and multi-family customers: Block 1 (0 – 13,000 gal) and Block 2 (above 13,000 gal).

Summarized in **Table 1** are the current User Rates, Fees and Charges. There have been no significant rate structure or rate adjustments since October 1, 1999.

Table 1 – Current Monthly Water and Wastewater Rates

	Block Volume Tiers (gallons)	Amount
Water		
Billing Charge Per Bill		$1.29
Service Availability Charge Per Month Per ERU		$7.76
Volume Charges per 1,000 Gallons		
Block 1 Per Month Per ERU	0 - 3,000	$2.20
Block 2 Per Month Per ERU	3,001 - 7,000	$2.42
Block 3 Per Month Per ERU	7,001 - 13,000	$3.85
Block 4 Per Month Per ERU	above 13,000	$7.70
Wastewater		
Billing Charge Per Bill		$1.29
Service Availability Charge Per Month Per ERU		$14.58
Volume Charges per 1,000 Gallons		
Individually Metered Residential [1]	cap 12,000	$2.86
Multi-Family & Commercial:		
Block 1 Per Month Per ERU	0-13,000	$2.86
Block 2 Per Month Per ERU	above 13,000	$4.29
Bulk Sewer[2]		
Billing Charge Per Bill		$1.29
Service Availability Charge Per Month Per ERU		$13.41
Volume Charges Per 1,000 Gallons		$2.98
Fire Protection		
Per Account		$14.17
Reclaimed Water		
Rate Per 1,000 Gallons		$0.67
Sludge, Grease & Septage		
Rate Per Wet Ton		$15.00

1. Single Family, Multi-Family and Manufactured Homes individually and master metered customers.

2. Currently, the City of Fellsmere is the County's only bulk sewer customer.

In addition to the specific rates, fees and charges listed in Table 1, the IRCDUS has other miscellaneous fees and charges to recover costs associated with services including but not limited to fire protection, meter replacement and removal, water and wastewater connection, reconnection activities, and other miscellaneous requested services, which are addressed more fully in the Miscellaneous Service Charge Update section of this report.

HISTORIC WATER AND WASTEWATER CUSTOMERS AND REVENUE GENERATION SUMMARY

The County provided water and wastewater billing data for the 12 consecutive months ending September 30, 2017. The information contained in the billing data register included, by customer classification, the number of accounts billed, the number of ERUs which received service, the monthly metered water usage and the corresponding monthly revenue collected. A billing frequency analysis was performed on the water and wastewater billing data to substantiate with relative certainty the

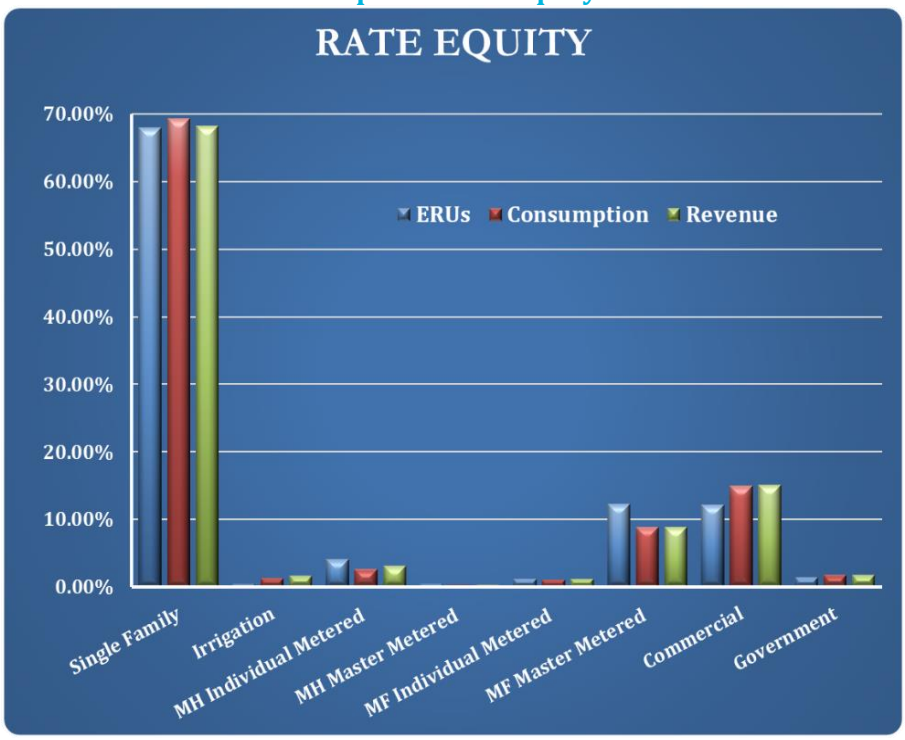
number of accounts, ERUs, and the corresponding usage characteristics for each customer classification. To verify the results of the bill frequency analysis, revenues were first calculated based on the resulting customer data findings and the existing user rates and charges. This information was then compared to the revenues contained within the billing data register (The calculated revenues from the bill frequency analysis were within 1 percent of the revenues contained in the billing data register which validates the customer and characteristics of the data).

A review of the water and wastewater customers developed from the FY 2016/17 billing records, indicated that the system provides service to four identified customer groups consisting of residential, commercial, governmental and special service connections.

1. The residential customer group consist of single family, manufactured and multi-family homes (both individually metered and master-metered connections);
2. The commercial customer group consists of non-residential connections including hotels, motels, restaurants and other business-related entities;
3. The governmental group is applicable to local, state and federal government connections:
4. The other customer group have special service conditions including irrigation, hydrant, reclaimed water, bulk, and reserve accounts[1].

The appropriateness of the rate structure can be determined by analyzing key relationships among customer classifications. Comparative relationships between ERUs, Consumption and Revenue for each customer class are illustrated in **Graph 1** and tabulated in **Table 6** from billing frequency data in **Appendix A**.

Graph 1 – Rate Equity



[1] Reserve accounts paid impact fees to guarantee availability of utility capacity and are required to pay a monthly fixed charge per ERU.

Table 6 – Fiscal Year 2016/17 Accounts, ERUs, Consumption and Revenues[1]

Customer Classification	Accounts		ERUs		Consumption[1]		Revenues	
	Quantity	Percent of Total	Quantity	Percent of Total	Quantity	Percent of Total	Amount	Percent of Total
Water								
Single Family	39,393	86.1%	39,632	68.0%	2,015,897	69.3%	$9,919,100	68.2%
Irrigation	95	0.2%	227	0.4%	37,002	1.3%	233,800	1.6%
MH Individual Metered	2,822	6.2%	2,399	4.1%	74,258	2.6%	455,500	3.1%
MH Master Metered	6	0.0%	249	0.4%	8,162	0.3%	41,400	0.3%
MF Individual Metered	823	1.8%	700	1.2%	30,517	1.0%	166,400	1.1%
MF Master Metered	539	1.2%	7,164	12.3%	259,005	8.9%	1,283,000	8.8%
Commercial	1,942	4.2%	7,109	12.2%	434,641	14.9%	2,185,600	15.0%
Government	99	0.2%	811	1.4%	49,579	1.7%	246,800	1.7%
Hydrant	12	0.0%	12	0.0%	1,481	0.1%	4,600	0.0%
Total	45,731	100.0%	58,303	100.0%	2,910,542	100.0%	$14,536,200	100.0%
Wastewater								
Single Family	20,634	78.3%	20,875	52.6%	955,823	52.6%	$6,480,000	52.2%
MH Individual Metered	2,825	10.7%	2,402	6.1%	74,044	4.1%	666,500	5.4%
MH Master Metered	3	0.0%	61	0.2%	2,131	0.1%	16,800	0.1%
MF Individual Metered	835	3.2%	710	1.8%	30,641	1.7%	229,200	1.8%
MF Master Metered	518	2.0%	7,174	18.1%	257,021	14.1%	2,001,500	16.1%
Commercial	1,440	5.5%	7,028	17.7%	433,665	23.8%	2,592,300	20.9%
Government	81	0.3%	891	2.2%	40,722	2.2%	277,100	2.2%
Bulk	1	0.0%	526	1.3%	24,368	1.3%	157,200	1.3%
Total	26,337	100.0%	39,667	100.0%	1,818,415	100.0%	$12,420,600	100.0%

1. Statistics exclude Reserve, Fire Protection and Sewer-Only customers.
2. Consumption is shown in thousands of gallons.

A review of the data in the table above shows that the percentages between ERUs, Consumption and Revenues are relatively similar for each customer classification. This strongly suggests that the existing rate structure generates revenue on a reasonable cost of service basis and remains just and equitable. It should be noted that such relationships will vary slightly year to year; however, the goal is that the relationships are relatively balanced for each customer classification, as it would be highly unusual for the relationship or percentages to be exactly equal.

EXISTING RATE STRUCTURE OBSERVATIONS

Although the existing rate structure generates revenue on a reasonable cost of service basis, the number of water inclining volume blocks, volume allowances within each inclining block and rate differential between each inclining block should be adjusted to: 1) better represent the water conservation trends of existing customers; and 2) provide a more understandable and administratively efficient mechanism for volume revenue generation. The inclining block adjustments proposed later in this report will reduce the inclining blocks from four to three. The adjustments will reduce the financial burden on moderate use customers while maintaining incentive for conservation.

PROJECTED WATER AND WASTEWATER CUSTOMERS AND CONSUMPTION

The FY 2016/17 billing frequency analysis provides historic actual data associated with the number of accounts and ERUs together with the average monthly billable consumption per rate block per ERU by customer class. These billable flows per block are considered reliable indicators for ratemaking and projection purposes, as average usage trends based on current understanding of the service area are not anticipated to vary materially from year to year except for periods experiencing unusual weather conditions.

Pursuant to discussion with IRCDUS staff, an understanding of recent construction trends in the service area and maintaining a conservative approach to forecasting customer growth for rate making purposes, an annual growth rate of approximately 2% to-3% was selected for the analysis period through FY 2022/23. This growth rates equates to approximately 1,100 ERUs per year each for water and wastewater. A summary of the forecasted growth in the customer accounts, ERUs and billable consumption are summarized in **Table 7** with more detailed information provided in **Schedules 1 and 2**. In addition to the growth shown in Table 7, the IRCDUS anticipates promoting a S2S program with incentives that will result in customer increases. For this study, estimated numbers of S2S accounts, ERUs and revenue are provided in **Schedule 3**. It should be noted that due to the uncertainty and low numbers, forecasts of S2S ERUs and revenue are not included for the purpose of adjusting rates if necessary.

Table 7 – Projection of Average Customer Accounts, ERUs and Billable Consumption

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Water							
Accounts	45,731	46,643	47,575	48,524	49,491	50,479	51,486
ERUs	58,303	59,464	60,649	61,858	63,090	64,347	65,628
ERU Growth		2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Billable Consumption/1,000 gal	2,910,542	2,967,968	3,026,592	3,086,396	3,147,337	3,209,527	3,272,904
Wastewater							
Accounts	26,337	27,454	28,265	29,102	29,962	30,849	31,762
ERUs	39,667	41,944	43,126	44,343	45,596	46,887	48,217
ERU Growth		2.8%	2.8%	2.8%	2.8%	2.8%	2.8%
Billable Consumption/1,000 gal	1,818,415	1,898,209	1,992,974	2,048,774	2,106,200	2,165,379	2,226,335

FISCAL REQUIREMENTS

GENERAL

Fiscal requirements within IRCDUS' annual budget as approved by the County's Board of Commissioners, are characterized as first, those associated with direct operating activities such as O&M expenses, annual debt service, R&R and OCO; and second, portions of annual requirements to support major capital improvements and stabilize reserve funds. Except for grants and direct contributions, the primary sources of funding these fiscal requirements are from User Rates, Fees and Charges, miscellaneous revenue, interest income and impact fees.

A cash basis approach is common in water and wastewater ratemaking where fiscal requirements are partitioned to correspond to the flow of funds and provisions associated with tax-exempt long-term debt indentures, consisting primarily of O&M expenses, debt service including both principal and interest, R&R[2] and certain capital not specifically addressed in the Capital Improvement Plan (CIP). In addition, consideration is given to debt covenant and cash reserves for creditworthiness and prudent financial stability of the Utility. These fiscal requirements are reduced by revenues from sources other than User Rates, Fees and Charges such as interest income, meter installation charges, penalties and other miscellaneous charges resulting in net rate requirements for ratemaking.

PROJECTED NET RATE REQUIREMENTS

The projected net rate requirements to be recovered through monthly water and wastewater User Rates, Fees and Charges are initially identified using the adopted budget for fiscal year 2017/18 and then projected to establish requirements for rate test fiscal year 2018/19 and four additional fiscal years. Projections for fiscal years 2018/19 through 2022/23, reflect the anticipated impacts of inflation, labor and benefit adjustments, growth and other increases affecting utilities. These impacts are addressed on a budget line item basis using specific escalation factors. This process results in fiscal and net rate requirements that reasonably reflect future economic operating conditions of the IRCDUS.

The major categories associated with net rate requirement consist of: O&M expenses, debt service, expenditures and transfers to R&R, Operating Capital Outlay[3] (OCO) and other revenue.

O&M Expense

O&M expense is the largest categories of cost within IRCDUS' Operating budget. These expenses typically include the cost of labor, benefits, insurance, electricity, chemicals, maintenance, supplies, administration and other items necessary for the operation and maintenance of the system. Discussions with IRCDUS staff together with a review of the reasonableness of the projected O&M expenses suggest that the O&M expenses reasonably reflect sufficient amounts for quality levels of operations. There are no additional employees assumed during the analysis period.

Debt Service

Debt Service includes the principal and interest on outstanding debt obligations payable from the net revenues of the Utility. As of September 30, 2017, the County had two outstanding debt obligations: The Water and Sewer Revenue Refunding Note Series 2015 and the Water and Sewer Revenue Refunding Bonds Series 2009. Annual debt service payment on these

[2] Provisions for transfers to a R&R account is used as a proxy for depreciation.
[3] Minor capital items not included in the CIP.

obligations is approximately $3.9 million until fiscal year 2021/22, which then reduces upon the maturity of the Series 2015 note.

R&R Transfers

Annual R&R transfers from net revenues are necessary, not only to comply with debt covenants but also to have continuing rate revenue provide for a portion of necessary facility replacement. Annual R&R transfer allowances from user rate revenues at levels less than depreciation is not unusual for utilities, as many capital improvement programs funded from sources other than R&R, such as unrestricted reserves, grants and within debt funding for projects that include upgrading and replacement of existing system facilities. Therefore, although the collective level of R&R within the fiscal year 2017/18 budget is believed to be adequate, a portion of the R&R projects for the next five fiscal year will be considered funded from existing unrestricted reserves.

Operating Capital Outlay

Operating capital outlay consist of machinery, vehicles, communications and data processing equipment, and other items not directly related to treatment and transmission of water and wastewater services. These amounts generally vary annually and similar to R&R, amounts not provided from annual rates can be secured from unrestricted reserves. For ratemaking purposes, amounts for other operating capital requirements have been projected based on the approximate average amounts from the last five fiscal years and similar to R&R any additional amounts are considered funded from existing unrestricted reserves.

Other Revenue

In addition to revenue generated from ongoing User Rates, Fees and Charges, the IRCDUS earns interest income from investments, charges for various services, such as meter installation, turn on/off, fire protection, etc. and from penalties pursuant to codified policies.

The primary assumptions utilized in the projection of net fiscal requirements for the five years subsequent to fiscal year 2017/18 are:

1. General operating expenditures are anticipated to be impacted by general inflation at 2.5%.
2. Personnel and benefit expenses are projected to increase at an annual rate of 3.0%, which includes cost of living adjustments, promotions and merit increases.
3. Expenditures influenced by both inflation and customer growth, such as chemicals and electric, are projected utilizing a combined inflation and growth factor of approximately 4.5% per year for water and 5.3% per year for wastewater.
4. Annual expenditures for supplies and routine repairs and maintenance are projected at an annual rate of 3.0%.
5. Annual R&R requirements are projected at 18.5 percent and 14.0 % percent of the previous year's gross revenue respectively for water and wastewater.
6. Operating Capital Outlay amounts are projected at approximate average amounts from the last five fiscal years.
7. As applicable, Other Revenue items, such as meter installation, are projected based on related activity, historic levels or other related relationships.
8. Fiscal Requirement amounts for both R&R and Operating Capital Outlay are included at the total anticipate levels, which in some years may place an undue burden on rate revenue. To better accommodate and balance such requirements, funds to address portions of the totals are projected from unrestricted reserves.

Fiscal Requirements

Projections of fiscal and net rate requirements discussed above are summarized in **Table 8** from projected line item water and wastewater budgets contained in **Schedules 4 and 5** for water and wastewater, respectively. It should be noted that fiscal requirements for reclaimed water (wastewater disposal) are included in Schedule 5 with wastewater. Reclaimed water is provided to certain connections primarily for effluent disposal and currently not considered as a full cost recovery commodity service.

Table 8 – Projected Water and Wastewater Revenue Requirements

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Fiscal Requirements						
O&M Expenses [1]	$20,576,200	$21,260,100	$21,968,700	$22,702,300	$23,461,800	$24,249,500
Debt Service	3,983,800	3,985,400	3,985,200	3,983,200	3,980,400	2,891,000
R&R [2]	5,017,400	5,015,200	5,186,800	5,290,300	5,397,200	5,509,500
Operating Capital Outlay [2]	2,101,300	1,339,700	1,373,600	1,408,300	1,443,800	1,480,300
Total Requirements	$31,678,700	$31,600,400	$32,514,300	$33,384,100	$34,283,200	$34,130,300
Less Other Revenue	2,245,100	2,569,900	2,584,400	2,616,100	2,669,900	2,724,500
Net Rate Requirement	$29,433,600	$27,401,700	$28,249,100	$29,054,200	$29,865,400	$29,622,100
1. Escalated per inflation and growth.						
2. Annual rate requirement including amounts funded from unrestricted reserves.						

Projections of net rate requirement are based on anticipated events and assumptions that are subject to change, especially those associated with growth and inflation; therefore, no assurance can be given with respect to the probability or levels of such projections.

REVENUE SUFFICIENCY WITH EXISTING RATE STRUCTURE AND RATES

GENERAL

As with any business enterprise, the Utility must generate sufficient revenues for continued operations providing for the health, safety and welfare of the community. The measure of this objective is demonstrated not only by the ability of the enterprise to meet the annual fiscal requirements supporting water and wastewater operations, but also sufficient cash flows to accumulate prudent levels of reserves, address R&R, support creditworthiness, provide options regarding the funding of future major capital improvements and address fiscal policy of the County. This Study utilizes a modified cost of service methodology, whereby, revenues from each functional service (water and wastewater) are evaluated for sufficiency based on the requirements of each functional service, including when applicable consideration of major CIP requirements.

REVENUE SUFFICIENCY UNDER EXISTING RATES

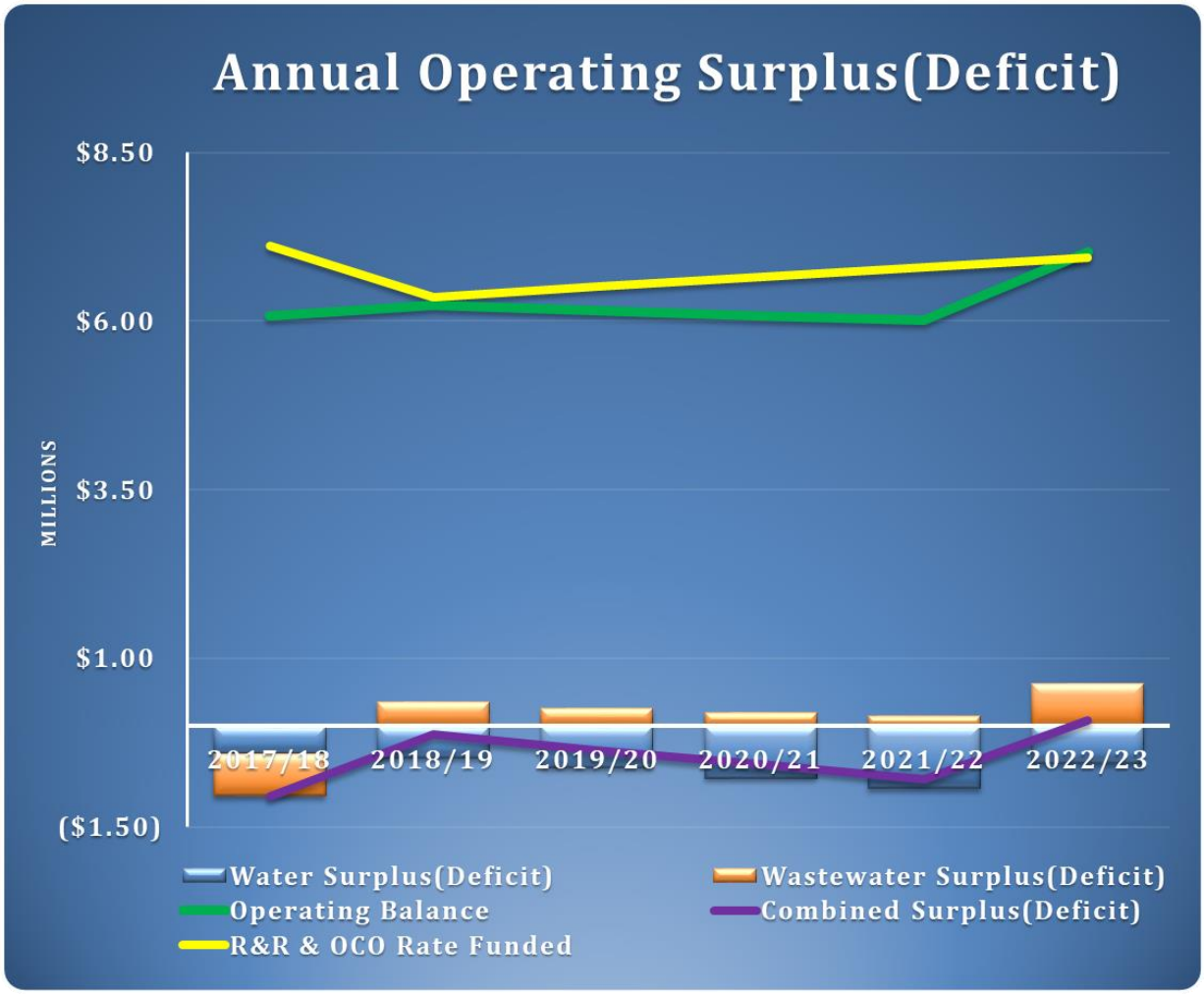
A revenue sufficiency analysis was prepared utilizing the previously discussed customer data, existing rates and fiscal requirements and escalated to account for inflation and customer growth. The analysis, as summarized in **Table 9** and illustrated in **Graph 2,** indicate total revenues from existing User Rates, Fees and Charges and Other Revenues are adequate for O&M and debt service providing over $6.0 million in Operating Balance available to address R&R and OCO. However, the Operating Balances are not sufficient to address the projected desired amounts of R&R and OCO through fiscal year 2022/23. It should be noted that as previously discussed these projections assume that any additional funding for R&R and OCO beyond the Operating Balance can be provided from unrestricted reserves. Debt Service Coverage, which represents the number of times Net Revenue exceeds Debt Service, is projected to exceed requirements and will reflect favorably on the creditworthiness of the Utility enterprise.

Table 9 – Annual Operating Results Existing Rates

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
User Rate Revenue	$28,393,500	$29,219,400	$29,853,900	$30,491,900	$31,140,900	$31,810,700
Other Revenues	2,245,100	2,264,100	2,262,400	2,277,800	2,314,900	2,352,400
Total Revenues	$30,638,600	$31,483,500	$32,116,300	$32,769,700	$33,455,800	$34,163,100
O&M Expenses	20,576,200	21,260,100	21,968,700	22,702,300	23,461,800	24,249,500
Net Revenue	$10,062,400	$10,223,400	$10,147,600	$10,067,400	$9,994,000	$9,913,600
Debt Service	3,983,800	3,985,400	3,985,200	3,983,200	3,980,400	2,891,000
Operating Balance	$6,078,600	$6,238,000	$6,162,400	$6,084,200	$6,013,600	$7,022,600
R&R Transfers	5,017,400	5,015,200	5,145,100	5,246,200	5,350,600	5,460,300
Operating Capital Outlay	2,101,300	1,339,700	1,373,600	1,408,300	1,443,800	1,480,300
Net Surplus (Deficit)	($1,040,100)	($116,900)	($356,300)	($570,300)	($780,800)	$82,000
Debt Service Coverage:						
Required	1.20	1.20	1.20	1.20	1.20	1.20
Projected	2.53	2.57	2.55	2.53	2.51	3.43

The major difference in Net Surplus (Deficit) between fiscal years 2017/18 and 2018/19 is primarily due to reducing the OCO to 5-year historic average amounts. Further reductions in Net Surplus (Deficit) for the ensuing fiscal years represent the impact of projected inflation mainly on O&M expenses. The increase in FY 2022/23 is the direct result of retirement of the Series 2015 note.

Graph 2 – Annual Operating Surplus (Deficit) Existing Rates

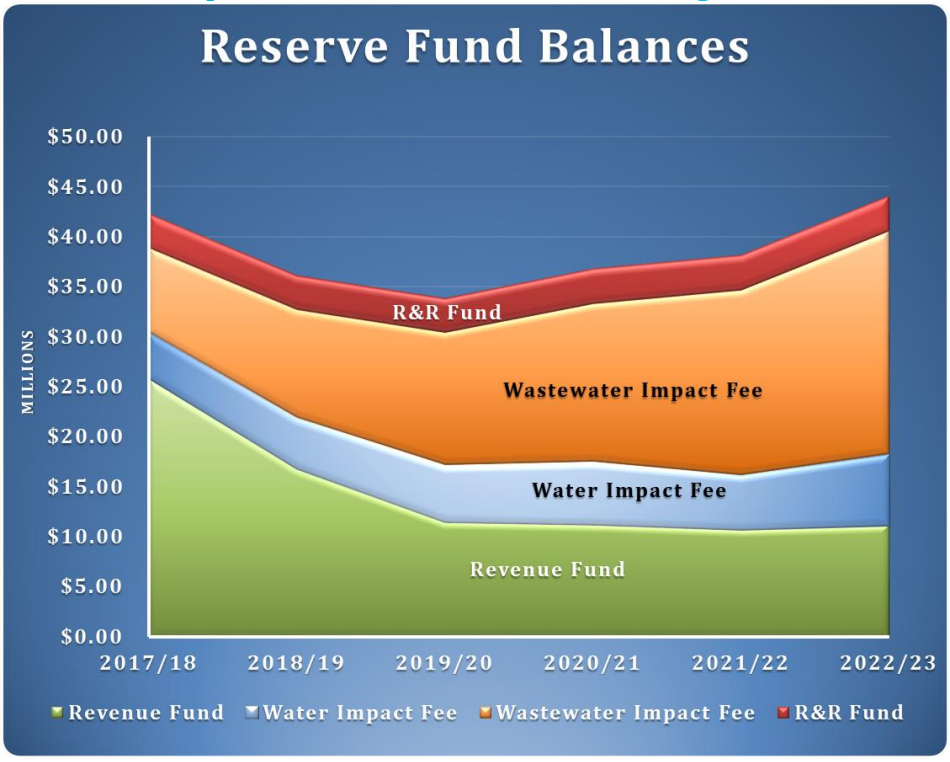


In addition to debt service coverage requirements it is important that the Utility enterprise maintain prudent levels of unrestricted reserve funds to provide rate stability, address emergencies, manage existing and future CIPs and enhance creditworthiness. Existing unencumbered balances in the four primary reserve funds, Operating, R&R, Water Impact Fee and Wastewater Impact Fee, were at adequate levels as of October 1, 2017, based on data/amounts provide by IRCDUS staff. Projections of unencumbered balances from fiscal years 2017/18 through FY 2022/23 are provided in **Table 10** and illustrated in **Graph 8**.

Table 10 – Unrestricted and Restricted Reserve Funds Existing Rates

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Revenue Fund						
Beginning Balance	$30,903,100	$25,827,000	$16,500,100	$10,943,800	$10,373,500	$9,592,700
Cash Inflows	(1,040,100)	(116,900)	(356,300)	(570,300)	(780,800)	82,000
Cash Outflows	(4,036,000)	(9,210,000)	(5,200,000)	0	0	0
Ending Balance	$25,827,000	$16,500,100	$10,943,800	$10,373,500	$9,592,700	$9,674,700
Suggested Min Bal	*$7,919,700*	*$7,900,100*	*$8,118,200*	*$8,335,000*	*$8,559,200*	*$8,520,300*
R&R Fund						
Beginning Balance	$3,485,900	$3,485,900	$3,485,900	$3,485,900	$3,485,900	$3,485,900
Cash Inflows	5,017,400	5,015,200	5,145,100	5,246,200	5,350,600	5,460,300
Cash Outflows	(5,017,400)	(5,015,200)	(5,145,100)	(5,246,200)	(5,350,600)	(5,460,300)
Ending Balance	$3,485,900	$3,485,900	$3,485,900	$3,485,900	$3,485,900	$3,485,900
Suggested Min Bal	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*
Water Impact Fee Fund						
Beginning Balance	$3,998,000	$4,526,500	$5,088,500	$5,619,000	$6,247,000	$5,404,000
Cash Inflows	1,528,500	1,562,000	1,595,500	1,628,000	1,657,000	1,695,300
Cash Outflows	(1,000,000)	(1,000,000)	(1,065,000)	(1,000,000)	(2,500,000)	0
Ending Balance	$4,526,500	$5,088,500	$5,619,000	$6,247,000	$5,404,000	$7,099,300
Suggested Min Bal	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*
Wastewater Impact Fee Fund						
Beginning Balance	$5,997,000	$8,489,900	$10,840,700	$13,299,700	$15,870,300	$18,558,400
Cash Inflows	3,242,900	3,350,800	3,459,000	3,570,600	3,688,100	3,813,400
Cash Outflows	(750,000)	(1,000,000)	(1,000,000)	(1,000,000)	(1,000,000)	0
Ending Balance	$8,489,900	$10,840,700	$13,299,700	$15,870,300	$18,558,400	$22,371,800
Suggested Min Bal	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*

Graph 8– Reserve Fund Balances Existing Rates



OBSERVATIONS CONCERNING FUTURE REVENUE GENERATION

Projected revenues from existing user rates adequately provide for anticipated operating expense and debt service requirements but fall short of addressing the necessary R&R and OCO through fiscal year 2022/23; this can be observed in Graph 2 on Page 26 where the yellow line should be below the green line. Additionally, it was observed that certain adjustments to the rate structure water and wastewater inclining volume blocks and use of Impact Fee Reserves to pay for expansion related debt service would benefit both the IRCDUS and customers. Adjustments to the water and wastewater inclining volume block structure will better address customer water conservation trends and simplify billing. Changes to financial/budget policies concerning the accumulation and use of both restricted and unrestricted reserve funds should be considered to address both R&R and OCO requirements. These requirements are primarily addressed through the balance of annual operating rate revenues after payment of O&M expenses and debt service; however, R&R and OCO requirements are not consistent year to year, resulting in some years with surpluses and some with deficits. Therefore, in the interest of addressing both the funding requirements and stabilizing rates, this study proposes: a) setting an operating rate revenue transfer policy for: (i) R&R based on a percentage of prior year gross revenues and (ii) OCO based on the last five year averages with allowances for inflation; b) using available unrestricted reserves to supplement the programs when needed; and c) when financially prudent using Impact Fee Reserve funds to pay for the expansion related portions of annual debt service; thereby, providing additional unrestricted funds for additional R&R and OCO requirements.

RATE STRUCTURE MODIFICATIONS, RATE ADJUSTMENTS AND BUDGET POLICY CONSIDERATIONS

GENERAL

The prior sections of this report concluded that: 1) certain rate structure modifications and rate adjustments should be considered; and 2) Gross Revenue is adequate for O&M Expenses and Debt Service. However, revenues do not fully address the desired expenditures for R&R and OCO. Additionally, reviews suggested that alternative approaches are available for funding R&R and OCO that would eliminate or decrease the need for more revenue through rate increases. The primary goals and objectives in addressing these findings concerning rate structure modifications, rate adjustments and budget considerations include:

1. Initial rate structure modification and rate adjustments should be revenue neutral, wherein, approximate levels of revenue generated after the modifications/adjustments are approximately the same as before the modifications/adjustments.
2. Minimal adverse impacts on all classes of customers.
3. Changes that can be accommodated within existing billing software.

RATE STRUCTURE MODIFICATIONS AND REVENUE NEUTRAL RATE ADJUSTMENTS

Observations during the study process together with discussion with IRCDUS staff suggest there should be modifications to both water and wastewater inclining volume blocks. Water rate structure modifications address reductions in the number of water inclining volume blocks along with adjustments to the water volume block rates on a gross revenue neutral basis. Modification to the wastewater volume block modification, for customer classifications other than single family, is proposed for consistency between the single family wastewater billing cap and the commencement of the wastewater inclining volume block 2 rate.

The water inclining volume block modifications and accompanying rate per block are as follows:

1. Water inclining volume blocks and corresponding volume allowances:
    a. Block 1 from 0 to 3,000 to 0 to 5,000 gallons per ERU per month
    b. Block 2 from 3,001 to 7,000 to 5,001 to 10,000 gallons per ERU per month
    c. Block 3 from 7,001 to 13,000 to above 10,000 gallons per ERU per month
    d. Block 4 from above 13,000 to Eliminate Block 4
2. Water inclining volume block rate per 1,000 gallons adjustments:
    a. Block 1 remains the same at $2.20
    b. Block 2 from $2.42 to $2.97
    c. Block 3 from $3.85 to $7.04
    d. Block 4 from $7.70 to Eliminated
3. Modification of wastewater volume blocks and corresponding volume allowances:
    a. Block 1 from 0 to 13,000 to 0 to 12,000 gallons per ERU per month
    b. Block 2 from above 13,000 to above 12,000 gallons per ERU per month

A new surcharge of 100 percent is suggested to be applied on both blocks of the wastewater volume rates for certain master metered customers on the difference between measured wastewater flow

and the metered water flow for such customers. This surcharge is provided as encouragement for customers to address excessive on-site inflow and infiltration (I&I).

Comparative existing and proposed rates and charges, including those associated with bulk wastewater, reclaimed water and septage/sludge are shown on **Table 2**.

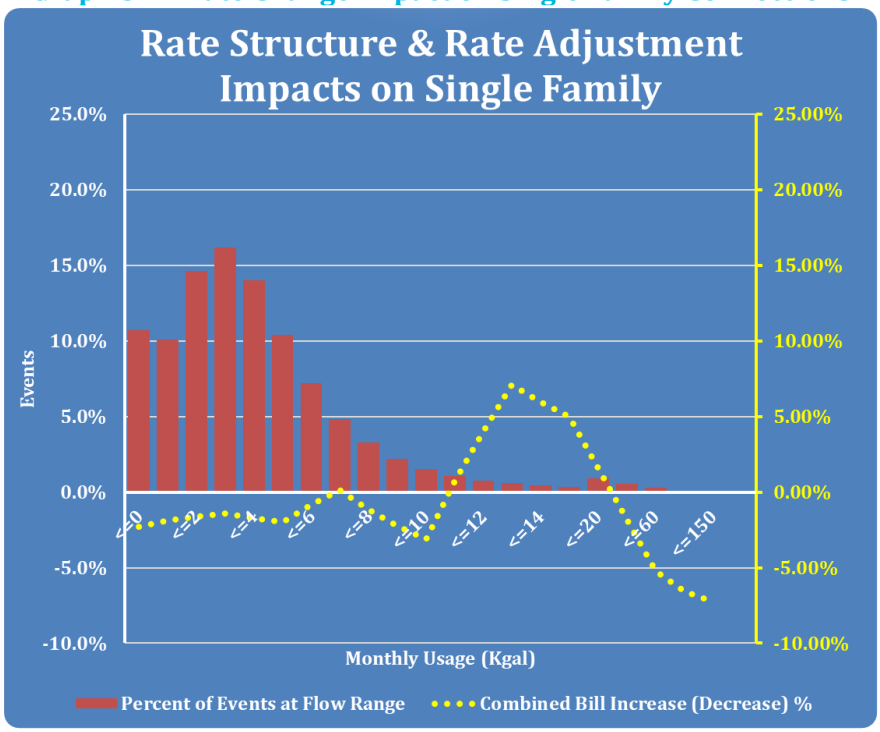
Table 2 – Existing and Proposed User Rates and Charges

	Existing		Proposed	
	Block Volume Tiers (gallons)	Amount	Block Volume Tiers (gallons)	Amount
Water				
Billing Charge Per Bill		$1.29		Eliminated
Service Availability Charge:				
Single Family Per ERU		$7.76		$8.75
Manufactured Home @ 0.85 Per ERU		$6.60		$7.44
Multi-Family @ 0.85 Per ERU		$6.60		$7.44
Commercial Per ERU		$7.76		$8.75
Volume Charges per 1,000 Gallons:				
Block 1 Per Month Per ERU	0 - 3,000	$2.20	0 - 5,000	$2.20
Block 2 Per Month Per ERU	3,001 - 7,000	$2.42	5,001 - 10,000	$2.97
Block 3 Per Month Per ERU	7,001 - 13,000	$3.85	above 10,000	$7.04
Block 4 Per Month Per ERU	above 13,000	$7.70	N/A	
Wastewater				
Billing Charge Per Bill		$1.29		Eliminated
Service Availability Charge:				
Single Family Per ERU		$14.58		$15.60
Manufactured Home @ 0.85 Per ERU		$12.39		$13.26
Multi-Family @ 0.85 Per ERU		$12.39		$13.26
Commercial Per ERU		$14.58		$15.60
Volume Charges per 1,000 Gallons:				
Individually Metered Residential [1]	cap 12,000	$2.86	cap 12,000	$2.86
Multi-Family & Commercial:				
Block 1 Per Month Per ERU	0-13,000	$2.86	0-12,000	$2.86
Block 2 Per Month Per ERU	above 13,000	$4.29	above 12,000	$4.29
I&I Surcharge [2]				100.00%
Bulk Sewer [3]				
Billing Charge Per Bill		$0.00		$0.00
Service Availability Charge Per Month Per ERU		$13.41		$13.41
Volume Charges Per 1,000 Gallons – Water Reading		$2.63		$2.63
Volume Charges Per 1,000 Gallons – Sewer Reading		$2.98		$2.98
Fire *Protection*				
Per Account		$14.17		$15.16
Reclaimed Water				
Disposal Rate Per 1,000 Gallons		$0.67		$0.21
Sludge, Grease & Septage				
Rate Per Wet Ton		$15.00		$15.00

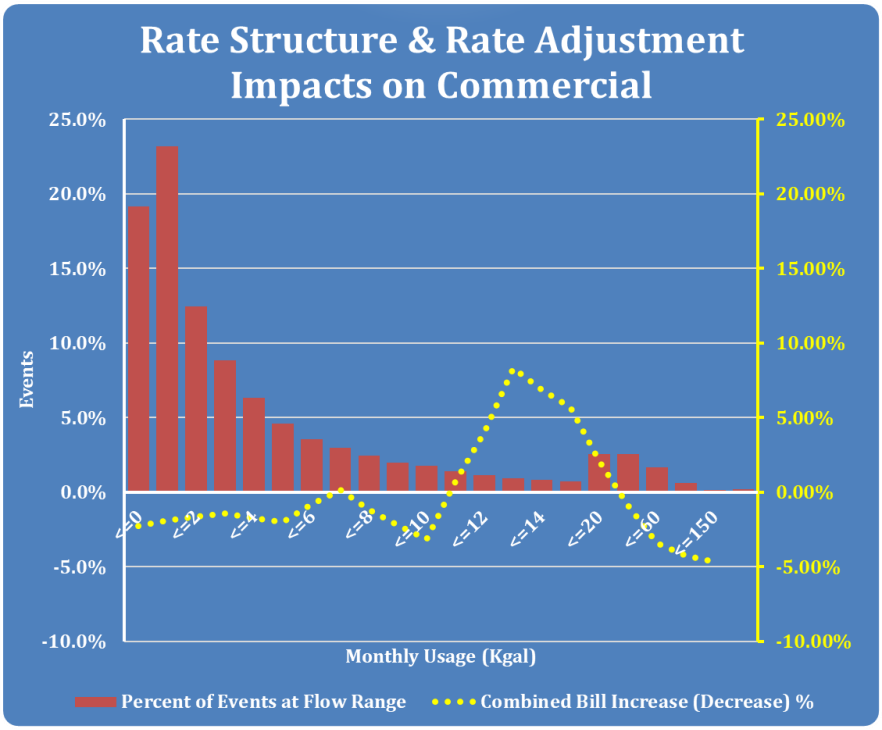
1. Single Family, Multi-Family and Manufactured Homes individually and master metered customers.
2. Applicable to Blocks 1 and 2 wastewater volume rates on the difference between the measured wastewater flow and metered water flow.
3. Currently, the City of Fellsmere is the County's only bulk sewer customer.

The results of these rate structure modifications and rate adjustments for Single Family and Commercial customer classifications, are illustrated on **Graphs 3A and 3B**, indicating no material impact on most customers. It should be noted that other customer classifications will experience results similar to those shown for Single Family and Commercial.

Graph 3A – Rate Change Impact on Single Family Connections



Graph 3B – Rate Change Impact on Commercial Connections



The result of these changes on total revenue generated from water inclining volume block modifications and rate adjustments are approximately revenue neutral, as shown below in **Table 11**.

Table 11 – Revenue Difference Post Proposed Adjustments

Rate Structure	2018/19	2019/20	2020/21	2021/22	2022/23
Existing Blocks	$8,731,700	$8,902,300	$9,076,100	$9,252,900	$9,433,600
Proposed Blocks	8,719,600	8,890,000	9,063,500	9,240,800	9,421,200
Difference	$12,100	$12,300	$12,600	$12,100	$12,400

RECLAIMED WATER, SEPTAGE AND SLUDGE RATE ADJUSTMENTS

Reclaimed Water Rate

The current reclaimed water facilities are designed and operated toward disposal of the processed wastewater effluent rather than as a retail commodity service as a substitute for potable water. Therefore, costs for processing the wastewater effluent into reclaimed water are appropriately recovered through wastewater rates as part of the services provided to wastewater customers. Current and possibly future users of the reclaimed water are properties with large irrigation requirements, such as golf courses and groves, which due to large irrigation requirements can accept large quantities of reclaimed water to assist with wastewater disposal. It is common with Florida utilities to consider properties, such as golf course and groves, alternative disposal opportunities and pricing the reclaimed water for recovery of minimal cost of this disposal activity.

Reclaimed water is currently provided through agreements to a limited number of large users as an alternative method of wastewater effluent disposal and not as a guaranteed commodity for non-potable irrigation or other usage. The approach to adjusting the existing reclaimed water rates is based on developing a single rate per thousand gallons of non-pressured[4] reclaimed water that can be interrupted at any time for any reason. The criteria for such cost recovery is limited to expenses, exclusive of capital, associated with moving the reclaimed water to the customer's point of connection. Power and chemical expenses of $383,700 are projected for activities associated with a forecasted combined wastewater effluent flow of 5.142 million gallons per day (MGD) or total of 1,876,830 thousand of gallons for fiscal year 2018/19. These projected expenses and flows result in an Interruptible Disposable Reclaimed Water Rate of $0.21 per thousand gallons. Availability of this Interruptible Disposable Reclaimed Water Rate is only for connections that can qualify as a Reclaimed Water Large User by the Director of Utilities and enter into an agreement specifying terms of usage and rate. It should be noted that the above expense and flow are for the sole purpose of developing a disposal rate. It is not anticipated that these disposal expenses will be recovered from existing reclaimed connections and therefore as part of the cost of wastewater services will be recovered through the wastewater rates.

[4] Pressure limited to delivery of reclaimed water to the point of connection for only storage and/or repumping. The Interruptible Disposable Reclaimed Water Rate does not provide for the use of IRCDUS reclaimed water pressure to facilitate connection's on-site usage and therefore should be prohibited.

Septage and Sludge Rate

The IRCDUS accepts septage and sludge deliveries from various sources for treatment. Septage and sludge are highly concentrated forms of wastewater increasing the biological and solid solutions within the normal domestic sewage to be treated by the wastewater treatment facilities. Costs for the Septage and Sludge Rate are based on the Sludge Operating budget plus allowances for labor, debt service and R&R associated with processing sludge of the total wastewater system including amounts provided by outside haulers. The approach to identifying/adjusting the Septage and Sludge Rate is to apportion the projected fiscal year 2018/19 expenses and costs pursuant to the historic two-year average wet ton recorded by the IRCDUS. Fiscal year 2018/19 Sludge Operation costs with allowances is projected to be approximately $1,327,500 and the historic two -year average wet tonnage as recorded by the IRCDUS is 87,813, which equates to a Septage and Sludge rate materially near to the existing rate of $15.00.

BUDGETED R&R, OPERATING CAPITAL OUTLAY AND CAPITAL IMPROVEMENTS

IRCDUS staff has clearly expressed the need for ongoing improvements at or above levels currently in the fiscal year 2017/18 budget. The rate making challenge is to identify a reasonable balance for funding the improvements especially those associated with R&R and Operating Capital Outlays (OCO is further described in the Fiscal Requirements section on Page 22), which for the most part should be funded from annual user rate revenue; whereas, improvements within the ongoing five-year capital improvement program (CIP) can utilize various funding mechanisms including but not limited to unrestricted reserves, impact fees, grants and long-term debt, in addition to special assessment programs and other non-utility funding sources.

R&R requirements are based on a proposed policy of 18.5 and 14.0 percent for water and wastewater respectively and OCO expenditures are based on a historic five-year average, currently proposed at almost $34.3 million for fiscal years 2018/19 through 2022/23, as shown in **Table 12.**

Table 12 – R&R and Operating Capital Outlays

	Total	2018/19	2019/20	2020/21	2021/22	2022/23
Water R&R	$15,421,100	$2,983,800	$3,029,000	$3,081,200	$3,135,200	$3,191,900
Wastewater R&R	10,977,900	2,031,400	2,157,800	2,209,100	2,262,000	2,317,600
Subtotal	$26,399,000	$5,015,200	$5,186,800	$5,290,300	$5,397,200	$5,509,500
Water OCO	$3,361,000	$639,000	$655,200	$671,800	$688,800	$706,200
Wastewater OCO	3,684,700	$700,700	718,400	736,500	755,000	774,100
Subtotal	$7,045,700	$1,339,700	$1,373,600	$1,408,300	$1,443,800	$1,480,300
Total	$33,444,700	$6,354,900	$6,560,400	$6,698,600	$6,841,000	$6,989,800

Although sufficient to fund operating expenses and debt service, the forecasted revenues, shown in Table 9 on Page 24 and illustrated in Graph 2 on Page 25, are not totally sufficient to fund the forecasted levels of R&R and OCO. However, using reasonable amounts of unrestricted reserve funds, it is possible to fully fund amounts that are the shown in Table 12 without rate adjustments to increase revenues. Changes to financial/budget policies concerning the accumulation and use for both restricted and unrestricted reserve funds should be considered to address both R&R and OCO requirements. These requirements are addressed primarily through the balance of Operating

Revenues after payment of O&M expenses and debt service; however, expenditure of budgeted R&R and OCO requirements are not consistent year to year, which results in some years with surpluses and some with deficits. Therefore, to address rate stabilization, funding requirements for R&R and OCO should consider:

1. A budget policy where:
    a. The annual R&R transfer amount from operating rate revenue is based on a percentage of prior year gross revenues; and
    b. The annual OCO amounts are based on the last five-year averages with allowances for inflation.
2. Funding additional R&R and OCO from available unrestricted reserves as needed; and
3. When financially prudent, using Impact Fee Reserve funds to pay for the expansion related portions of annual debt service; thereby, providing additional unrestricted funds for additional R&R and OCO requirements.

These proposed R&R and OCO budget policies for the five fiscal years ending 2022/23 are illustrated on **Graph 4** and tabulated on **Table 3**.

Graph 4 –R&R and OCO Funding Sources and Expenditures

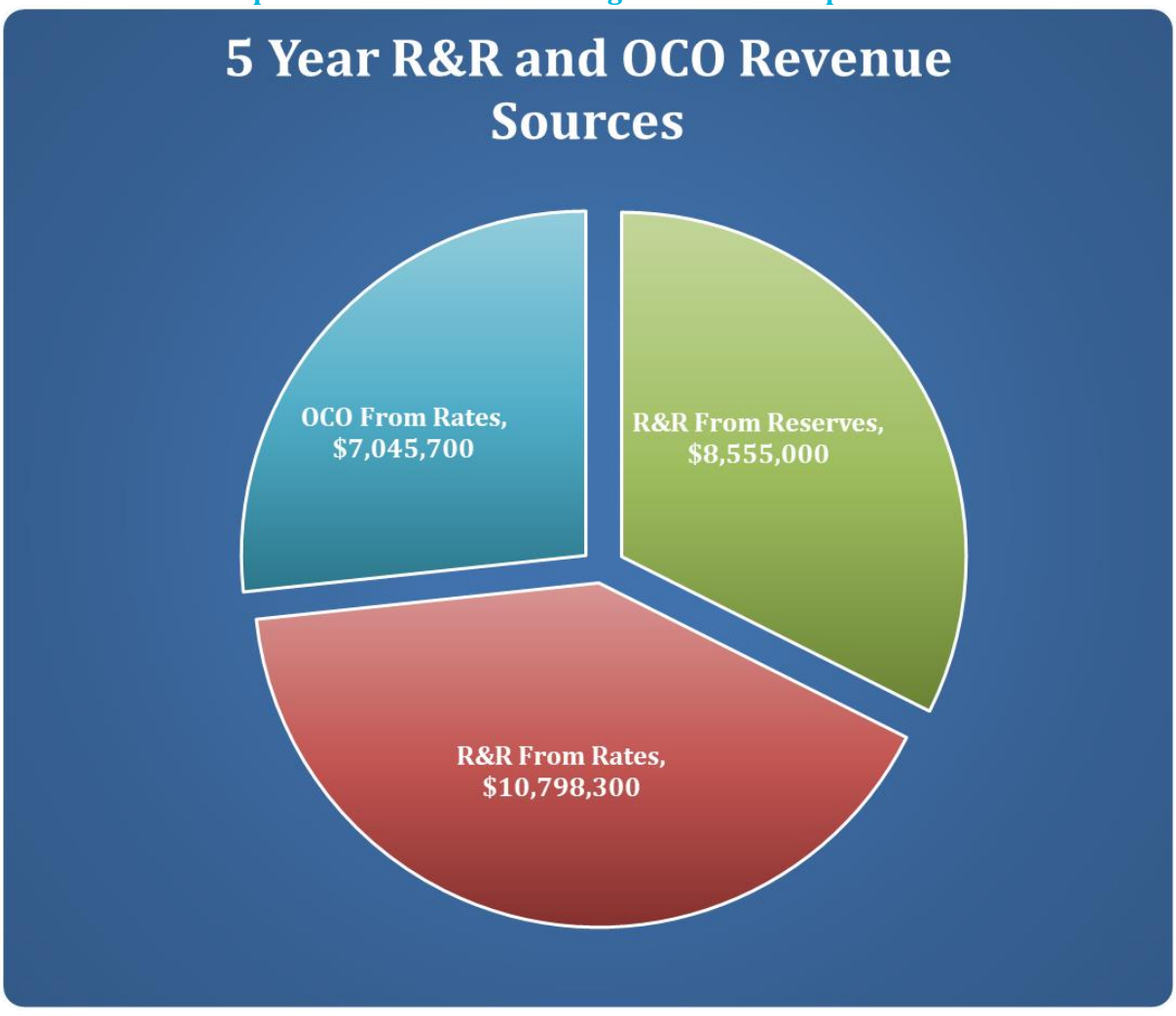


Table 3 –R&R and OCO Funding Sources and Expenditures

	2018/19	2019/20	2020/21	2021/22	2022/23
Sources					
Annual Rate R&R Transfers	$3,386,400	$3,506,000	$3,576,500	$3,649,300	$3,725,800
Reserve Fund R&R Transfers	1,628,800	1,680,800	1,713,800	1,747,900	1,783,700
Annual Rate OCO	1,339,700	1,373,600	1,408,300	1,443,800	1,480,300
Reserve Fund OCO Transfers	0	0	0	0	0
Total Sources	$6,354,900	$6,560,400	$6,698,600	$6,841,000	$6,989,800
Uses					
R&R Expenditures	$5,015,200	$5,186,800	$5,290,300	$5,397,200	$5,509,500
OCO Expenditures	1,339,700	1,373,600	1,408,300	1,443,800	1,480,300
Total Uses	$6,354,900	$6,560,400	$6,698,600	$6,841,000	$6,989,800

In addition to R&R and OCO, the IRCDUS' Five-Year CIP, exceeding $46.8 million, appears to be adequately funded through fiscal year 2021/22 with approximately $29.8 million from Utility sources and approximately $17.1 million from other than Utility sources, as shown on **Table 13.**

Table 13 – Five-Year Capital Improvement Program Sources and Uses

Sources:	**Total**	**2017/18**	**2018/19**	**2019/20**	**2020/21**	**2021/22**
Utility Sources:						
Beginning Balance		$0	$0	$0	$0	$0
a. Operating Reserves	$18,446,000	4,036,000	9,210,000	5,200,000	0	0
b. Water Impact Fees	6,565,000	1,000,000	1,000,000	1,065,000	1,000,000	2,500,000
c. Wastewater Impact Fees	4,750,000	750,000	1,000,000	1,000,000	1,000,000	1,000,000
Subtotal	$29,761,000	$5,786,000	$11,210,000	$7,265,000	$2,000,000	$3,500,000
Other Than Utility Sources:						
Optional Sales Tax	*$595,586*	*$595,586*	*$0*	*$0*	*$0*	*$0*
Assessments	*8,245,105*	*3,718,105*	*0*	*2,377,000*	*1,075,000*	*1,075,000*
Grants	*8,226,240*	*649,240*	*0*	*2,377,000*	*4,125,000*	*1,075,000*
Subtotal	*$17,066,931*	*$4,962,931*	*$0*	*$4,754,000*	*$5,200,000*	*$2,150,000*
Total Sources	$46,827,931	$10,748,931	$11,210,000	$12,019,000	$7,200,000	$5,650,000
Uses:						
Water CIP	$29,741,000	$6,796,000	$10,210,000	$8,185,000	$2,050,000	$2,500,000
Wastewater CIP	17,086,931	3,952,931	1,000,000	3,834,000	5,150,000	3,150,000
Total Uses	$46,827,931	$10,748,931	$11,210,000	$12,019,000	$7,200,000	$5,650,000

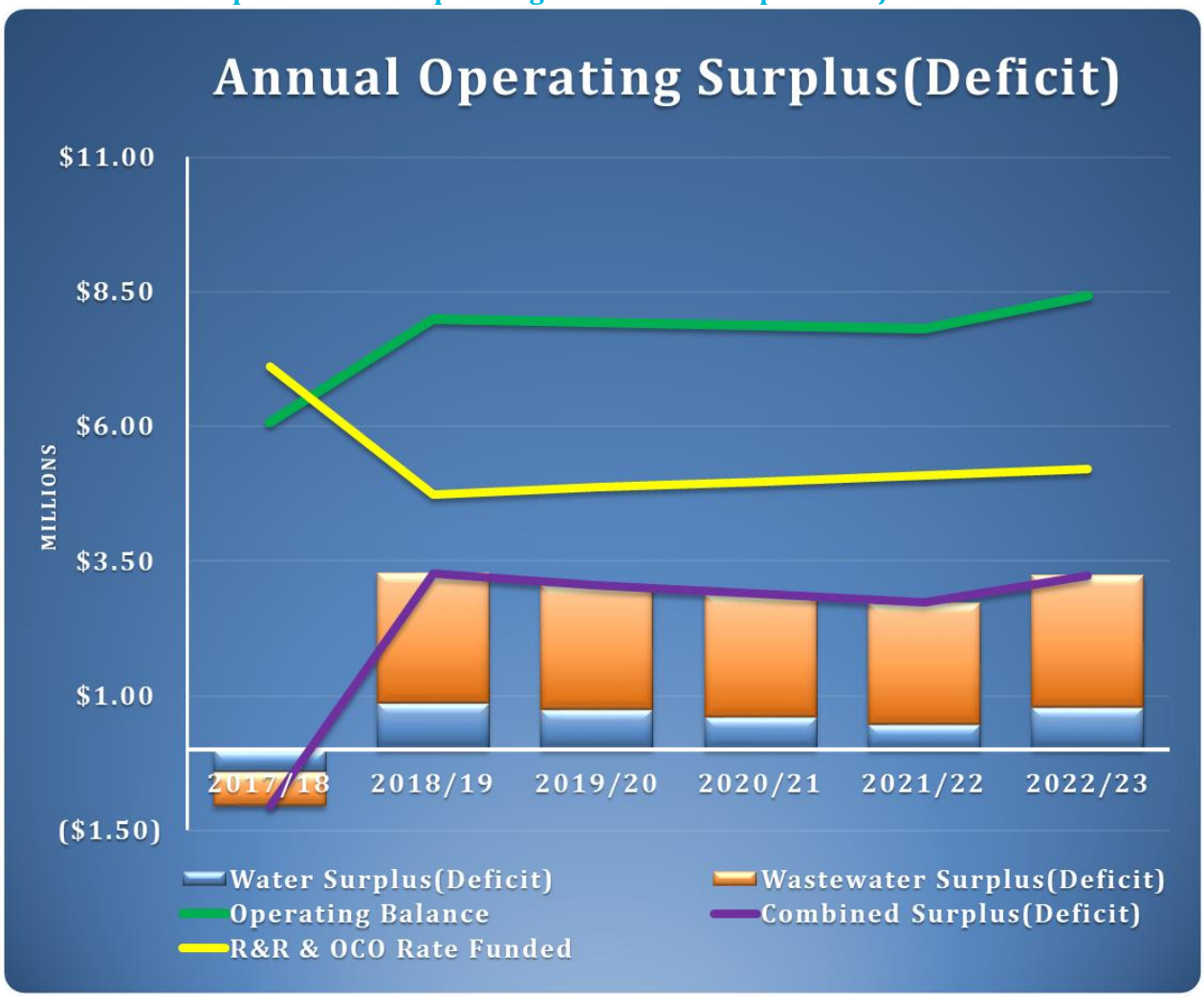
PROFORMA RESULTS POST RATE STRUCTURE MODIFICATIONS, RATE ADJUSTMENTS AND BUDGET POLICY CONSIDERATIONS

As previously mentioned the revenue neutral rate structure modifications and rate adjustments does not materially change the Operating Balances after debt service; however, utilizing reserve funds to reduce R&R transfers does materially impact Operating Surpluses. Provided in **Table 4,** as summarized from detailed projections provided in **Schedules 6 and 7** and illustrated in **Graph 5,** are proforma results based on the rate structure modifications, rate adjustments and budget policy changes.

Table 4 – Proforma Operating Results Post Proposed Adjustments

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
User Rate Revenue	$28,393,500	$29,214,900	$29,849,400	$30,487,400	$31,137,100	$31,806,800
Other Revenues	2,245,100	2,569,900	2,584,400	2,616,100	2,669,900	2,724,500
Gross Revenues	$30,638,600	$31,784,800	$32,433,800	$33,103,500	$33,807,000	$34,531,300
O&M Expenses	20,576,200	21,260,100	21,968,700	22,702,300	23,461,800	24,249,500
Net Revenue	$10,062,400	$10,524,700	$10,465,100	$10,401,200	$10,345,200	$10,281,800
Impact Fees	0	1,484,300	1,484,300	1,483,500	1,482,500	1,075,700
Net Rev & Impact Fees	$10,062,400	$12,009,000	$11,949,400	$11,884,700	$11,827,700	$11,357,500
Debt Service	3,983,800	3,985,400	3,985,200	3,983,200	3,980,400	2,891,000
Operating Balance	$6,078,600	$8,023,600	$7,964,200	$7,901,500	$7,847,300	$8,466,500
R&R Transfers	5,017,400	3,386,400	3,506,000	3,576,500	3,649,300	3,725,800
Operating Capital Outlay	2,101,300	1,339,700	1,373,600	1,408,300	1,443,800	1,480,300
Net Surplus (Deficit)	($1,040,100)	$3,297,500	$3,084,600	$2,916,700	$2,754,200	$3,260,400
Debt Service Coverage (Net Revenue):						
Required	1.20	1.20	1.20	1.20	1.20	1.20
Projected	2.53	2.64	2.63	2.61	2.60	3.56

Graph 5 – Annual Operating Results Post Proposed Adjustments



Rate Structure Modifications, Rate Adjustments and Budget Policy Considerations

The primary differences resulting from the proposed rate structure modifications, rate adjustments and budget policy considerations are: 1) R&R transfers and OCO are now adequately addressed from Operating Balances; and 2) Both water and wastewater have Operating Surpluses (as clearly illustrated when comparing Graph 5 to Graph 2 on Page 25. These changes are the result of:

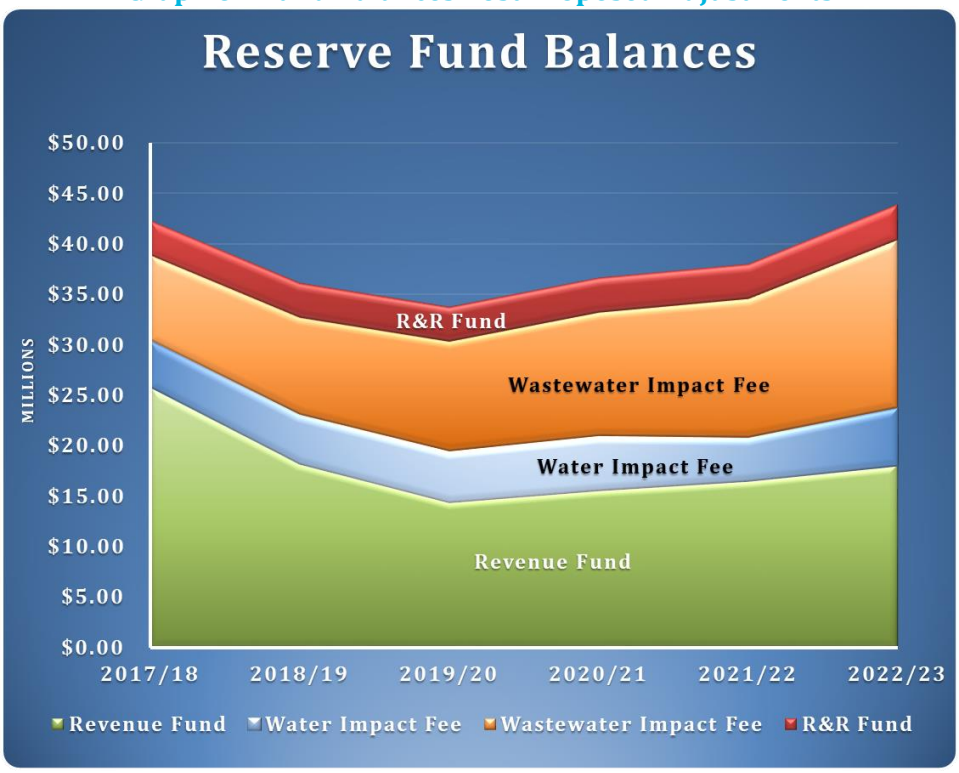
1. Limiting annual R&R transfers to 12 percent for water and 10 percent for wastewater of prior year's gross revenues;
2. Transferring the balance of the R&R requirement from the unrestricted Operating Reserve Fund; and
3. Utilizing water and wastewater impact fees to pay a portion of the expansion related debt service.

In addition to debt service coverage requirements it is important that the Utility enterprise maintain prudent levels of unrestricted reserve funds to provide rate stability, address emergencies, manage existing and future CIPs and enhance creditworthiness. Existing unencumbered balances in the four primary reserve funds, Operating, R&R, Water Impact Fee and Wastewater Impact Fee, were at adequate levels as of October 1, 2017, based on data/amounts provide by IRCDUS staff. Projections of unencumbered balances from fiscal years 2017/18 through FY 2022/23 are provided in **Table 5** and illustrated in **Graph 6**.

Table 5 – Fund Balances Post Proposed Adjustments

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Revenue Fund						
Beginning Balance	$30,903,100	$25,827,000	$18,285,700	$14,489,500	$15,692,400	$16,698,700
Cash Inflows	(1,040,100)	3,297,500	3,084,600	2,916,700	2,754,200	3,260,400
Cash Outflows	(4,036,000)	(10,838,800)	(6,880,800)	(1,713,800)	(1,747,900)	(1,783,700)
Ending Balance	$25,827,000	$18,285,700	$14,489,500	$15,692,400	$16,698,700	$18,175,400
Suggested Min Bal	*$7,919,700*	*$7,900,100*	*$8,128,600*	*$8,346,000*	*$8,570,800*	*$8,532,600*
R&R Fund						
Beginning Balance	$3,485,900	$3,485,900	$3,485,900	$3,485,900	$3,485,900	$3,485,900
Cash Inflows	5,017,400	5,015,200	5,186,800	5,290,300	5,397,200	5,509,500
Cash Outflows	(5,017,400)	(5,015,200)	(5,186,800)	(5,290,300)	(5,397,200)	(5,509,500)
Ending Balance	$3,485,900	$3,485,900	$3,485,900	$3,485,900	$3,485,900	$3,485,900
Suggested Min Bal	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*
Water Impact Fee Fund						
Beginning Balance	$3,998,000	$4,526,500	$4,783,200	$5,007,100	$5,327,400	$4,175,600
Cash Inflows	1,528,500	1,560,700	1,592,900	1,624,100	1,651,800	1,689,200
Cash Outflows	(1,000,000)	(1,304,000)	(1,369,000)	(1,303,800)	(2,803,600)	(220,300)
Ending Balance	$4,526,500	$4,783,200	$5,007,100	$5,327,400	$4,175,600	$5,644,500
Suggested Min Bal	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*
Wastewater Impact Fee Fund						
Beginning Balance	$5,997,000	$8,489,900	$9,655,400	$10,924,000	$12,299,800	$13,788,900
Cash Inflows	3,242,900	3,345,800	3,448,900	3,555,500	3,668,000	3,789,500
Cash Outflows	(750,000)	(2,180,300)	(2,180,300)	(2,179,700)	(2,178,900)	(855,400)
Ending Balance	$8,489,900	$9,655,400	$10,924,000	$12,299,800	$13,788,900	$16,723,000
Suggested Min Bal	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*	*$2,500,000*

Graph 6 – Fund Balances Post Proposed Adjustments



As can be observed in **Table 14**, the changes in each of the funds for the projection period can be considered of benefit to the Utility and customers. The Revenue Reserve Fund increased by approximately $8.4 million; the R&R Fund remained unchanged and both Impact Fee Funds were appropriately reduced to address expansion related costs including expansion related debt service.

Table 14 – Fund Balance Differences Post Proposed Adjustments

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Revenue Fund						
After	$25,827,000	$18,285,700	$14,489,500	$15,692,400	$16,698,700	$18,175,400
Before	25,827,000	16,500,100	10,943,800	10,373,500	9,592,700	9,674,700
Difference	$0	$1,785,600	$3,545,700	$5,318,900	$7,106,000	$8,500,700
R&R Fund						
After	$3,485,900	$3,485,900	$3,485,900	$3,485,900	$3,485,900	$3,485,900
Before	3,485,900	3,485,900	3,485,900	3,485,900	3,485,900	3,485,900
Difference	$0	$0	$0	$0	$0	$0
Water Impact Fee Fund						
After	$4,526,500	$4,783,200	$5,007,100	$5,327,400	$4,175,600	$5,644,500
Before	4,526,500	5,088,500	5,619,000	6,247,000	5,404,000	7,099,300
Difference	$0	($305,300)	($611,900)	($919,600)	($1,228,400)	($1,454,800)
Wastewater Impact Fee Fund						
After	$8,489,900	$9,655,400	$10,924,000	$12,299,800	$13,788,900	$16,723,000
Before	8,489,900	10,840,700	13,299,700	15,870,300	18,558,400	22,371,800
Difference	$0	($1,185,300)	($2,375,700)	($3,570,500)	($4,769,500)	($5,648,800)

CAPITAL IMPROVEMENT PROGRAM

Information provided by and discussion with IRCDUS staff identified approximately $46.8 million in capital improvement projects through FY 2021/22. This total of capital improvements includes approximately $17.0 million in funding provide by assessments, optional sales tax and grants, all non-utility sources. Although other needs or opportunities may materialize during the analysis period, no further consideration of CIP additions or reductions are considered for this study. The projected distribution of the sources and uses of funds to address the $46.8 million in capital improvements through FY 2021/22 are unchanged post the rate structure modifications and rate adjustments and remain as shown on the previous Table 13 on Page 34.

TYPICAL BILL COMPARISON TO OTHER UTILITIES

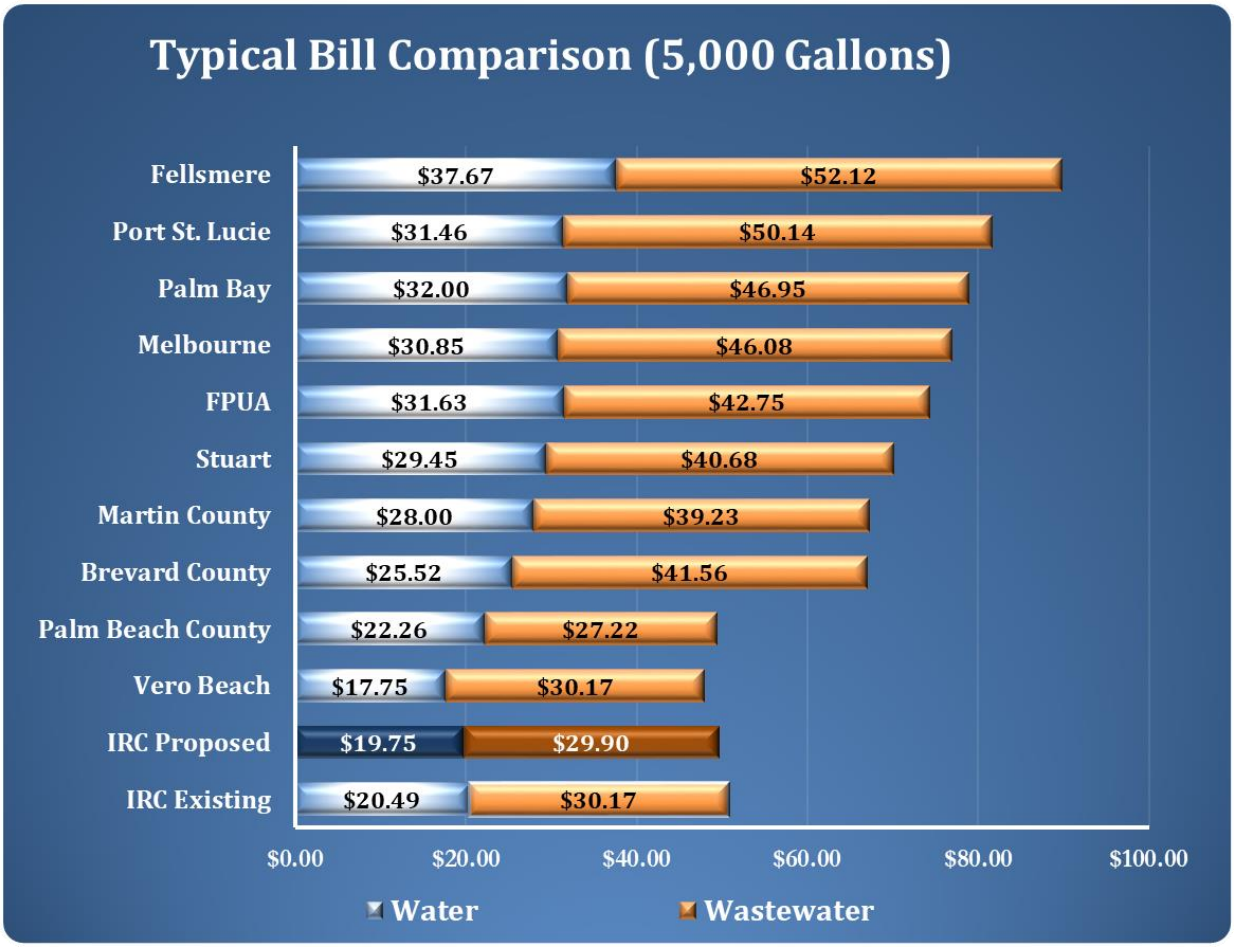
A common activity used by administrators, management, customers and media during a utility rate setting process is comparisons of the existing and proposed rates to those of other nearby communities/utilities. Although this activity provides a comparison, it is at times, misinterpreted and utilized incorrectly. Cost recovery through User Rates, Fees and Charges is a multifunctional activity of utility enterprises, which for the most part, use common or similar names for the rate, charge and fee components; however, in many instances the charges are formulated using different methodologies, costs and policies. The cost allocations and formulation of determinants for each rate, charge or fee generally varies significantly. Therefore, comparisons of other communities should be considered as illustrations of the amount paid by the customers and not functional cost of service.

When comparing rates between utilities, several factors that influence the rate levels being charged should be considered and include but are not limited to:

1. Size of customer base or overall economies of scale with other utility services;
2. Level of treatment and effluent disposal methods;
3. Plant age, capacity utilization, grant and other outside funding;
4. General fund and administrative fee transfers to municipal or County governments;
5. Bond covenants and funding requirements of the rates; and
6. Specific rate structure attributes for each customer class and usage level.

Nearby Florida communities were used for the comparison of water and wastewater rates. The results for a typical 5,000 gallons per month single family water and wastewater customer are shown in **Graph 7**. Rates used for neighboring communities were current as of November 2017. It should be noted that most communities have provisions to adjusted rates each October 1st. Therefore, it is expected that some of the other utilities listed below will be increasing rates for FY 2018/19. The monthly charges represent the billing amounts before any franchise, service or surcharges.

Graph 7 – Typical Bill Comparison to Other Utilities



MISCELLANEOUS SERVICE CHARGE UPDATE

GENERAL

The IRCDUS has a schedule of Miscellaneous Service Charges for certain individual customer and/or event-based services. These charges are designed to recover representative cost of service from customers who require, cause or benefit from each specific service. Miscellaneous Service Charge revenue is included along with revenue from User Rates, Fees and Charges providing for gross revenue of the Utility.

A" bottom-up" or "activity-based costing" methodology is used to determine appropriate cost recovery amounts for each of the Miscellaneous Service Charges. The approach consists of working with IRCDUS staff to identify obsolete/unneeded categories of charges together with obtaining reasonable and sometimes average labor, material and equipment (representative) data for each service. Labor costs were tied to personnel classification and the average time required for each service. The average hourly rates for each personnel classification provided by IRCDUS staff included associated benefits of FICA tax, worker's compensation, retirement costs, health and pension costs. Material cost are specific to each activity and may include piping, water meter, tapping saddles, and various other appurtenances. Equipment can include vehicles, excavation equipment to facilitate open cut, directional drilling and/or jack and bore. Costs were determined based on the hourly rate for a service truck along with the average time personnel utilize the vehicle for each service and required materials as applicable for each miscellaneous service. In addition, allowances are provided for both administrative services and overhead. Administrative services address management and clerical time associated with managing and recording the activity included as a flat amount per miscellaneous service; whereas, overhead addresses costs associated with most General and Engineering budget items and is included pursuant to an allowance of 14.0% for each miscellaneous service. It should be noted that the costs and time used to determine these miscellaneous services are representative estimates at times rounded and derived from discussions with IRCDUS staff and experience with similar utilities.

The following subsections provide brief descriptions along with relevant data used to update each miscellaneous service charge. The meter replacement and water service reconnection fees are proposed to be eliminated in this study for various reasons including the infrequent occurrence of these services. Although mentioned in the discussion of several of the Miscellaneous Service Charges, circumstances can materially differ from those used to determine the Miscellaneous Service Charges and fees herein. In such circumstances the Ordinance providing for such Miscellaneous Service Charges and fees should provide for the Director of Utilities to identify such exception and direct that services be priced to recover actual cost plus overhead and administration charges. Actual cost is defined as the estimates by qualified personnel that are representative of the labor, material and equipment required for the service.

New or Revised Account Fee

The New or Revised Account Fee (Application Fee) is associated with a customer requesting to open a new water or sewer account or transferring an account to another name. This new miscellaneous fee is $31.00 and recovers the appropriate costs of labor and equipment, as well as includes an allowance for overhead, as detailed in **Schedule 8 (A)**.

Water Service Connection Charge

The Water Service Connection Charge is associated with the tap and installation of a water service line from an existing subdivision water line to a property's point of connection. The materials and labor are similar for the installation of a water service line for water meter sizes 5/8-inch to 1.5-inches; therefore, one charge will be developed for these connections, which will be based on average installation criteria and costs associated with location, distance, soil, roadway and other conditions affecting the water service line installation. The updated Water Service Connection Charge for meter sizes 5/8-inch to 1.5-inches is $2,785.00, including allowances for overhead and a charge for administration as detailed in **Schedule 8 (B)**. Charges for water service line extension for meter sizes 2.0-inches and greater and those that are more involved than a standard installation as determined by the Director of Utilities, should be determined based on actual costs plus overhead and a charge for administration.

Sewer Service Connection Charge

The Sewer Service Connection Charge is associated with the tap and installation of a sewer lateral from an existing subdivision sewer line facility to a property's point of connection. Material and labor for sewer service lateral installations can vary depending upon type of collection facilities in the service area. The Sewer Service Connection Charge for certain connections that due to depth, materials and/or service conditions are considered more involved by the Director of Utilities and should therefore be charged based on actual cost plus overhead. The updated Sewer Service Connection Charge for connection to low-pressure collection facilities is $2,895.00, including allowances for overhead and a charge for administration, as detailed in **Schedule 8 (C)**.

Meter Installation Charges

The Meter Installation Charges recover representative costs of installing a water meter and appurtenances at a property's point of connection. The average installation costs for 5/8-inch, 1.0-inch and 1.5-inch installations are readily identifiable and equitably recovered; whereas, installation activities for services 2.0 inches and greater can vary materially and are best recovered based on actual cost plus overhead. The updated Meter Installation Charges to recover appropriate costs of labor, equipment, AMR meter and appurtenances involving a 5/8-inch, 1.0-inch or 1.5-inch services are $345.00, $444.00, and $649.00, respectively, including allowances for overhead and a charge for administration, as detailed in **Schedule 8 (D)**.

Meter Test Fee

At the customer's request, the IRCDUS will test a water meter to determine if the meter is operating within established standards. The Meter Test Fee recovers the associated labor, equipment and overhead involved with providing this service. The updated fee for all meter sizes tested at the customer's property is $117.00, including a charge for administration, as detailed in **Schedule 8 (E)**. The fee for meters required to be removed from the property in order to be tested should be determined based on actual costs plus overhead and a charge for administration.

Meter Removal Charges

The Meter Removal Charges recover representative costs of removing a water meter and its appurtenances from the customer's property. The average removal costs for all meter sizes are readily identifiable and equitably recovered. The updated Meter Removal Charges to recover

appropriate costs of labor and equipment involving a 5/8-inch, 1.0-inch or 1.5-inch or larger are $104.00, $104.00, and $118.00, respectively, including allowances for overhead and a charge for administration, as detailed in **Schedule 8 (F)**.

Engineering Service Fee

Engineering Services Fees recover the labor and overhead associated with the IRCDUS' Engineering Department reviewing the plans and specifications associated with construction of water and/or wastewater facilities by an entity other than the County. The existing fee is based on the number of dwelling units associated with the plans provided for review services. Discussion with IRCDUS Engineering staff and experience with other similar plan review services activities suggests that the Engineering Services Fee should be based on a cost per plan page submitted and or required for review. This fee is determined pursuant to average amount of time required for an IRCDUS Engineering staff member to review, request additional information and formulate a conclusion regarding the plans and specifications plus an allowance for overhead and administrative fee. The updated Engineering Service Fee is $62.00 per plan page, including an allowance for overhead and charge for administration, as detailed in **Schedule 8 (G)**.

Inspection Fee

The Inspection Fee recovers costs associated with a qualified IRCDUS staff member visiting a site where a physical connection occurs to the water, wastewater and/or reclaimed water facilities to ensure the interconnection complies with Utility's standards/requirements. This fee is determined pursuant to average amount of time for labor and vehicle required for the IRCDUS Engineering staff to travel to the location and inspect the connection. The Inspection Fee for each event is $128.00 for each inspection event, including an allowance for overhead and charge for administration, as detailed in **Schedule 8 (H)**.

Turn Off/Turn-On Charges

Turn-Off and Turn-On of water service can be either voluntary/requested by the customer or involuntary for failure to pay or other prohibited activity. The primary difference is when payment for the service is received by the IRCDUS. On a voluntary/requested basis the charge is due in advance and covers both turning off and turning on water service. Whereas, for involuntary turn-offs payment is added to any delinquent charges, which are required to be paid in full prior to having water service turned on. For instances where only a single event takes place such as just a reconnect or disconnect only, the criteria above will apply with the exception that the customer will pay for just the single activity. This miscellaneous charge replaces the single event existing Water Service Reconnection charge that addresses only the reconnection activity even though the service may require both a turn-off and turn-on.

The proposed charge for combined Turn-Off and Turn-On services includes the cost of personnel and equipment that is necessary to both turn off service from the meter and turn meter service on at a later date. The combined Turn-Off and Turn-On Charge during normal business hours is $182.00, including an allowance for overhead and charge for administration, as detailed in **Schedule 8 (I)**. The proposed charge for an individual Turn-On or Turn-Off event is $103.00 during normal business hours, including an allowance for overhead and charge for administration, also as detailed in

Schedule 8 (I). A surcharge of 25 percent should be applied to the charges for requests after normal business hours.

General Service Call Fee

The General Service Call Fee recovers the average labor, equipment and overhead costs associated with responding to a request by the customer to correct an issue that was not caused by IRCDUS. Examples may include investigation of low pressure or a leak that is in the customer's line from the meter to the house. The updated General Service Call Fee to recover the appropriate costs mentioned above is $122.00, which includes a charge for administration, as detailed in **Schedule 8 (J)**. A surcharge of 25 percent should be applied to this fee for requests after normal business hours.

Meter Rereads and Leaks Inspection Fee

The Meter Rereads and Leaks Inspection Fee is charged for either special inspection of leaks or meters that are re-read at the customer's request. If the re-read is a result of an error of the initial meter reading, the charge will not be assessed to the customer. The updated fee is $122.00 and recovers the appropriate costs of labor and equipment, as well as includes an allowance for overhead and a charge for administration, as detailed in **Schedule 8 (K)**.

Line Extension Charges

Currently both water and wastewater line extension charges are based on fixed amounts per linear foot measured in front of the property served. Discussion with IRCDUS staff confirmed that extending water and wastewater lines, are as a rule not similar amounts for types of labor, material and equipment. Addressing these services on an equitable basis requires that the existing linear foot fixed amounts be eliminated and replaced with a provision requiring charges based on actual cost plus overhead at 14.0% percent and an administrative fee at $25.00 per event.

Eliminated Miscellaneous Service Charges

Conversations with IRCDUS staff indicated that certain established Miscellaneous Service Charges are not applicable, have not been applied and therefore should be eliminated. These Miscellaneous Service Charges consist of:

1. Meter Replacement
2. Water Service Reconnection

SUMMARY OF MISCELLANEOUS SERVICE CHARGES

A comparison of existing and proposed Miscellaneous Service Charges are provided in **Table 15**.

Miscellaneous Service Charges

Table 15 – Existing and Proposed Miscellaneous Service Charges

	Existing	Proposed
New or Revised Account Fee		
During Working Hours	N/A	$31.00
Water Service Connection		
5/8" Meter	$400.00	$2,785.00
1.0" Meter	$460.00	$2,785.00
1.5" Meter	$810.00	$2,785.00
2.0" Meter or Larger	Cost Plus Overhead	Cost Plus Overhead[1]
Sewer Service Connection		
Single Family[4]	$500.00	$2,895.00
Other Than Single Family	Cost Plus Overhead	Cost Plus Overhead[1]
Meter Installation		
5/8" Meter	$130.00	$329.00
1.0" Meter	$250.00	$426.00
1.5" Meter	$500.00	$644.00
2.0" and Greater Meter	Cost Plus Overhead	Cost Plus Overhead[1]
Fire Hydrant Meter	Cost Plus Overhead	Cost Plus Overhead[1]
Engineering Services		
Site Plan Review: Less than 40 Units	Cost Plus Overhead $50.00 min	$62.00 Per Plan Page
Site Plan Review: 40 and More Units	Cost Plus Overhead $150.00 min	$62.00 Per Plan Page
Inspection Fee per Connection		
Water During Working Hours	$25.00	$128.00
Water After Working Hours[2]	$50.00	$128.00 plus 25 %
Sewer During Working Hours	$25.00	$128.00
Sewer After Working Hours[2]	$50.00	$128.00 plus 25 %
Turn-Off/Turn-On[3]		
Turn-Off and Turn-On Combined	N/A	$182.00
Individual Turn-Off or Turn-On	N/A	$103.00
General Service Call		
During Working Hours	Cost Plus Overhead	$122.00
After Working Hours[2]	Cost Plus Overhead	$122.00 plus 25 %
Meter Rereads and Leaks Inspection		
During Working Hours	$20.00	$122.00
Line Extension Charges	Water: $11.20-Sewer: $15.77 per ft	Cost Plus Overhead[1]
Meter Replacement		
5/8" Meter	$100.00	Eliminated
1.0" Meter	$125.00	Eliminated
1.5" Meter	$300.00	Eliminated
2.0" Meter or Larger	Cost Plus Overhead	Eliminated
Meter Removal		
5/8" Meter	$30.00	$104.00
1.0" Meter	$30.00	$104.00
1.5" Meter or Larger	$40.00	$118.00
Water Service Reconnection		
During Working Hours	$25.00	Eliminated
After Working Hours	$35.00	Eliminated
Meter Test		
5/8" Meter	$25.00	$117.00
1.0" Meter	$25.00	$117.00
1.5" Meter or Larger	Cost Plus Overhead	$117.00

1. Includes an administrative charge of $25.00
2. As limited by County policy.
3. A surcharge of 25% will be applied to the charges for services provided after working hours.
4. Charge shown is for connection made to a low-pressure sewer system. Charges for connection to gravity sewer systems will be based on actual cost plus overhead and administrative charge.

RESERVE ACCOUNTS

GENERAL

The IRCDUS has a policy of allowing property owners to advance purchase water and wastewater capacity ERUs through the payment in full of the then current water and/or wastewater impact fee. This policy also requires monthly payments of the then current Service Availability Charge to cover O&M and other costs of maintaining the reserve capacity/facilities. Property owners voluntarily subscribe to advance capacity purchases to ensure that water and wastewater capacity will be available when development occurs at a future date.

Utilities as a rule generally expand and extend water and wastewater capacity facilities prior to growth being realized. Fiscal support for such capacity expansions is generally the obligation of the IRCDUS based on the feasibility that near-term growth is eminent, thereby, absorbing the expansion costs, and commitments from property owners through advance capacity purchases with reserve revenues. Although helpful, revenues generated from reserve payments cannot be fully considered when setting rates or determining the creditworthiness of the Utility. With this understanding, the purpose of discussions in this section are directed at resolving several of the more salient issues associated with these accounts provided that such resolutions: 1) do not adversely impact the IRCDUS financially; and/or 2) are legally permissible and not in conflict with any accountholder agreement.

EXISTING RESERVE ACCOUNTS

Discussions and information provided by IRCDUS staff, indicate that reserve capacity purchase accounts can be broadly classified as either current or delinquent. Current meaning that all required monthly service availability fees have been paid and delinquent meaning that such payments have not been fully made and are accruing penalties. As of June 30, 2018, there were approximately 8,147 current and delinquent combined water and wastewater reserve accounts. It should be noted that many variations of circumstances exist within each classification, such as accounts associated with properties that have changed owners with delinquencies attributable to a previous owner, accounts with stranded capacity due to the purchased capacity not being fully utilized and many other variations.

Current Accounts

The water and wastewater ERUs of current accounts along with the amount of impact fees paid and annual amount of reserve revenues are shown in **Table 16.** IRCDUS staff indicated that there may be current accounts that desire full reimbursement of the impact fees or reimbursement of portions of the impact fee representing stranded capacity that cannot be used on the account's property. Unless a provision exists in the advance capacity purchase agreement for reimbursement of all or a portion of the impact fees, the IRCDUS is currently limited to allowing such accounts to suspend reserve payment and forfeit all rights to the capacity.

Table 16 – Accounts with Current Reserve Payments

			Water	Wastewater	Total
ERUs			1,705	1,752	
Impact Fees Paid			$2,216,900	$4,898,500	$7,115,400
Annual Reserve Revenue			$163,800	$311,200	$475,000

Delinquent Accounts

Information provided by IRCDUS staff identified a small percent of accounts that are materially delinquent and incurring ongoing penalties, as reflected in **Table 17**. IRCDUS staff also indicated that account receivables for some accounts are more than a presumed value of the associated property and it is also believed that recovery of the majority of such receivables is not feasible.

Table 17 – Accounts with Delinquent Reserve Payments

Acct No.	Water	Wastewater	Total
042978	60	51	
036232	19	40	
016444	15	15	
092664	0	4	
092636	0	51	
092638	0	5	
092634	0	10	
071078	272	272	
075062	206	206	
071148	182	182	
074144	103	102	
073644	62	61	
071876	54	53	
ERUs	973	1052	
Impact Fees Paid	$1,264,900	$2,941,400	$4,206,300
Delinquent with Penalties			$4,674,008

The primary objective is to resolve the issues associated with the existing delinquent accounts and provide procedures to prevent reoccurrence. Failure by account holder to keep current constitutes the abandonment of the affiliated ERUs, and therefore, no further obligation of the IRCDUS to provide capacity.

Based on a review of the information available the following provisions developed by IRCDUS staff will reasonably address the issues associated with ERU Reserve Accounts.

1. Modify County Code to:
    a. allow for the refund of impact fees paid if such request is made within twenty-four months of the purchase of the ERU(s);
    b. allow for the relinquishment of ERU's purchased during one of the voluntary assessment programs provided that the property remains undeveloped and or service is not available within five hundred feet of the parcel. Such relinquishment shall not include a refund of any impact fees paid. Accounts shall be brought current before allowing any such relinquishment;
    c. allow for the relinquishment of ERU's purchased at any time if the buildout of the property under the current Comprehensive Plan does not allow for utilization of all ERU's affiliated with the property. Unless the ERU's were purchased within the past twenty-four months, relinquishment shall not include a refund of impact fees. Accounts shall be brought current before allowing any such relinquishment;

   d. accommodate the County reclaiming any ERU's wherein twenty-four months of service availability fees are past due;
2. Allow a one-time write off of Accounts Receivable balances on any accounts wherein the service availability fees and late fees have continued to accrue beyond the twenty-four-month mark.
3. Allow staff to remove the existing lien on any properties wherein the Accounts Receivable will be written off and place a new lien on the property for the amount of the past due fees up until the twenty-fourth service availability fee accrued. This lien will include all fees and penalties accrued up to that date as well.

SEPTIC TO SEWER

GENERAL

To address environmental concerns in the Indian River Lagoon the Board of County Commissioners is promoting a Septic to Sewer program to assist with the construction of localized wastewater collection facilities in areas of the County that otherwise are or would be dependent on septic tanks a means for wastewater treatment and disposal. Working with two engineering firms the IRCDUS has identified and ranked properties, in a Septic To Sewer Evaluation Report (partial ranking shown in Schedule 3), for consideration in S2S programs. Localized wastewater collection facilities provide a benefit to adjacent properties and are generally the responsibility of such properties to fund the improvements. Moving forward the County desires a uniform policy that provides specific guidelines to establish and clarify participation of the County and property owners with respect to funding the S2S projects.

Governmental utility facilities follow the general principal that: 1) treatment and major transmission facilities are constructed by the utility and funded through a combination of resource consisting of debt, impact fees and grants; and 2) localized facilities, such as wastewater collection facilities, are required to be contributed to the utility by the land developer, extended and funded by a property owner or installed through a benefit assessment program. In theory, capacity for treatment and major transmission facilities are equally shared by all connections regardless of their location, paid through impact fees and user rates; whereas, costs for localized facilities are generally unique to each location and therefore, due to such cost differences are the responsibility of the benefiting properties.

Another utility principal is that customer growth results in economies of scale. This principal provides an opportunity for IRCDUS to create financial incentives to connect to the centralized wastewater system without any undue burden on IRCDUS existing customer base. The key to providing an incentive from the IRCDUS, is that such financial incentives are balanced by environmental cost reductions and economies of scale. Currently, it is not feasible to determine the specific level of environmental cost reductions and/or economies of scale associated with each S2S area, other than general utility engineering and financial principles support these economic concepts.

Costs associated with S2S projects include: 1) construction of the localized wastewater collection facilities that benefit all properties; 2) on-site connection to the localized wastewater collection facilities and septic tank abandonment for those properties with existing septic tanks; and 3) wastewater impact fees paid prior to connection, currently $2,796 per ERU.

UNIFORM SEPTIC TO SEWER POLICY

The Uniform S2S policy recognizes that each project will be unique with its own set of constraints including costs, socioeconomics, number of existing septic tanks, contribution to pollution, etc.; however, the policy provides for a uniform basis to address the financial responsibilities of each assessment project.

1. Project Funding

a. Property owners are responsible for a minimum of one third of project costs.
b. The County will seek the balance of the funding from other sources.

2. Assessments Program

a. Maximum interest rates for each benefit assessment program will be limited to the greater of: (i) two percent; or (ii) one half the current Board of County Commission approved rate.
b. Amortization of a property's total assessment shall be through equal annual installments, plus assessment expenses, over a period not exceeding 20 years.

3. IRCDUS Connection Incentives

a. Option 1 provides a credit of 100 percent of the then applicable wastewater impact fee when a single family property owner with an existing septic tank commits to connect prior to wastewater service being available at the property's location.
b. Option 2 provides a credit of 50 percent of the then applicable wastewater impact fee when a single family property owner with an existing septic tank commits to connect within one year of wastewater service being available at the property's location.

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

FINDINGS

This Study undertook a comprehensive review of critical customer and financial data to understand how and if the existing rate structure and rates are just and equitable and generates sufficient revenues to fully fund operations including R&R and OCO, remain in compliance with bond covenants and address future capital improvements. The review of customer billing data determined that the existing water and wastewater rate structure remains a just and equitable cost recovery mechanism; however, the review also determined that certain rate components within the rate structure should be modified to better reflect customer conservation and usage characteristics. Forecasts of operating revenues, fiscal requirements, R&R and capital improvements indicated existing rates are adequate to address O&M expenses, debt service and coverage, but fall short of fully funding desired levels of R&R and OCO.

Additional reviews were conducted on the IRCDUS' schedule of Miscellaneous Service Charges and reserve funds. Based on an understanding of current and future miscellaneous service requirements, the review identified a need to update costs associated with labor, material and equipment together with the addition/deletion of certain miscellaneous services. Projections of the Operating Reserve Fund, R&R Fund, Water Impact Fee Fund and Wastewater Impact Fee Fund found each could adequately fund projected improvement projects and maintain sufficient reserves for emergencies and creditworthiness. It further identified that transfers and management among these reserve fund could address additional R&R needs and assist in avoidance of rate increases.

CONCLUSIONS

Based on Study findings it was concluded that the existing rate structure and rates have been and are providing sufficient revenues on a just and equitable basis. However, several minor water and wastewater user rate structure modifications and rate adjustments were identified to: 1) improve and administratively simplify the structure on a revenue neutral basis; and 2) adjust for current customer conservation characteristics. The Study additionally concluded that several specific limited application user rates along with the Miscellaneous Service Charges need to be adjusted to adequately recover the costs of such services.

It is concluded that levels of R&R funding to maintain the facilities in excellent serviceable condition for the health, safety and welfare of the community will vary year to year such that IRCDUS should: 1) fund all R&R projects through the R&R Reserve Fund; 2) transfer a minimum amount of operating revenues to the R&R Reserve Fund based on a percentage of prior years' revenue and not on a basis of amounts determined from annual budgeted R&R projects; 3) if required supplement the R&R transfers from the unrestricted Operating Reserve Fund; and 4) set and maintain a minimum amount for the R&R Reserve Fund.

It is also concluded that consideration be afforded to more frequent rate studies due to there being approximately 18 years since the last rate study in 1999. It is common practice for utilities to undertake periodic (3 to 5 years) comprehensive rate studies along with annual revenue sufficiency reviews between such studies. Such practice allows the IRCDUS to address organizational, financial, rate and policy issues in advance of anticipated impacts due to operations, fiscal requirements,

capital needs, customer characteristics and environmental items that may impact the continued success of the Utility. Another practice that utilities use to address unanticipated changes to the customer base, operating expenses, environmental requirements or other items that impact fiscal requirements is providing an indexing mechanism to adjust user rates without having to commission a rate study. The indexing mechanism can be used when the utility is confident that customer demand and usage characteristics have not materially changed to where the existing rate structure would no longer provide for just and equitable cost recovery. There are several different indexing methods available, however, it is generally preferable to use one that is simple and familiar to the County, such as the Consumer Price Index (CPI) limited to a maximum of 3.0 percent.

RECOMMENDATIONS

Based on the information, analysis and discussions included in the report, it is recommended that:

1. The County proceed to establish the following rate structure modifications and rate adjustments with an effective date of on or after March 1, 2019.
    a. Recover existing billing charge costs through the Service Availability Charge except for Bulk and Reclaimed Water customers.
    b. Adjust Service Availability Charges to recover respective billing costs.
        i. Water
            - Single Family Water to $8.75 per ERU
            - Manufactured Home to $7.44 per ERU
            - Multi-Family to $7.44 per ERU
            - Commercial to $8.75 per ERU
        ii. Wastewater
            - Single Family Water to $15.60 per ERU
            - Manufactured Home to $13.26 per ERU
            - Multi-Family to $13.26 per ERU
            - Commercial to $15.60 per ERU
    c. Reduce the number of water inclining volume blocks and corresponding volume allowances:
        i. Block 1 from 0 to 3,000 to 0 to 5,000 gallons per ERU per month;
        ii. Block 2 from 3,001 to 7,000 to 5,001 to 10,000 gallons per ERU per month;
        iii. Block 3 from 7,001 to 13,000 to above 10,000 gallons per ERU per month; and
        iv. Block 4 from above 13,000 to eliminate Block 4.
    d. Water inclining volume block rate per 1,000 gallons adjustments:
        i. Block 1 remains the same at $2.20:
        ii. Block 2 from $2.42 to $2.97;
        iii. Block 3 from $3.85 to $7.04; and
        iv. Block 4 from $7.70 to Eliminated.
    e. Bill all water and wastewater volume in hundreds of gallons.
    f. Establish wastewater volume Block 2 to 12,000 gallons for all classifications.
    l. Establish I&I 100 percent surcharge for Wastewater Volume Blocks 1 and 2.
    g. Adjust monthly Fire Protection Fee to $15.16 per account.
    h. Maintain the Septage and Sludge Rate at $15.00 per wet ton.

   i. Establish a Large User Non-Pressurized Interruptible Service Disposal Reclaimed Water Rate of $0.21 per 1,000 gallons available only through agreement; where a Large User is required to accept a minimum number of gallons per day on an average annual basis as specified in their Reclaimed User Agreement.
   j. Adjust the Miscellaneous Service Charges as proposed herein.
2. Establish R&R policies of: a) annual transfers of 12 percent of prior year's water gross revenue and 10 percent of prior year's wastewater gross revenue to the R&R Reserve Fund; b) fund balance of R&R requirements, if needed from unrestricted Revenue Reserve Fund; c) funding all R&R from the R&R Reserve Fund; and d) maintain minimum R&R Reserve Fund balance of $2,500,000.
3. Utilize Impact Fee Reserves, when available, pay minimum of 25 percent water expansion related debt service and 75 percent of wastewater expansion related debt service.
4. Address delinquent Reserve Accounts and establish policy moving forward.
5. Consider the Uniform Septic to Sewer Policy as proposed herein.
6. Provide appropriate notice to customers regarding the rate structure modifications and rate adjustments.
7. Conduct a rate study and policy reviews periodically (minimum of 3-year to 5-year intervals) to ensure that the existing rates and cost recovery program equitably provide sufficient revenues to address the fiscal and creditworthiness requirements of the Utility.
8. Adopt a provision for indexing the user rates by lessor of:
   a. the annual difference not less than zero between the CPI for All Urban Consumers for twelve months prior to April of the current year; or
   b. 3.0 percent.

The expenses, costs, and criteria associated with rate making are representative of averages that are developed primarily from historic data along with projections based on opinions and assumptions. Significant amounts of historical review and analysis, together with the development of assumptions based on prudent engineering, financial and ratemaking relationships were utilized in the development of the customers, operating activity, costs and proposed rate and changes. Some of the assumptions will inevitably change or not materialize, and unanticipated events may occur which could significantly change the results presented herein.

Schedule 1 – Water Customer Growth and Billable Consumption Projections

	Escalation Factor	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Average Monthly Accounts							
Single Family	1	40,181	40,985	41,805	42,641	43,494	44,364
Irrigation	2	95	95	95	95	95	95
MH Individual Metered	3	2,878	2,936	2,995	3,055	3,116	3,178
MH Master Metered	4	6	6	6	6	6	6
MF Individual Metered	5	839	856	873	890	908	926
MF Master Metered	6	550	561	572	583	595	607
Commercial	7	1,981	2,021	2,061	2,102	2,144	2,187
Government	7	101	103	105	107	109	111
Hydrant	8	12	12	12	12	12	12
Total Avg. Monthly Accounts		46,643	47,575	48,524	49,491	50,479	51,486
Average Monthly ERUs							
Single Family	1	40,425	41,234	42,059	42,900	43,758	44,633
Irrigation	2	227	227	227	227	227	227
MH Individual Metered	3	2,447	2,496	2,546	2,597	2,649	2,702
MH Master Metered	4	254	259	264	269	274	279
MF Individual Metered	5	714	728	743	758	773	788
MF Master Metered	6	7,307	7,453	7,602	7,754	7,909	8,067
Commercial	7	7,251	7,396	7,544	7,695	7,849	8,006
Government	7	827	844	861	878	896	914
Hydrant	8	12	12	12	12	12	12
Total Avg. Monthly ERUs		59,464	60,649	61,858	63,090	64,347	65,628
Annual Volume (x 1,000)	**gal/mo/ERU**						
Single Family							
Block 1 0 - 5000	3.15	1,129,192	1,560,178	1,591,394	1,623,215	1,655,679	1,688,787
Block 2 5001 - 10000	0.68	597,817	335,767	342,485	349,333	356,320	363,445
Block 3 Above	0.41	190,840	201,438	205,468	209,577	213,768	218,043
Block 4 Above	0.00	138,385	0	0	0	0	0
Total Single Family	4.24	2,056,233	2,097,383	2,139,347	2,182,125	2,225,768	2,270,275
Irrigation							
Block 1 0 - 5000	3.12	5,695	8,492	8,492	8,492	8,492	8,492
Block 2 5001 - 10000	1.63	4,791	4,451	4,451	4,451	4,451	4,451
Block 3 Above	8.83	4,422	24,059	24,059	24,059	24,059	24,059
Block 4 Above	0.00	22,094	0	0	0	0	0
Total Irrigation	13.58	37,002	37,002	37,002	37,002	37,002	37,002
MH Individual Metered							
Block 1 0 - 5000	2.23	54,677	66,912	68,253	69,620	71,014	72,435
Block 2 5001 - 10000	0.21	14,693	6,151	6,274	6,400	6,528	6,659
Block 3 Above	0.14	3,319	4,197	4,281	4,367	4,454	4,544
Block 4 Above	0.00	3,055	0	0	0	0	0
Total MH Individual Metered	2.58	75,744	77,261	78,808	80,387	81,996	83,637
MH Master Metered							
Block 1 0 - 5000	2.72	7,252	8,448	8,612	8,775	8,938	9,101
Block 2 5001 - 10000	0.01	1,074	41	42	43	44	45
Block 3 Above	0.00	0	0	0	0	0	0
Block 4 Above	0.00	0	0	0	0	0	0
Total MH Master Metered	2.73	8,326	8,490	8,654	8,818	8,981	9,145
MF Individual Metered							
Block 1 0 - 5000	2.81	19,013	24,565	25,071	25,577	26,084	26,590
Block 2 5001 - 10000	0.39	7,221	3,432	3,502	3,573	3,644	3,715
Block 3 Above	0.43	1,728	3,741	3,818	3,895	3,972	4,049
Block 4 Above	-	3,166	0	0	0	0	0
Total MF Individual Metered	3.63	31,127	31,738	32,392	33,046	33,699	34,353
MF Master Metered							
Block 1 0 - 5000	2.76	204,613	246,577	251,507	256,536	261,664	266,891
Block 2 5001 - 10000	0.20	48,896	18,191	18,555	18,926	19,304	19,689
Block 3 Above	0.05	8,002	4,685	4,779	4,874	4,972	5,071
Block 4 Above	0.00	2,664	0	0	0	0	0
Total MF Master Metered	3.01	264,175	269,453	274,840	280,336	285,939	291,652

	Escalation Factor	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Commercial							
Block 1 0 - 5000	2.95	186,625	262,122	267,367	272,718	278,176	283,741
Block 2 5001 - 10000	1.00	115,803	89,189	90,974	92,795	94,652	96,545
Block 3 Above	1.14	65,548	100,877	102,896	104,956	107,056	109,198
Block 4 Above	0.00	75,348	0	0	0	0	0
Total Commercial	5.09	443,323	452,188	461,237	470,469	479,884	489,483
Government							
Block 1 0 - 5000	2.62	17,751	26,555	27,090	27,625	28,191	28,758
Block 2 5001 - 10000	1.40	14,950	14,181	14,467	14,753	15,055	15,358
Block 3 Above	1.07	10,298	10,860	11,078	11,297	11,529	11,760
Block 4 Above	0.00	7,557	0	0	0	0	0
Total Government	5.09	50,557	51,596	52,636	53,675	54,775	55,876
Hydrants							
Block 1 0 - 5000	2.28	1,371	329	329	329	329	329
Block 2 5001 - 10000	1.23	110	177	177	177	177	177
Block 3 Above	6.77	0	975	975	975	975	975
Block 4 Above	0.00	0	0	0	0	0	0
Total Hydrants	10.28	1,481	1,481	1,481	1,481	1,481	1,481
Total Annual Volume		2,967,968	3,026,592	3,086,396	3,147,337	3,209,527	3,272,904
Incremental Water ERUs		1,161	1,185	1,209	1,232	1,257	1,281
Fire Protection Accounts	Escalation Factors						
FP Single Family	9	0	0	0	0	0	0
FP Multi-Family	10	0	0	0	0	0	0
FP Commercial	11	164	164	164	164	164	164
Total Fire Protection Accounts		164	164	164	164	164	164
Guarantee Revenue							
Accounts	12	321	305	275	236	192	149
GR Single Family	12	903	858	774	664	541	419
GR MH Individual Metered	13	1	1	1	1	1	1
GR MH Master Metered	14	0	0	0	0	0	0
GR MF Individual Metered	15	62	59	53	45	37	29
GR MF Master Metered	16	581	552	498	427	348	269
GR Commercial	17	158	150	135	116	94	73
Total Guarantee Revenue ERUs		1,705	1,620	1,461	1,253	1,021	791

		Escalation Factors				
Description	Factor	2018/19	2019/20	2020/21	2021/22	2022/23
Single Family	1	1.0200	1.0200	1.0200	1.0200	1.0200
Irrigation	2	1.0000	1.0000	1.0000	1.0000	1.0000
MH Individual Metered	3	1.0200	1.0200	1.0200	1.0200	1.0200
MH Master Metered	4	1.0200	1.0200	1.0200	1.0200	1.0200
MF Individual Metered	5	1.0200	1.0200	1.0200	1.0200	1.0200
MF Master Metered	6	1.0200	1.0200	1.0200	1.0200	1.0200
Commercial	7	1.0200	1.0200	1.0200	1.0200	1.0200
Hydrant	8	1.0000	1.0000	1.0000	1.0000	1.0000
FP Single Family	9	1.0000	1.0000	1.0000	1.0000	1.0000
FP Multi-Family	10	1.0000	1.0000	1.0000	1.0000	1.0000
FP Commercial	11	1.0000	1.0000	1.0000	1.0000	1.0000
GR Single Family	12	0.9500	0.9025	0.8574	0.8145	0.7738
GR MH Individual Metered	13	0.9500	0.9025	0.8574	0.8145	0.7738
GR MH Master Metered	14	0.9500	0.9025	0.8574	0.8145	0.7738
GR MF Individual Metered	15	0.9500	0.9025	0.8574	0.8145	0.7738
GR MF Master Metered	16	0.9500	0.9025	0.8574	0.8145	0.7738
GR Commercial	17	0.9500	0.9025	0.8574	0.8145	0.7738

Schedule 2 – Wastewater Customer Growth and Billable Consumption Projections

	Escalation Factor	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Average Monthly Accounts							
Single Family	1	21,253	21,891	22,548	23,224	23,921	24,639
MH Individual Metered	2	2,910	2,997	3,087	3,180	3,275	3,373
MH Master Metered	3	3	3	3	3	3	3
MF Individual Metered	4	860	886	913	940	968	997
MF Master Metered	5	534	550	567	584	602	620
Commercial	6	1,483	1,527	1,573	1,620	1,669	1,719
Government	7	81	81	81	81	81	81
Sewer Only	8	329	329	329	329	329	329
Bulk	9	1	1	1	1	1	1
Total Avg. Monthly Accounts		27,454	28,265	29,102	29,962	30,849	31,762
Average Monthly ERUs							
Single Family	1	21,501	22,146	22,810	23,494	24,199	24,925
MH Individual Metered	2	2,474	2,548	2,624	2,703	2,784	2,868
MH Master Metered	3	63	65	67	69	71	73
MF Individual Metered	4	731	753	776	799	823	848
MF Master Metered	5	7,389	7,611	7,839	8,074	8,316	8,565
Commercial	6	7,239	7,456	7,680	7,910	8,147	8,391
Government	7	891	891	891	891	891	891
Sewer Only - Single Family	8	309	309	309	309	309	309
Sewer Only - MH Individual Metered	8	37	37	37	37	37	37
Sewer Only - MH Master Metered	8	23	23	23	23	23	23
Sewer Only - MF Master Metered	8	22	22	22	22	22	22
Sewer Only - Commercial	8	716	716	716	716	716	716
Sewer Only - Government	8	23	23	23	23	23	23
Bulk	9	526	526	526	526	526	526
Total Avg. Monthly ERUs		41,944	43,126	44,343	45,596	46,887	48,217
Annual Volume (x 1,000)	**gal/mo/ERU**						
Block 1							
Single Family	3.50	903,338	930,436	958,334	987,071	1,016,691	1,047,193
MH Individual Metered	2.46	72,921	75,103	77,343	79,671	82,059	84,535
MH Master Metered	2.91	2,201	2,271	2,341	2,410	2,480	2,550
MF Individual Metered	3.22	28,351	29,058	29,945	30,833	31,759	32,724
MF Master Metered	2.95	262,365	269,761	277,842	286,171	294,749	303,574
Commercial	4.24	374,588	379,697	391,104	402,817	414,886	427,312
Government	3.54	38,298	37,833	37,833	37,833	37,833	37,833
Sewer Only - Single Family	5.00	12,972	18,540	18,540	18,540	18,540	18,540
Sewer Only - MH Individual Metered	5.00	1,587	2,220	2,220	2,220	2,220	2,220
Sewer Only - MH Master Metered	5.00	972	1,380	1,380	1,380	1,380	1,380
Sewer Only - MF Master Metered	5.00	702	1,320	1,320	1,320	1,320	1,320
Sewer Only - Commercial	5.00	4,990	42,960	42,960	42,960	42,960	42,960
Sewer Only - Government	5.00	849	1,380	1,380	1,380	1,380	1,380
Bulk	3.86	24,368	24,368	24,368	24,368	24,368	24,368
Total Block 1	56.68	1,728,502	1,816,327	1,866,910	1,918,974	1,972,625	2,027,889
Block 2							
Single Family	0.31	81,149	83,583	86,089	88,671	91,331	94,071
MH Individual Metered	0.11	3,342	3,442	3,545	3,651	3,761	3,874
MH Master Metered	0.00	0	0	0	0	0	0
MF Individual Metered	0.38	3,196	3,439	3,544	3,649	3,759	3,873
MF Master Metered	0.03	2,359	2,916	3,004	3,094	3,187	3,282
Commercial	0.90	72,096	80,378	82,793	85,272	87,827	90,457
Government	0.27	2,424	2,889	2,889	2,889	2,889	2,889
Sewer Only - Single Family	0.00	24	0	0	0	0	0
Sewer Only - MH Individual Metered	0.00	0	0	0	0	0	0
Sewer Only - MH Master Metered	0.00	0	0	0	0	0	0
Sewer Only - MF Master Metered	0.00	0	0	0	0	0	0
Sewer Only - Commercial	0.00	4,967	0	0	0	0	0
Sewer Only - Government	0.00	150	0	0	0	0	0
Bulk	0.00	0	0	0	0	0	0
Total Block 2	2.01	169,707	176,647	181,864	187,226	192,754	198,446
Total Annual Volume		1,898,209	1,992,974	2,048,774	2,106,200	2,165,379	2,226,335

	Escalation Factor	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Guarantee Revenue							
Accounts	10	302	287	259	222	181	140
GR Single Family	11	616	585	528	453	369	286
GR MH Individual Metered	12	0	0	0	0	0	0
GR MH Master Metered	13	0	0	0	0	0	0
GR MF Individual Metered	14	62	59	53	45	37	29
GR MF Master Metered	15	505	480	433	371	302	234
GR Commercial	16	569	541	488	418	340	263
Total		1,752	1,665	1,502	1,287	1,048	812

		Escalation Factors					
Description	Factor	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Single Family	1	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
MH Individual Metered	2	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
MH Master Metered	3	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
MF Individual Metered	4	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
MF Master Metered	5	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
Commercial	6	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
Government	7	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Sewer Only	8	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Bulk	9	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Accounts	10	1.0000	0.9500	0.9025	0.8574	0.8145	0.7738
GR Single Family	11	1.0000	0.9500	0.9025	0.8574	0.8145	0.7738
GR MH Individual Metered	12	1.0000	0.9500	0.9025	0.8574	0.8145	0.7738
GR MH Master Metered	13	1.0000	0.9500	0.9025	0.8574	0.8145	0.7738
GR MF Individual Metered	14	1.0000	0.9500	0.9025	0.8574	0.8145	0.7738
GR MF Master Metered	15	1.0000	0.9500	0.9025	0.8574	0.8145	0.7738
GR Commercial	16	1.0000	0.9500	0.9025	0.8574	0.8145	0.7738

Schedule 3 – Septic to Sewer Unit Absorption and Revenue Forecast

	2018/19	2019/20	2020/21	2021/22	2022/23
Part A Subdivision and Unit Absorptions					
Subdivision Numbers [1]	138 & 17	18 & 139	2 & 1	48 & 131	52 & 320
Water & Wastewater Units	26	7	87	36	148
Wastewater Only Units	14	22	0	11	0
Total Units	40	29	87	47	148
Cumulative Units:			0	0	0
Water & Wastewater Units	26	33	120	156	304
Wastewater Only Units	14	36	36	47	47
Percentage Online	50.0%	50.0%	50.0%	50.0%	50.0%
Water & Wastewater Units	13	30	77	138	230
Wastewater Only Units	7	25	36	42	47
Percentage Absorption	20.0%	20.0%	20.0%	20.0%	20.0%
Water & Wastewater Units	3	6	15	28	46
Wastewater Only Units	1	5	7	8	9
Total	4	11	23	36	55
Part B Revenue Forecast and Credit Assumptions					
Annual Base Revenue:					
Water & Wastewater Units	$500	$1,100	$2,900	$5,200	$8,600
Wastewater Only Units	300	900	1,300	1,600	1,800
Total Base Revenue	$800	$2,000	$4,200	$6,800	$10,400
Volume Revenue @ 4,000 gal per month per unit.					
Water & Wastewater Units	$400	$800	$2,100	$3,800	$6,300
Wastewater Only Units	200	700	1,000	1,100	1,300
Total Commodity Revenue	$600	$1,500	$3,100	$4,900	$7,600

1. Annual Absorption (Assumed 2 subdivisions/year).

Number	*Subdivision Name*
138	Hobart Landing Unit 2
17	Orchid Island No. 1
18	Orchid Island No. 2
139	Hobart Landing Unit 3
2	Hallmark Ocean Subdivision
1	Ambersand Beach Sub No 1 & 2
48	Floravon Shores Subdivision
131	Naranja TR Shellmound Bch Replat of POR
52	Sebastian Highlands Unit 02 Collier
320	River Shores Estates Units 1-4

Schedule 4 – Water Operating Expense & Cost Projections

Expenditure Category	Escalation Reference	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
REGULAR SALARIES	3	$3,305,700	$3,404,900	$3,507,100	$3,612,400	$3,720,800	$3,832,500
PART TIME EMPLOYEES	3	7,900	8,200	8,500	8,800	9,100	9,400
OVERTIME	3	160,000	164,800	169,800	174,900	180,200	185,700
SPECIAL PAY	3	74,400	76,700	79,100	81,500	84,000	86,600
TOTAL SALARIES		$3,548,000	$3,654,600	$3,764,500	$3,877,600	$3,994,100	$4,114,200
SOCIAL SECURITY MATCHING	3	$207,300	$213,600	$220,100	$226,800	$233,700	$240,800
RETIREMENT CONTRIBUTION	3	276,600	284,900	293,500	302,400	311,500	320,900
INSURANCE-LIFE & HEALTH	3	661,100	681,000	701,500	722,600	744,300	766,700
WORKERS COMPENSATION	3	82,400	84,900	87,500	90,200	93,000	95,800
OPEB EXPENSE	3	88,000	90,700	93,500	96,400	99,300	102,300
MEDICARE MATCHING	3	48,500	50,000	51,500	53,100	54,700	56,400
TOTAL BENEFITS		$1,363,900	$1,405,100	$1,447,600	$1,491,500	$1,536,500	$1,582,900
LEGAL SERVICES	2	$2,900	$3,000	$3,100	$3,200	$3,300	$3,400
GENERAL & ADMIN EXP	2	469,900	481,700	493,800	506,200	518,900	531,900
OTHER PROF SERVICES	2	656,300	672,800	689,700	707,000	724,700	742,900
EXTERNAL AUDITORS	2	20,800	21,400	22,000	22,600	23,200	23,800
OTHER CONTRACT SERVICES	2	40,000	41,000	42,100	43,200	44,300	45,500
VEHICLE ALLOWANCE	2	6,100	6,300	6,500	6,700	6,900	7,100
ALL TRAVEL	2	20,600	21,200	21,800	22,400	23,000	23,600
TELEPHONE	2	29,100	29,900	30,700	31,500	32,300	33,200
OTHER COMM SERVICES	2	7,400	7,600	7,800	8,000	8,200	8,500
POSTAGE	5	109,300	114,300	119,500	124,900	130,600	136,500
ELECTRIC SERVICES	5	72,700	76,000	79,500	83,100	86,900	90,900
WATER & SEWER SERVICES	5	1,400	1,500	1,600	1,700	1,800	1,900
GARBAGE & SOLID WASTE	5	43,500	45,500	47,600	49,800	52,100	54,500
OTHER UTILITY SERVICES	5	3,500	3,700	3,900	4,100	4,300	4,500
RENT-BUILDINGS	2	50,200	51,500	52,800	54,200	55,600	57,000
RENT-HEAVY EQUIPMENT	2	2,000	2,100	2,200	2,300	2,400	2,500
FEC PAYMENTS	2	23,500	24,100	24,800	25,500	26,200	26,900
RIGHT OF WAY PAYMENTS	1	18,100	18,100	18,100	18,100	18,100	18,100
AUTOMOTIVE INSURANCE	2	65,100	66,800	68,500	70,300	72,100	74,000
OTHER INSURANCE	2	553,100	567,000	581,200	595,800	610,700	626,000
MAINTENANCE - BUILDINGS	7	3,800	4,000	4,200	4,400	4,600	4,800
MAINTENANCE - AC	7	6,000	6,200	6,400	6,600	6,800	7,100
MAINTENANCE - OFFICE EQUIP	7	3,900	4,100	4,300	4,500	4,700	4,900
MAINTENANCE - AUTO EQUIP	7	28,400	29,300	30,200	31,200	32,200	33,200
MAINTENANCE-HEAVY EQUIP	7	103,500	106,700	110,000	113,300	116,700	120,300
MAINT - OTHER EQUIP	7	41,900	43,200	44,500	45,900	47,300	48,800
OUTSIDE PRINTING	2	48,500	49,800	51,100	52,400	53,800	55,200
RECORDING FEES	1	5,000	5,000	5,000	5,000	5,000	5,000
LEGAL ADS	2	400	500	600	700	800	900
LICENSES AND PERMITS	1	24,200	24,200	24,200	24,200	24,200	24,200
ALL OFFICE SUPPLIES	2	17,800	18,300	18,800	19,300	19,800	20,300
COMPUTER SOFTWARE	2	122,300	125,400	128,600	131,900	135,200	138,600
COMPUTER HW UPGRADE	2	5,400	5,600	5,800	6,000	6,200	6,400
GIS SUPPLIES	2	600	700	800	900	1,000	1,100
FUEL & LUBRICANTS	5	99,700	104,200	108,900	113,800	119,000	124,400
CHEMICALS	5	1,108,000	1,157,800	1,209,900	1,264,300	1,321,100	1,380,500
UNIFORMS & CLOTHING	2	23,800	24,400	25,100	25,800	26,500	27,200
INSTITUTIONAL SUPPLIES	2	6,200	6,400	6,600	6,800	7,000	7,200
EXPENDABLE TOOLS	2	27,500	28,200	29,000	29,800	30,600	31,400
MEDICINE & MED SUPPLIES	2	7,300	7,500	7,700	7,900	8,100	8,400
OTHER OPER SUPPLIES	7	50,800	52,400	54,000	55,700	57,400	59,200
PAVING MATERIAL	2	73,000	74,900	76,800	78,800	80,800	82,900
LANDSCAPE MATERIALS	2	7,000	7,200	7,400	7,600	7,800	8,000
TRAFFIC SIGNS	2	1,000	1,100	1,200	1,300	1,400	1,500
DUES-MEMBERSHIPS	2	2,200	2,300	2,400	2,500	2,600	2,700
TUITION/REGIST FEE	2	30,900	31,700	32,500	33,400	34,300	35,200
CREDIT CARD FEES	5	75,000	78,400	82,000	85,700	89,600	93,700
BAD DEBT-WATER/SEWER	4	10,900	11,200	11,500	11,800	12,100	12,400
	Escalation						

Expenditure Category	Reference	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
GIS INTER-DEPT CHARGES	2	78,500	80,500	82,600	84,700	86,900	89,100
COMP SERV INTER-DEPT CHGS	2	105,900	108,600	111,400	114,200	117,100	120,100
WATER TREAT ELECTRIC	5	848,000	886,100	926,000	967,600	1,011,100	1,056,600
WATER PLANT MAINTENANCE	7	77,000	79,400	81,800	84,300	86,900	89,600
WELL MAINTENANCE	7	4,000	4,200	4,400	4,600	4,800	5,000
WATER MAIN MAINTENANCE	7	8,000	8,300	8,600	8,900	9,200	9,500
METER MAINTENANCE	7	6,000	6,200	6,400	6,600	6,800	7,100
PUMPING EQUIP MAINT	7	68,700	70,800	73,000	75,200	77,500	79,900
HYDRANTS & VALVES MAINT	7	375,000	386,300	397,900	409,900	422,200	434,900
COMM EQUIP MAINT	7	3,600	3,800	4,000	4,200	4,400	4,600
WATER STORAGE TANK MAINT	7	275,000	283,300	291,800	300,600	309,700	319,000
TOTAL OPERATING		$5,980,200	$6,183,700	$6,394,600	$6,612,900	$6,838,800	$7,073,600
MACHINERY AND EQUIP	2	$137,900	$129,400	$132,700	$136,100	$139,600	$143,100
AUTOMOTIVE	2	447,700	420,000	430,500	441,300	452,400	463,800
COMMEQUIP-ALL	2	56,500	53,000	54,400	55,800	57,200	58,700
EDP EQUIPMENT	2	39,000	36,600	37,600	38,600	39,600	40,600
Reserve Fund Adjustment	0	0	0	0	0	0	0
TOTAL CAPITAL OUTLAY		$681,100	$639,000	$655,200	$671,800	$688,800	$706,200
INTEREST-DEBT SERVICE	1	$1,986,900	$1,987,700	$1,987,600	$1,986,600	$1,985,200	$1,440,500
OTHER DEBT SERVICE COST	1	4,900	4,900	4,900	4,900	4,900	4,900
TOTAL DEBT SERVICE		$1,991,800	$1,992,600	$1,992,500	$1,991,500	$1,990,100	$1,445,400
Renewal & Replacement	9	2,977,400	1,935,400	1,964,700	1,998,600	2,033,600	2,070,400
ADDITIONAL R&R	10	0	1,048,400	1,064,300	1,082,600	1,101,600	1,121,500
TOTAL BUDGET		$16,542,400	$16,858,800	$17,283,400	$17,726,500	$18,183,500	$18,114,200
DEVE EXTENSN/LICENS FEE	1	$500	$500	$500	$500	$500	$500
METER INSTALLATION	Cal	135,000	150,900	154,100	157,200	160,200	163,400
WATER TAP FEES	Cal	25,000	28,000	28,400	29,200	29,600	30,400
PENALTIES	8	470,500	482,300	494,400	506,800	519,500	532,500
RECONNECT FEES	Cal	62,500	0	0	0	0	0
SERVICE CHARGE	1	120,000	122,400	124,800	127,300	129,900	132,500
INSPECTION FEES	1	27,500	27,500	27,500	27,500	27,500	27,500
MISCELLANEOUS INCOME	1	15,000	15,000	15,000	15,000	15,000	15,000
COURT RECORDING FEES	1	2,500	2,500	2,500	2,500	2,500	2,500
INTEREST INCOME	Input	62,500	62,300	46,300	38,200	40,800	42,900
RADIO TOWER RENTS	1	150,000	150,000	150,000	150,000	150,000	150,000
SCRAP SALES	1	500	500	500	500	500	500
FUND TRANSFER IN	1	42,800	42,800	42,800	42,800	42,800	42,800
Total Revenue Budget		$1,114,300	$1,084,700	$1,086,800	$1,097,500	$1,118,800	$1,140,500

Escalation Category	Escalation Reference	2017/18	2018/19	2019/20	2020/21	2021/22	2021/23
Constant Factor	1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
General Inflation	2	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Labor	3	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Customer Growth	4	1.99%	1.99%	1.99%	1.99%	1.99%	1.99%
Cust Growth+ Inflation	5	4.49%	4.49%	4.49%	4.49%	4.49%	4.49%
Rate Revenue Factor	6	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Supplies/Repairs & Main	7	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Penalties Percent of Revenues	8	2.00%	2.50%	2.50%	2.50%	2.50%	2.50%
Renewal & Replacement	9	0.00%	12.00%	12.00%	12.00%	12.00%	12.00%
Additional R&R	10	0.00%	6.50%	6.50%	6.50%	6.50%	6.50%
OCO Reserve Adjustment		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Schedule 5 – Wastewater Operating Expense & Cost Projections

Expenditure Category	Escalation Reference	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
REGULAR SALARIES	3	$2,801,600	$2,885,700	$2,972,300	$3,061,500	$3,153,400	$3,248,100
PART TIME EMPLOYEES	3	7,900	8,200	8,500	8,800	9,100	9,400
OVERTIME	3	146,700	151,200	155,800	160,500	165,400	170,400
SPECIAL PAY	3	71,000	73,200	75,400	77,700	80,100	82,600
TOTAL SALARIES		**$3,027,200**	**$3,118,300**	**$3,212,000**	**$3,308,500**	**$3,408,000**	**$3,510,500**
SOCIAL SECURITY MATCHING	3	$176,000	$181,300	$186,800	$192,500	$198,300	$204,300
RETIREMENT CONTRIBUTION	3	244,800	252,200	259,800	267,600	275,700	284,000
INSURANCE-LIFE & HEALTH	3	543,300	559,600	576,400	593,700	611,600	630,000
WORKERS COMPENSATION	3	72,100	74,300	76,600	78,900	81,300	83,800
OPEB EXPENSE	3	70,800	73,000	75,200	77,500	79,900	82,300
MEDICARE MATCHING	3	41,200	42,500	43,800	45,200	46,600	48,000
TOTAL BENEFITS		**$1,148,200**	**$1,182,900**	**$1,218,600**	**$1,255,400**	**$1,293,400**	**$1,332,400**
LEGAL SERVICES	2	$2,100	$2,200	$2,300	$2,400	$2,500	$2,600
GENERAL & ADMIN EXP	2	399,100	409,100	419,400	429,900	440,700	451,800
OTHER PROF SERVICES	2	1,341,300	1,374,900	1,409,300	1,444,600	1,480,800	1,517,900
EXTERNAL AUDITORS	2	19,000	19,500	20,000	20,500	21,100	21,700
VEHICLE ALLOWANCE	2	4,300	4,500	4,700	4,900	5,100	5,300
ALL TRAVEL	2	13,300	13,700	14,100	14,500	14,900	15,300
TELEPHONE	2	26,800	27,500	28,200	29,000	29,800	30,600
OTHER COMM SERVICES	2	5,400	5,600	5,800	6,000	6,200	6,400
POSTAGE	5	109,500	115,400	121,600	128,100	135,000	142,300
ELECTRIC SERVICES	5	47,300	49,900	52,600	55,500	58,500	61,700
WATER & SEWER SERVICES	5	1,500	1,600	1,700	1,800	1,900	2,100
GARBAGE & SOLID WASTE	5	183,500	193,300	203,600	214,500	226,000	238,100
OTHER UTILITY SERVICES	5	4,000	4,300	4,600	4,900	5,200	5,500
RENT-BUILDINGS	2	42,100	43,200	44,300	45,500	46,700	47,900
RENT-HEAVY EQUIPMENT	2	19,500	20,000	20,500	21,100	21,700	22,300
AUTOMOTIVE INSURANCE	2	51,700	53,000	54,400	55,800	57,200	58,700
OTHER INSURANCE	2	470,200	482,000	494,100	506,500	519,200	532,200
MAINTENANCE - BUILDINGS	7	11,000	11,400	11,800	12,200	12,600	13,000
MAINTENANCE - AC	7	8,200	8,500	8,800	9,100	9,400	9,700
MAINTENANCE - OFFICE EQUIP	7	2,700	2,800	2,900	3,000	3,100	3,200
MAINTENANCE - AUTO EQUIP	7	23,100	23,800	24,600	25,400	26,200	27,000
MAINTENANCE-HEAVY EQUIP	7	120,000	123,600	127,400	131,300	135,300	139,400
MAINT - OTHER EQUIP	7	25,000	25,800	26,600	27,400	28,300	29,200
OUTSIDE PRINTING	2	51,000	52,300	53,700	55,100	56,500	58,000
ADVERTISING X LEGAL	2	200	300	400	500	600	700
RECORDING FEES	1	5,000	5,000	5,000	5,000	5,000	5,000
LEGAL ADS	2	800	900	1,000	1,100	1,200	1,300
LICENSES AND PERMITS	1	9,600	9,600	9,600	9,600	9,600	9,600
ALL OFFICE SUPPLIES	2	14,900	15,300	15,700	16,100	16,600	17,100
COMPUTER SOFTWARE	2	96,900	99,400	101,900	104,500	107,200	109,900
GIS SUPPLIES	2	400	500	600	700	800	900
FUEL & LUBRICANTS	5	85,800	90,400	95,300	100,400	105,800	111,500
CHEMICALS	5	318,000	335,000	352,900	371,700	391,600	412,500
UNIFORMS & CLOTHING	2	17,600	18,100	18,600	19,100	19,600	20,100
INSTITUTIONAL SUPPLIES	2	8,000	8,200	8,500	8,800	9,100	9,400
EXPENDABLE TOOLS	2	16,700	17,200	17,700	18,200	18,700	19,200
MEDICINE & MED SUPPLIES	2	6,100	6,300	6,500	6,700	6,900	7,100
OTHER OPER SUPPLIES	7	32,300	33,300	34,300	35,400	36,500	37,600
PAVING MATERIAL	2	12,500	12,900	13,300	13,700	14,100	14,500
LANDSCAPE MATERIALS	2	500	600	700	800	900	1,000
TRAFFIC SIGNS	2	500	600	700	800	900	1,000
DUES-MEMBERSHIPS	2	1,700	1,800	1,900	2,000	2,100	2,200
TUITION/REGIST FEE	2	14,600	15,000	15,400	15,800	16,200	16,700
CREDIT CARD FEES	5	75,000	79,000	83,300	87,800	92,500	97,500

Expenditure Category	Escalation Reference	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
BAD DEBT-WATER/SEWER	4	9,100	9,400	9,700	10,000	10,300	10,600
GIS INTER-DEPT CHARGES	2	54,900	56,300	57,800	59,300	60,800	62,400
COMP SERV INTER-DEPT CHGS	2	74,100	76,000	77,900	79,900	81,900	84,000
LIFT STATION ELECTRIC	5	330,000	347,600	366,100	385,600	406,200	427,900
SLUDGE FACILITY ELECTRUC	5	94,000	99,000	104,300	109,900	115,800	122,000
METER MAINTENANCE	7	1,000	1,100	1,200	1,300	1,400	1,500
PUMPING EQUIP MAINT	7	10,000	10,300	10,700	11,100	11,500	11,900
LIFT STATION MAINT	7	20,000	20,600	21,300	22,000	22,700	23,400
SEWER MAIN MAINT	7	6,000	6,200	6,400	6,600	6,800	7,100
SEWAGE TREAT PLANT ELEC	5	565,000	595,100	626,800	660,200	695,400	732,600
SEWAGE PLANT MAINT	7	140,000	144,200	148,600	153,100	157,700	162,500
COMM EQUIP MAINT	7	3,400	3,600	3,800	4,000	4,200	4,400
SEWAGE SLUDGE REMOVAL	5	480,000	505,600	532,600	561,000	591,000	622,600
SLUDGE FACILITY MAINT	7	22,500	23,200	23,900	24,700	25,500	26,300
TOTAL OPERATING		**$5,508,700**	**$5,715,500**	**$5,931,400**	**$6,156,400**	**$6,391,000**	**$6,635,900**
MACHINERY AND EQUIP	2	$712,600	$351,600	$360,400	$369,500	$378,800	$388,300
AUTOMOTIVE	2	616,300	304,100	311,800	319,600	327,600	335,800
COMMEQUIP-ALL	2	61,100	30,100	30,900	31,700	32,500	33,400
EDP EQUIPMENT	2	30,200	14,900	15,300	15,700	16,100	16,600
Reserve Fund Adjustment	0	0	0	0	0	0	0
TOTAL CAPITAL OUTLAY		**$1,420,200**	**$700,700**	**$718,400**	**$736,500**	**$755,000**	**$774,100**
INTEREST-DEBT SERVICE	1	$1,986,900	$1,987,700	$1,987,600	$1,986,600	$1,985,200	$1,440,500
OTHER DEBT SERVICE COST	1	5,100	5,100	5,100	5,100	5,100	5,100
TOTAL DEBT SERVICE		**$1,992,000**	**$1,992,800**	**$1,992,700**	**$1,991,700**	**$1,990,300**	**$1,445,600**
Renewal & Replacement	9	2,040,000	1,451,000	1,541,300	1,577,900	1,615,700	1,655,400
ADDITIONAL R&R	10	0	580,400	616,500	631,200	646,300	662,200
TOTAL BUDGET		**$15,136,300**	**$14,741,600**	**$15,230,900**	**$15,657,600**	**$16,099,700**	**$16,016,100**
DEVE EXTENSN/LICENS FEE	1	$500	$500	$500	$500	$500	$500
SEPTAGE/SLUDGE DISPOSAL	Cal	200,000	585,700	602,200	619,200	636,700	654,800
GREASE DISPOSAL	Cal	10,000	26,600	27,400	28,200	29,000	29,800
SEWER TAP FEES	1	2,500	3,000	3,000	3,000	3,000	3,000
RECLAIMED WATER SALES	1	5,000	5,000	5,000	5,000	5,000	5,000
PENALTIES	8	429,500	440,300	451,400	462,700	474,300	486,200
RECONNECT FEES	Cal	62,500	0	0	0	0	0
SERVICE CHARGE	1	120,000	123,500	123,500	123,500	123,500	123,500
INSPECTION FEES	1	27,500	27,500	27,500	27,500	27,500	27,500
MISCELLANEOUS INCOME	1	15,000	15,000	15,000	15,000	15,000	15,000
COURT RECORDING FEES	1	2,500	2,500	2,500	2,500	2,500	2,500
INTEREST INCOME	Input	62,500	62,300	46,300	38,200	40,800	42,900
RADIO TOWER RENTS	1	150,000	150,000	150,000	150,000	150,000	150,000
SCRAP SALES	1	500	500	500	500	500	500
FUND TRANSFER IN	1	42,800	42,800	42,800	42,800	42,800	42,800
Total Revenue Budget		**$1,130,800**	**$1,485,200**	**$1,497,600**	**$1,518,600**	**$1,551,100**	**$1,584,000**

Escalation Category	Escalation Reference	2017/18	2018/19	2019/20	2020/21	2021/22	2021/23
Constant Factor	1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
General Inflation	2	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Labor	3	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Customer Growth	4	2.81%	2.82%	2.82%	2.83%	2.83%	2.84%
Cust Growth+ Inflation	5	5.31%	5.32%	5.32%	5.33%	5.33%	5.34%
Rate Revenue Factor	6	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Supplies/Repairs & Main	7	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Penalties Percent of Revenues	8	2.00%	2.50%	2.50%	2.50%	2.50%	2.50%
Renewal & Replacement	9	0.00%	10.00%	10.00%	10.00%	10.00%	10.00%
Additional R&R	10	0.00%	4.00%	4.00%	4.00%	4.00%	4.00%
OCO Reserve Adjustment		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Schedule 6 – Water Proforma Operating Statement

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
User Fee Revenue						
Billing	$722,200	$0	$0	$0	$0	$0
Base	5,537,300	6,368,200	6,495,000	6,624,500	6,756,400	6,890,900
Usage	8,563,100	8,719,600	8,890,000	9,063,500	9,240,800	9,421,200
Fire Protection	27,900	29,800	29,800	29,800	29,800	29,800
Reserve	163,800	170,200	153,500	131,500	107,200	83,000
Subtotal	$15,014,300	$15,287,800	$15,568,300	$15,849,300	$16,134,200	$16,424,900
Other Operating Revenues	1,114,300	1,084,700	1,086,800	1,097,500	1,118,800	1,140,500
Gross Revenue	$16,128,600	$16,372,500	$16,655,100	$16,946,800	$17,253,000	$17,565,400
O&M Expenses	10,892,100	11,243,400	11,606,700	11,982,000	12,369,400	12,770,700
Net Revenue	$5,236,500	$5,129,100	$5,048,400	$4,964,800	$4,883,600	$4,794,700
Impact Fees	0	304,000	304,000	303,800	303,600	220,300
Net Revenue & Impact Fees	$5,236,500	$5,433,100	$5,352,400	$5,268,600	$5,187,200	$5,015,000
Debt Service						
Existing	$1,986,900	$1,987,600	$1,987,600	$1,986,600	$1,985,100	$1,440,500
Proposed	0	0	0	0	0	0
Total Debt Service	$1,986,900	$1,987,600	$1,987,600	$1,986,600	$1,985,100	$1,440,500
Other DS Expenses	4,900	5,000	4,900	4,900	5,000	4,900
Operating Balance	$3,244,700	$3,440,500	$3,359,900	$3,277,100	$3,197,100	$3,569,600
Transfers	0	0	0	0	0	0
Renewal and Replacement	2,977,400	1,935,400	1,964,700	1,998,600	2,033,600	2,070,400
Operating Capital Outlay	681,100	639,000	655,200	671,800	688,800	706,200
Surplus (Deficit)	($413,800)	$866,100	$740,000	$606,700	$474,700	$793,000

Schedule 7 – Wastewater Proforma Operating Statement

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
User Fee Revenue						
Billing	$425,000	$0	$0	$0	$0	$0
Base	7,331,100	8,253,500	8,481,200	8,715,900	8,957,600	9,206,500
Usage	5,311,800	5,360,800	5,515,900	5,675,500	5,839,900	6,009,300
S2S Net Revenues	0	1,100	2,800	5,800	9,300	14,200
Reserve	311,300	311,700	281,200	240,900	196,100	151,900
Subtotal	$13,379,200	$13,927,100	$14,281,100	$14,638,100	$15,002,900	$15,381,900
Other Operating Revenues	1,130,800	1,485,200	1,497,600	1,518,600	1,551,100	1,584,000
Gross Revenue	$14,510,000	$15,412,300	$15,778,700	$16,156,700	$16,554,000	$16,965,900
O&M Expenses	9,684,100	10,016,700	10,362,000	10,720,300	11,092,400	11,478,800
Net Revenue	$4,825,900	$5,395,600	$5,416,700	$5,436,400	$5,461,600	$5,487,100
Impact Fees	0	1,180,300	1,180,300	1,179,700	1,178,900	855,400
Net Revenue & Impact Fees	$4,825,900	$6,575,900	$6,597,000	$6,616,100	$6,640,500	$6,342,500
Debt Service						
Existing	$1,986,900	$1,987,600	$1,987,600	$1,986,600	$1,985,100	$1,440,500
Proposed	0	0	0	0	0	0
Total Debt Service	$1,986,900	$1,987,600	$1,987,600	$1,986,600	$1,985,100	$1,440,500
Other DS Expenses	5,100	5,200	5,100	5,100	5,200	5,100
Operating Balance	$2,833,900	$4,583,100	$4,604,300	$4,624,400	$4,650,200	$4,896,900
Transfers	0	0	0	0	0	0
Renewal and Replacement	2,040,000	1,451,000	1,541,300	1,577,900	1,615,700	1,655,400
Operating Capital Outlay	1,420,200	700,700	718,400	736,500	755,000	774,100
Surplus (Deficit)	($626,300)	$2,431,400	$2,344,600	$2,310,000	$2,279,500	$2,467,400

Schedule 8 – Basis for Proposed Miscellaneous Service Charges

(A) New or Revised Account Fee (Application Fee)

	Normal Hours
Customer Service Representative	
Cost Per Hour (Average)	$25.00
Employees Required	1
Hours each Employee	0.25
Total Hours	0.25
Subtotal	$6.25
Utility Billing Specialist	
Cost Per Hour (Average)	$28.00
Employees Required	1
Hours each Employee	0.25
Total Hours	0.25
Subtotal	$7.00
Meter Reader	
Cost Per Hour (Average)	$27.00
Employees Required	1
Hours each Employee	0.25
Total Hours	0.25
Subtotal	$6.75
Total Salaries & Benefits	$20.00
Vehicle Expense	
Service Truck ($25.00 per hour)	$7.00
Subtotal	$27.00
Overhead	$4.00
Total	$31.00

(B) Water Service Connection Charge

Crew Leader	
Cost Per Hour (Average)	$32.00
Employees Required	1
Hours each Employee	4.00
Total Hours	4.00
Subtotal	$128.00
Supervisor	
Cost Per Hour (Average)	$48.00
Employees Required	1
Hours each Employee	2.00
Total Hours	2.00
Subtotal	$96.00
Service Worker	
Cost Per Hour (Average)	$27.00
Employees Required	2
Hours each Employee	4.00
Total Hours	8.00
Subtotal	$216.00
Total Salaries & Benefits	$440.00
Vehicle Expense	
Service Truck ($25.00 per hour)	$300.00
Backhoe ($44.00 per hour)	$176.00
Subtotal Vehicle Expense	$476.00
Materials Expense	
Average	$1,505.00
Subtotal	$2,421.00
Overhead	$339.00
Administrative	$25.00
Total	$2,785.00

(C) Sewer Service Connection Charge (Low Pressure Only)

Crew Leader	
Cost Per Hour (Average)	$32.00
Employees Required	1
Hours each Employee	4
Total Hours	4
Subtotal	$128.00
Supervisor	
Cost Per Hour (Average)	$48.00
Employees Required	1
Hours each Employee	4
Total Hours	4
Subtotal	$192.00
Service Worker	
Cost Per Hour (Average)	$27.00
Employees Required	2
Hours each Employee	4
Total Hours	8
Subtotal	$216.00
Total Salaries & Benefits	$536.00
Vehicle Expense	
Service Truck ($25.00 per hour)	$300.00
Backhoe ($44.00 per hour)	$176.00
Subtotal Vehicle Expense	$476.00
Materials Expense	
Average	$1,505.00
Subtotal	$2,517.00
Overhead	$353.00
Administrative	$25.00
Total	$2,895.00

Note: Charge is for connection made to a low-pressure sewer system. Charges for connection to gravity sewer systems will be based on actual cost plus overhead and administrative charge.

(D) Meter Installation Fee

	5/8-Inch	1-Inch	1.5-Inch
Customer Service Representative			
Cost Per Hour (Average)	$25.00	$25.00	$25.00
Employees Required	2	2	2
Hours each Employee	0.10	0.10	0.10
Total Hours	0.20	0.20	0.20
Subtotal	$5.00	$5.00	$5.00
Supervisor			
Cost Per Hour (Average)	$48.00	$48.00	$48.00
Employees Required	1	1	1
Hours each Employee	0.30	0.30	0.30
Total Hours	0.30	0.30	0.30
Subtotal	$14.40	$14.40	$14.40
Service Worker/Inspector			
Cost Per Hour (Average)	$27.00	$27.00	$27.00
Employees Required	1	1	1
Hours each Employee	0.75	0.75	1.00
Total Hours	0.75	0.75	1.00
Subtotal	$20.25	$20.25	$27.00
Total Salaries & Benefits	$40.00	$40.00	$47.00
Vehicle Expense			
Service Truck ($25.00 per hour)	$19.00	$19.00	$25.00
Materials Expense			
AMR	$174.00	$261.00	$373.00
Check Valve	$47.00	$47.00	$102.00
Subtotal Materials Expense	$221.00	$308.00	$475.00
Subtotal	$280.00	$367.00	$547.00
Overhead	$40.00	$52.00	$77.00
Administrative	$25.00	$25.00	$25.00
Total	$345.00	$444.00	$649.00

Note: Fire Hydrant and water meters 2" or greater at actual cost plus overhead and administrative charge.

(E) Meter Test Fee

	5/8-Inch	1-Inch	1.5-Inch or Larger
Customer Service Representative			
Cost Per Hour (Average)	$25.00	$25.00	$25.00
Employees Required	1	1	1
Hours each Employee	0.15	0.15	0.15
Total Hours	0.15	0.15	0.15
Subtotal	$3.75	$3.75	$3.75
Supervisor			
Cost Per Hour (Average)	$48.00	$48.00	$48.00
Employees Required	1	1	1
Hours each Employee	0.50	0.50	0.50
Total Hours	0.50	0.50	0.50
Subtotal	$24.00	$24.00	$24.00
Service Worker			
Cost Per Hour (Average)	$27.00	$27.00	$27.00
Employees Required	1	1	1
Hours each Employee	1.00	1.00	1.00
Total Hours	1.00	1.00	1.00
Subtotal	$27.00	$27.00	$27.00
Total Salaries & Benefits	$55.00	$55.00	$55.00
Vehicle Expense			
Service Truck ($25.00 per hour)	$25.00	$25.00	$25.00
Subtotal	$80.00	$80.00	$80.00
Overhead	$12.00	$12.00	$12.00
Administrative	$25.00	$25.00	$25.00
Total	$117.00	$117.00	$117.00

Note: If testing of water meter requires the meter to be removed from the customer's property, then fee will be based on actual cost plus overhead and administrative charge.

(F) Meter Removal Charges

	5/8-Inch	1-Inch	1.5-Inch or Larger
Customer Service Representative			
Cost Per Hour (Average)	$25.00	$25.00	$25.00
Employees Required	2	2	2
Hours each Employee	0.10	0.10	0.10
Total Hours	0.20	0.20	0.20
Subtotal	$5.00	$5.00	$5.00
Supervisor			
Cost Per Hour (Average)	$48.00	$48.00	$48.00
Employees Required	1	1	1
Hours each Employee	0.50	0.50	0.50
Total Hours	0.50	0.50	0.50
Subtotal	$24.00	$24.00	$24.00
Service Worker			
Cost Per Hour (Average)	$27.00	$27.00	$27.00
Employees Required	1	1	1
Hours each Employee	0.75	0.75	1.00
Total Hours	0.75	0.75	1.00
Subtotal	$20.25	$20.25	$27.00
Total Salaries & Benefits	$50.00	$50.00	$56.00
Vehicle Expense			
Service Truck ($25.00 per hour)	$19.00	$19.00	$25.00
Subtotal	$69.00	$69.00	$81.00
Overhead	$10.00	$10.00	$12.00
Administrative	$25.00	$25.00	$25.00
Total	$104.00	$104.00	$118.00

(G) Engineering Services Fee

	Per Page
Staff II	
Cost Per Hour (Average)	$27.00
Employees Required	1
Hours each Employee	0.50
Total Hours	0.50
Subtotal	$13.50
Plans Reviewer	
Cost Per Hour (Average)	$36.00
Employees Required	1
Hours each Employee	0.50
Total Hours	0.50
Subtotal	$18.00
Total Salaries & Benefits	$32.00
Overhead	$5.00
Administrative	$25.00
Total	$62.00

(H) Inspection Fee

	Water - Per Connection	Sewer - Per Connection
Utility Inspector		
Cost Per Hour (Average)	$35.00	$35.00
Employees Required	1	1
Hours each Employee	1.50	1.50
Total Hours	1.50	1.50
Total Salaries & Benefits	$52.50	$52.50
Vehicle Expense		
Service Truck ($25.00 per hour)	$38.00	$38.00
Subtotal	$90.50	$90.50
Overhead	$13.00	$13.00
Administrative	$25.00	$25.00
Total	$128.50	$128.50

(I) Customer Request Turn Off/On Fee

	Turn-Off and Turn-On	Turn-Off or Turn-On
Customer Service Representative		
Cost Per Hour (Average)	$25.00	$25.00
Employees Required	1	1
Hours each Employee	0.15	0.05
Total Hours	0.15	0.05
Subtotal	$3.75	$1.25
Supervisor		
Cost Per Hour (Average)	$48.00	$48.00
Employees Required	1	1
Hours each Employee	0.60	0.30
Total Hours	0.60	0.30
Subtotal	$28.80	$14.40
Service Worker		
Cost Per Hour (Average)	$27.00	$27.00
Employees Required	1	1
Hours each Employee	2.00	1.00
Total Hours	2.00	1.00
Subtotal	$54.00	$27.00
Total Salaries & Benefits	$87.00	$43.00
Vehicle Expense		
Service Truck ($25.00 per hour)	$50.00	$25.00
Subtotal	$137.00	$68.00
Overhead	$20.00	$10.00
Administrative	$25.00	$25.00
Total	$182.00	$103.00

(J) General Service Call Fee

	Normal Hours
Customer Service Representative	
Cost Per Hour (Average)	$25.00
Employees Required	1
Hours each Employee	0.15
Total Hours	0.15
Subtotal	$3.75
Supervisor	
Cost Per Hour (Average)	$48.00
Employees Required	1
Hours each Employee	0.60
Total Hours	0.60
Subtotal	$28.80
Service Worker	
Cost Per Hour (Average)	$27.00
Employees Required	1
Hours each Employee	1.00
Total Hours	1.00
Subtotal	$27.00
Total Salaries & Benefits	$60.00
Vehicle Expense	
Service Truck ($25.00 per hour)	$25.00
Subtotal	$85.00
Overhead	$12.00
Administrative	$25.00
Total	$122.00

(K) Meter Rereads and Leaks Inspection Fee

	Normal Hours
Customer Service Representative	
Cost Per Hour (Average)	$25.00
Employees Required	1
Hours each Employee	0.15
Total Hours	0.15
Subtotal	$3.75
Supervisor	
Cost Per Hour (Average)	$48.00
Employees Required	1
Hours each Employee	0.60
Total Hours	0.60
Subtotal	$28.80
Service Worker	
Cost Per Hour (Average)	$27.00
Employees Required	1
Hours each Employee	1.00
Total Hours	1.00
Subtotal	$27.00
Total Salaries & Benefits	$60.00
Vehicle Expense	
Service Truck ($25.00 per hour)	$25.00
Subtotal	$85.00
Overhead	$12.00
Administrative	$25.00
Total	$122.00

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July 12, 2018

Ms. Cindy Corrente
Utilities Finance Manager
Indian River County Department of Utility Services
1801 27th Street
Vero Beach, FL 32960

Subject: Appendix A: Billing Frequency Analysis

Dear Ms. Corrente:

Presented herein is our review of the customer information provided by the Indian River County Department of Utility Services (IRCDUS, or the "Utility") with respect to the water and wastewater utility customers located within IRCDUS's service area. The focus of the review was to substantiate with relative certainty and by customer classification and size of service connection: the number of accounts and equivalent residential units (ERUs); and corresponding usage characteristics. The approach to this review consisted of a comprehensive billing frequency analysis of the billing data for the 12 consecutive months ending September 30, 2017, (the "Test Period"). To verify the results, revenues were first calculated based on the resulting customer data findings and the user rates, charges and fees effective during the Test Period, and then compared to the revenues contained within the billing data register.

The following are brief discussions with summary tables regarding this important review.

Data Acquisition, Billing Frequency Analysis and Revenue Test

Access to the requested customer billing data was provided by IRCDUS allowing for electronic accumulation of individual customer water and wastewater billing. A billing frequency analysis was conducted on the billing data register, which provided by customer classification and connection size the number of billing events for each 1,000 gallon increment of metered water and wastewater usage. The results of the billing frequency analysis were then used to identify corresponding revenues based on the approved rates and charges existing during the Test Period. When compared to the water and wastewater revenues contained within the billing data, the billing frequency revenues where within approximately 0.040% of IRCDUS's accounting records. This revenue reconciliation confirmed the validity of the billing frequency findings for use in the ongoing rate study and financial feasibility program.

Summary results for the water and wastewater customer billing frequency analysis and revenue reconciliation provided is in **Table 1.** The results shown in Table 1 strongly suggest that the statistical

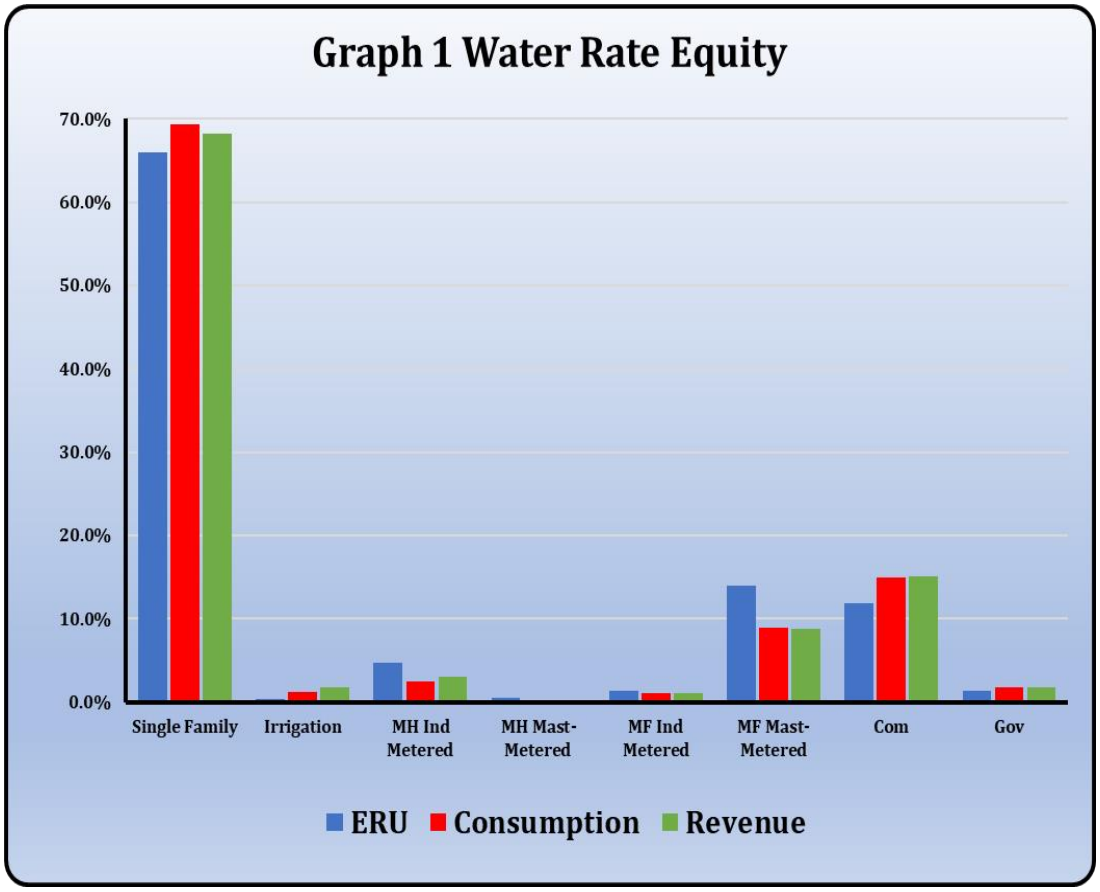
relationships associated with the accounts, ERUs, consumption/flows and revenues are relatively developed from the billing frequency analysis is representative of IRCDUS's customers.

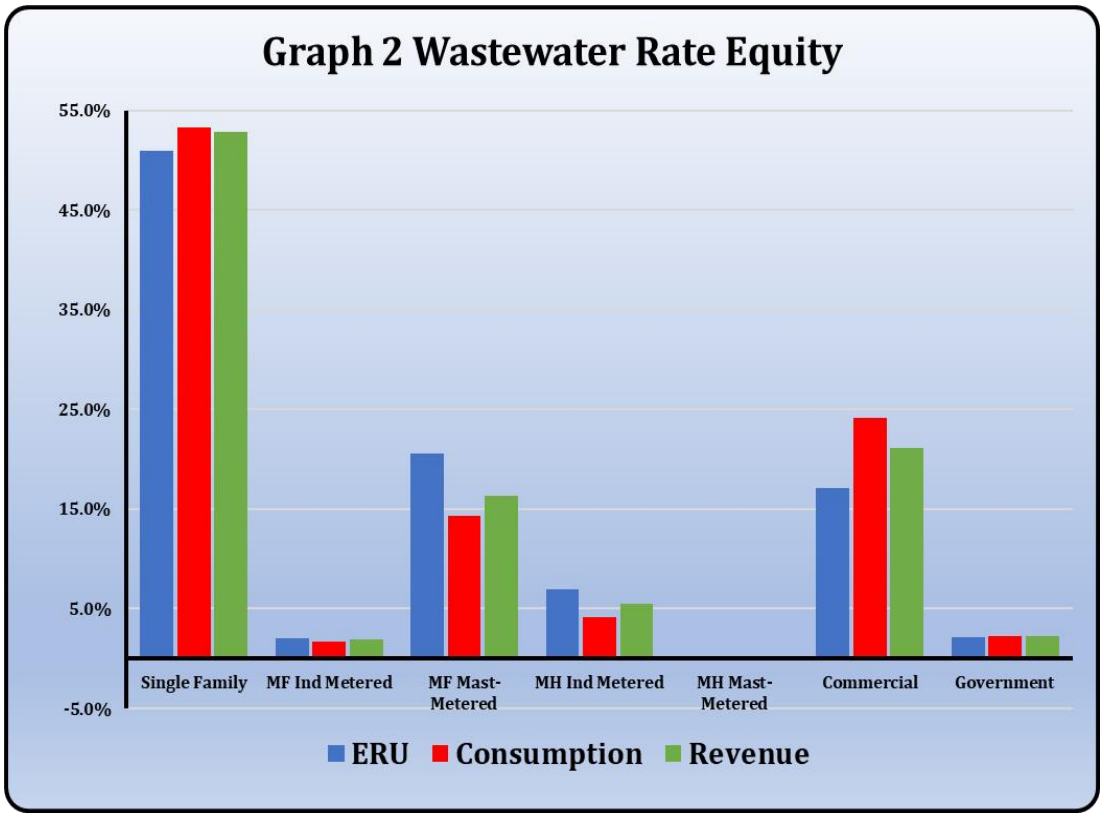
Table 1
FY 2016/17 Customer, Usage and Revenue Summary [1]

Customers & Usage			
	Average Monthly		**Usage**
	Events	**ERUs**	**Total**
Water	45,731	58,303	2,910,542
Wastewater	26,666	40,797	1,845,628
Revenue			
	Revenue		
	Base	**Usage**	**Total**
Water	$6,136,900	$8,404,400	$14,541,300
Wastewater	7,543,200	5,165,200	12,708,400
Total	$13,680,100	$13,569,600	$27,249,700
Reconciliation Analysis			
	Revenue		
	Amounts		**Difference**
	Analysis	**Recorded**	**Amount**	**Percent**
Water	$14,541,300	$14,524,787	$16,513	0.114%
Wastewater	12,708,400	12,713,993	-5,593	-0.044%
Total	$27,249,700	$27,238,780	$10,920	0.040%

1. Excludes Reclaimed Water, Fire Protection and Reserve accounts.

Relationships of ERUs, Consumption and Revenue by major customer classifications for water and wastewater are illustrated in **Graphs 1 and 2**. It can be observed in these graphs that the relationships between ERUs, Consumption and Revenue for each major customer classification are relatively balanced, which strongly suggests that the existing rate structure reasonably generates revenue on a reasonable cost of service basis and remains just and equitable. It should be noted that such relationships will vary slightly year to year; however, the goal is that the relationships are relatively balanced for each customer classification, as it would be highly unusual for the relationship to be exactly equal.


Graph 1 Water Rate Equity
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
Single Family
Irrigation
MH Ind Metered
MH Mast-Metered
MF Ind Metered
MF Mast-Metered
Com
Gov
ERU
Consumption
Revenue


Graph 2 Wastewater Rate Equity
55.0%
45.0%
35.0%
25.0%
15.0%
5.0%
-5.0%
Single Family
MF Ind Metered
MF Mast-Metered
MH Ind Metered
MH Mast-Metered
Commercial
Government
ERU
Consumption
Revenue

More detailed information on customers is provided in **Tables 2 and 3.** This information is summarized from the schedules attached to this Report. The schedules provide the actual billing frequency analysis for each customer classification and is useful in understanding the usage characteristics especially with respect to the conservation usage blocks in the rate structure.

Table 2
Water Customer Billing Frequency (October 2016 - September 2017)
Consumption Analysis

			Annual Consumption (000s)					
Description	**Accounts**	**ERUs**	**Block 1**	**Block 2**	**Block 3**	**Block 4**	**Total**	**Monthly AVG/ERU**
Single Family	39,393	39,632	1,107,041	586,090	187,096	135,670	2,015,897	4.24
Multi-Family								
Ind Metered	823	700	18,640	7,079	1,694	3,104	30,517	3.63
Master-Metered	539	7,164	200,609	47,939	7,845	2,612	259,005	3.01
Subtotal	1,362	7,864	219,249	55,018	9,539	5,716	289,522	3.07
Manufactured Home								
Ind Metered	2,822	2,399	53,604	14,405	3,254	2,995	74,258	2.58
Master-Metered	6	249	7,109	1,053	0	0	8,162	2.73
Subtotal	2,828	2,648	60,713	15,458	3,254	2,995	82,420	2.59
Commercial	1,942	7,109	182,970	113,535	64,264	73,872	434,641	5.09
Government	99	811	17,408	14,661	10,099	7,411	49,579	5.09
Irrigation								
Single Family	48	57	1,371	1,647	2,014	7,192	12,224	17.87
Commercial	47	170	4,324	3,144	2,408	14,902	24,778	12.15
Subtotal	95	227	5,695	4,791	4,422	22,094	37,002	13.58
Reclaimed Water	2	5	146	192	262	2,098	2,698	44.97
Hydrant	12	12	226	184	182	889	1,481	10.28
Reserve	321	1,705	0	0	0	0	0	0.00
Total Water System	46,054	60,013	1,593,448	789,929	279,118	250,745	2,913,240	N/A

Table 3
Water Customer Billing Frequency (October 2016 - September 2017)
Revenue Analysis

Description	Accts.	ERUs	Billing Charge Per Acct	Base Charge Per ERU	Annual Usage Revenue					Total Charges
					Block 1	Block 2	Block 3	Block 4	Total	
Rates			**$1.29**	**$7.76**	**$2.20**	**$2.42**	**$3.85**	**$7.70**		
Single Family	39,393	39,632	$609,800	$3,690,500	$2,435,500	$1,418,300	$720,300	$1,044,700	$5,618,800	$9,919,100
Multi-Family										
Ind Metered	823	700	$12,700	$65,200	$41,000	$17,100	$6,500	$23,900	$88,500	$166,400
Master-Metered	539	7,164	8,300	667,100	441,300	116,000	30,200	20,100	607,600	1,283,000
Subtotal	1,362	7,864	$21,000	$732,300	$482,300	$133,100	$36,700	$44,000	$696,100	$1,449,400
Manufactured Home										
Ind Metered	2,822	2,399	$43,700	$223,400	$117,900	$34,900	$12,500	$23,100	$188,400	$455,500
Master-Metered	6	249	100	23,200	15,600	2,500	0	0	18,100	41,400
Subtotal	2,828	2,648	$43,800	$246,600	$133,500	$37,400	$12,500	$23,100	$206,500	$496,900
Commercial	1,942	7,109	$30,100	$662,000	$402,500	$274,800	$247,400	$568,800	$1,493,500	$2,185,600
Government	99	811	$1,500	$75,500	$38,300	$35,500	$38,900	$57,100	$169,800	$246,800
Irrigation										
Single Family	48	57	$700	$5,300	$3,000	$4,000	$7,800	$55,400	$70,200	$76,200
Commercial	47	170	700	15,800	9,500	7,600	9,300	114,700	141,100	157,600
Subtotal	95	227	$1,400	$21,100	$12,500	$11,600	$17,100	$170,100	$211,300	$233,800
Reclaimed Water	2	5	$0	$500	$300	$500	$1,000	$16,200	$18,000	$18,500
Hydrant	12	12	$200	$1,100	$500	$400	$700	$6,800	$8,400	$9,700
Reserve	321	1,705	$5,000	$158,800	$0	$0	$0	$0	$0	$163,800
Total Water System	46,054	60,013	$712,800	$5,588,400	$3,505,400	$1,911,600	$1,074,600	$1,930,800	$8,422,400	$14,723,600

Note: The Reserve customer classification excludes accounts that are currently being built in the County and accounts that have been delinquent.

Findings

The customer data received from IRCDUS is believed to be sufficient for the Test Period. Although not audited the financial data reflecting revenues associated with the charges for monthly water and wastewater services also appears to be complete and representative of such activities for the Test Period. The results identified through the billing frequency analysis, as summarized in Tables 1, 2, and 3, and illustrated in Graphs 1 and 2 prepared from detailed data were reconciled to approximately 0.040 percent of the provided revenues, and are therefore believed to be materially representative of the customer classifications, equivalencies and consumption characteristics as of September 30, 2017.

We thank you for the opportunity to be of service in this important matter and your staff for assistance in obtaining information and data required for this study.

Very truly yours,
Raftelis Financial Consultants, Inc.

Marco H. Rocca, C.M.C.
Principal Consultant

Robin Chacko
Consultant

APPENDIX A

Schedule 1
Indian River County
Water Customer Billing Frequency Analysis
Analysis Period October 2016 Through September 2017
Single Family

Gallons X 000	Consumption Level Events				Cumulative Billing				Reverse Billing			
	Events	Percent	Flow	Percent	Events	Percent	Flow	Percent	Events	Percent	Flow	Percent
0	50,741	10.67%	0	0.00%	50,741	10.67%	0	0.00%	475,583	100.00%	0	0.00%
1	48,429	10.18%	424,552	21.06%	99,170	20.85%	424,552	21.06%	424,842	89.33%	800,965	39.73%
2	69,733	14.66%	376,104	18.66%	168,903	35.51%	800,656	39.72%	376,413	79.15%	1,414,016	70.14%
3	77,025	16.20%	306,385	15.20%	245,928	51.71%	1,107,041	54.92%	306,680	64.49%	1,796,006	89.09%
4	66,552	13.99%	229,441	11.38%	312,480	65.70%	1,336,482	66.30%	229,655	48.29%	1,988,894	98.66%
5	49,274	10.36%	163,081	8.09%	361,754	76.07%	1,499,563	74.39%	163,103	34.30%	2,068,708	102.62%
6	34,053	7.16%	113,801	5.65%	395,807	83.23%	1,613,364	80.03%	113,829	23.93%	2,092,020	103.78%
7	22,930	4.82%	79,767	3.96%	418,737	88.05%	1,693,131	83.99%	79,776	16.77%	2,091,053	103.73%
8	15,491	3.26%	56,840	2.82%	434,228	91.30%	1,749,971	86.81%	56,846	11.95%	2,080,811	103.22%
9	10,376	2.18%	41,349	2.05%	444,604	93.49%	1,791,320	88.86%	41,355	8.70%	2,070,131	102.69%
10	7,152	1.50%	30,965	1.54%	451,756	94.99%	1,822,285	90.40%	30,979	6.51%	2,060,555	102.22%
11	4,923	1.04%	23,823	1.18%	456,679	96.03%	1,846,108	91.58%	23,827	5.01%	2,054,052	101.89%
12	3,679	0.77%	18,895	0.94%	460,358	96.80%	1,865,003	92.51%	18,904	3.97%	2,047,703	101.58%
13	2,715	0.57%	15,224	0.76%	463,073	97.37%	1,880,227	93.27%	15,225	3.20%	2,042,857	101.34%
14	2,137	0.45%	12,509	0.62%	465,210	97.82%	1,892,736	93.89%	12,510	2.63%	2,037,958	101.09%
15	1,666	0.35%	10,365	0.51%	466,876	98.17%	1,903,101	94.40%	10,373	2.18%	2,033,706	100.88%
20	4,357	0.92%	33,017	1.64%	471,233	99.09%	1,936,118	96.04%	8,707	1.83%	2,023,118	100.36%
30	2,584	0.54%	28,900	1.43%	473,817	99.63%	1,965,018	97.48%	4,350	0.91%	2,017,998	100.10%
60	1,263	0.27%	27,541	1.37%	475,080	99.89%	1,992,559	98.84%	1,766	0.37%	2,022,739	100.34%
100	321	0.07%	12,212	0.61%	475,401	99.96%	2,004,771	99.45%	503	0.11%	2,022,971	100.35%
150	123	0.03%	5,639	0.28%	475,524	99.99%	2,010,410	99.73%	182	0.04%	2,019,260	100.17%
1000	59	0.01%	5,487	0.27%	475,583	100.00%	2,015,897	100.00%	59	0.01%	2,015,897	100.00%
	475,583		2,015,897									

APPENDIX A

Schedule 2
Indian River County
Water Customer Billing Frequency Analysis
Analysis Period October 2016 Through September 2017
Individually Metered Multi-Family

Gallons X 000	Consumption Level Events				Cumulative Billing				Reverse Billing			
	Events	Percent	Flow	Percent	Events	Percent	Flow	Percent	Events	Percent	Flow	Percent
0	818	9.74%	0	0.00%	818	9.74%	0	0.00%	8,395	100.00%	0	0.00%
1	1,965	23.41%	7,924	25.96%	2,783	33.15%	7,924	25.96%	7,577	90.26%	13,535	44.35%
2	1,890	22.52%	6,279	20.58%	4,673	55.67%	14,203	46.54%	5,612	66.85%	21,645	70.93%
3	1,352	16.11%	4,437	14.54%	6,026	71.78%	18,640	61.08%	3,721	44.33%	25,747	84.37%
4	887	10.56%	2,995	9.81%	6,912	82.34%	21,635	70.89%	2,369	28.22%	27,564	90.32%
5	570	6.79%	1,986	6.51%	7,483	89.14%	23,620	77.40%	1,482	17.66%	28,181	92.34%
6	316	3.77%	1,247	4.09%	7,799	92.90%	24,867	81.49%	912	10.86%	28,442	93.20%
7	207	2.47%	852	2.79%	8,006	95.37%	25,719	84.28%	596	7.10%	28,438	93.19%
8	127	1.51%	567	1.86%	8,133	96.88%	26,286	86.14%	388	4.63%	28,381	93.00%
9	82	0.98%	393	1.29%	8,215	97.86%	26,679	87.42%	262	3.12%	28,293	92.71%
10	35	0.42%	241	0.79%	8,250	98.28%	26,920	88.21%	179	2.14%	28,365	92.95%
11	26	0.30%	194	0.64%	8,276	98.58%	27,114	88.85%	144	1.72%	28,423	93.14%
12	20	0.23%	160	0.53%	8,295	98.82%	27,274	89.37%	119	1.42%	28,468	93.29%
13	17	0.20%	138	0.45%	8,312	99.02%	27,413	89.83%	99	1.18%	28,485	93.34%
14	9	0.11%	106	0.35%	8,322	99.13%	27,518	90.17%	82	0.98%	28,542	93.53%
15	8	0.09%	93	0.31%	8,329	99.22%	27,612	90.48%	73	0.87%	28,594	93.70%
20	28	0.33%	349	1.14%	8,357	99.55%	27,961	91.62%	65	0.78%	28,709	94.08%
30	15	0.18%	353	1.16%	8,373	99.74%	28,314	92.78%	37	0.45%	28,977	94.95%
60	11	0.13%	548	1.80%	8,384	99.87%	28,862	94.58%	22	0.26%	29,525	96.75%
100	1	0.01%	423	1.39%	8,384	99.88%	29,285	95.96%	11	0.13%	30,305	99.31%
150	7	0.08%	550	1.80%	8,391	99.96%	29,835	97.77%	10	0.12%	30,345	99.44%
1000	3	0.04%	682	2.23%	8,395	100.00%	30,517	100.00%	3	0.04%	30,517	100.00%
	8,395		30,517									

APPENDIX A

Schedule 3
Indian River County
Water Customer Billing Frequency Analysis
Analysis Period October 2016 Through September 2017
Master-Metered Multi-Family

Gallons X 000	Consumption Level Events				Cumulative Billing				Reverse Billing			
	Events	Percent	Flow	Percent	Events	Percent	Flow	Percent	Events	Percent	Flow	Percent
0	894	1.04%	0	0.00%	894	1.04%	0	0.00%	85,966	100.00%	0	0.00%
1	9,506	11.06%	83,437	32.21%	10,401	12.10%	83,437	32.21%	85,071	98.96%	159,002	61.39%
2	27,788	32.32%	71,183	27.48%	38,189	44.42%	154,620	59.70%	75,565	87.90%	250,173	96.59%
3	24,562	28.57%	45,989	17.76%	62,751	73.00%	200,609	77.45%	47,777	55.58%	270,252	104.34%
4	11,722	13.64%	23,680	9.14%	74,473	86.63%	224,289	86.60%	23,214	27.00%	270,261	104.35%
5	5,186	6.03%	12,727	4.91%	79,659	92.66%	237,016	91.51%	11,493	13.37%	268,551	103.69%
6	2,736	3.18%	7,202	2.78%	82,395	95.85%	244,218	94.29%	6,307	7.34%	265,643	102.56%
7	1,275	1.48%	4,330	1.67%	83,670	97.33%	248,548	95.96%	3,571	4.15%	264,619	102.17%
8	1,012	1.18%	3,095	1.19%	84,681	98.51%	251,643	97.16%	2,296	2.67%	261,918	101.12%
9	460	0.53%	1,685	0.65%	85,141	99.04%	253,328	97.81%	1,284	1.49%	260,748	100.67%
10	269	0.31%	1,174	0.45%	85,411	99.35%	254,502	98.26%	825	0.96%	260,052	100.40%
11	98	0.11%	700	0.27%	85,508	99.47%	255,201	98.53%	555	0.65%	260,232	100.47%
12	124	0.14%	685	0.26%	85,632	99.61%	255,886	98.80%	457	0.53%	259,885	100.34%
13	111	0.13%	507	0.20%	85,743	99.74%	256,393	98.99%	333	0.39%	259,288	100.11%
14	18	0.02%	250	0.10%	85,761	99.76%	256,643	99.09%	223	0.26%	259,511	100.20%
15	19	0.02%	246	0.10%	85,779	99.78%	256,889	99.18%	205	0.24%	259,682	100.26%
20	111	0.13%	882	0.34%	85,890	99.91%	257,771	99.52%	186	0.22%	259,284	100.11%
30	48	0.06%	609	0.24%	85,938	99.97%	258,380	99.76%	76	0.09%	259,196	100.07%
60	26	0.03%	560	0.22%	85,964	100.00%	258,940	99.97%	27	0.03%	259,042	100.01%
100	2	0.00%	65	0.03%	85,966	100.00%	259,005	100.00%	2	0.00%	259,005	100.00%
150	0	0.00%	0	0.00%	85,966	100.00%	259,005	100.00%	0	0.00%	259,005	100.00%
1000	0	0.00%	0	0.00%	85,966	100.00%	259,005	100.00%	0	0.00%	259,005	100.00%
	85,966		259,005									

APPENDIX A

Schedule 4
Indian River County
Water Customer Billing Frequency Analysis
Analysis Period October 2016 Through September 2017
Individually Metered Manufactured Home

Gallons X 000	Consumption Level Events				Cumulative Billing				Reverse Billing			
	Events	Percent	Flow	Percent	Events	Percent	Flow	Percent	Events	Percent	Flow	Percent
0	6,764	23.50%	0	0.00%	6,764	23.50%	0	0.00%	28,789	100.00%	0	0.00%
1	5,858	20.35%	23,058	31.05%	12,623	43.85%	23,058	31.05%	22,024	76.50%	39,224	52.82%
2	6,471	22.48%	18,450	24.85%	19,094	66.32%	41,508	55.90%	16,166	56.15%	60,898	82.01%
3	4,535	15.75%	12,096	16.29%	23,628	82.08%	53,604	72.19%	9,695	33.68%	69,085	93.03%
4	2,317	8.05%	6,796	9.15%	25,945	90.12%	60,400	81.34%	5,160	17.92%	71,773	96.65%
5	1,211	4.21%	3,912	5.27%	27,157	94.33%	64,312	86.61%	2,843	9.88%	72,472	97.59%
6	609	2.11%	2,276	3.07%	27,765	96.45%	66,588	89.67%	1,632	5.67%	72,729	97.94%
7	321	1.12%	1,420	1.91%	28,087	97.56%	68,009	91.58%	1,023	3.55%	72,923	98.20%
8	196	0.68%	979	1.32%	28,283	98.24%	68,988	92.90%	702	2.44%	73,034	98.35%
9	119	0.41%	695	0.94%	28,402	98.66%	69,683	93.84%	506	1.76%	73,164	98.53%
10	88	0.30%	541	0.73%	28,489	98.96%	70,224	94.57%	387	1.34%	73,216	98.60%
11	57	0.20%	410	0.55%	28,546	99.16%	70,634	95.12%	299	1.04%	73,299	98.71%
12	48	0.17%	343	0.46%	28,594	99.32%	70,977	95.58%	242	0.84%	73,313	98.73%
13	40	0.14%	286	0.39%	28,634	99.46%	71,263	95.97%	195	0.68%	73,274	98.68%
14	25	0.09%	216	0.29%	28,659	99.55%	71,479	96.26%	155	0.54%	73,299	98.71%
15	16	0.06%	173	0.23%	28,675	99.60%	71,652	96.49%	130	0.45%	73,360	98.79%
20	48	0.17%	605	0.82%	28,722	99.77%	72,257	97.31%	114	0.40%	73,583	99.09%
30	32	0.11%	625	0.84%	28,755	99.88%	72,882	98.15%	66	0.23%	73,902	99.52%
60	26	0.09%	722	0.97%	28,781	99.97%	73,604	99.12%	34	0.12%	74,063	99.74%
100	4	0.01%	215	0.29%	28,785	99.99%	73,819	99.41%	8	0.03%	74,159	99.87%
150	3	0.01%	146	0.20%	28,788	100.00%	73,965	99.60%	3	0.01%	74,092	99.78%
1000	1	0.00%	293	0.40%	28,789	100.00%	74,258	100.00%	1	0.00%	74,258	100.00%
	28,789		74,258									

APPENDIX A

Schedule 5
Indian River County
Water Customer Billing Frequency Analysis
Analysis Period October 2016 Through September 2017
Master-Metered Manufactured Home

Gallons X 000	Consumption Level Events				Cumulative Billing				Reverse Billing			
	Events	Percent	Flow	Percent	Events	Percent	Flow	Percent	Events	Percent	Flow	Percent
0	0	0.00%	0	0.00%	0	0.00%	0	0.00%	2,989	100.00%	0	0.00%
1	440	14.73%	2,914	35.71%	440	14.73%	2,914	35.71%	2,989	100.00%	5,463	66.93%
2	775	25.94%	2,413	29.56%	1,216	40.67%	5,327	65.27%	2,548	85.27%	8,873	108.72%
3	893	29.86%	1,782	21.83%	2,108	70.53%	7,109	87.10%	1,773	59.33%	9,751	119.46%
4	775	25.94%	905	11.09%	2,883	96.47%	8,014	98.18%	881	29.47%	8,435	103.35%
5	84	2.82%	109	1.33%	2,967	99.29%	8,122	99.51%	105	3.53%	8,229	100.81%
6	21	0.71%	40	0.49%	2,989	100.00%	8,162	100.00%	21	0.71%	8,162	100.00%
7	0	0.00%	0	0.00%	2,989	100.00%	8,162	100.00%	(0)	0.00%	8,162	100.00%
8	0	0.00%	0	0.00%	2,989	100.00%	8,162	100.00%	(0)	0.00%	8,162	100.00%
9	0	0.00%	0	0.00%	2,989	100.00%	8,162	100.00%	(0)	0.00%	8,162	100.00%
10	0	0.00%	0	0.00%	2,989	100.00%	8,162	100.00%	(0)	0.00%	8,162	100.00%
11	0	0.00%	0	0.00%	2,989	100.00%	8,162	100.00%	(0)	0.00%	8,162	100.00%
12	0	0.00%	0	0.00%	2,989	100.00%	8,162	100.00%	(0)	0.00%	8,162	100.00%
13	0	0.00%	0	0.00%	2,989	100.00%	8,162	100.00%	(0)	0.00%	8,162	100.00%
14	0	0.00%	0	0.00%	2,989	100.00%	8,162	100.00%	(0)	0.00%	8,162	100.00%
15	0	0.00%	0	0.00%	2,989	100.00%	8,162	100.00%	(0)	0.00%	8,162	100.00%
20	0	0.00%	0	0.00%	2,989	100.00%	8,162	100.00%	(0)	0.00%	8,162	100.00%
30	0	0.00%	0	0.00%	2,989	100.00%	8,162	100.00%	(0)	0.00%	8,162	100.00%
60	0	0.00%	0	0.00%	2,989	100.00%	8,162	100.00%	(0)	0.00%	8,162	100.00%
100	0	0.00%	0	0.00%	2,989	100.00%	8,162	100.00%	(0)	0.00%	8,162	100.00%
150	0	0.00%	0	0.00%	2,989	100.00%	8,162	100.00%	(0)	0.00%	8,162	100.00%
1000	0	0.00%	0	0.00%	2,989	100.00%	8,162	100.00%	(0)	0.00%	8,162	100.00%
	2,989		8,162									

APPENDIX A

Schedule 6
Indian River County
Water Customer Billing Frequency Analysis
Analysis Period October 2016 Through September 2017
Commercial

Gallons X 000	Consumption Level Events				Cumulative Billing				Reverse Billing			
	Events	Percent	Flow	Percent	Events	Percent	Flow	Percent	Events	Percent	Flow	Percent
0	7,112	8.34%	0	0.00%	7,112	8.34%	0	0.00%	85,307	100.00%	0	0.00%
1	13,618	15.96%	73,624	16.94%	20,730	24.30%	73,624	16.94%	78,195	91.66%	138,201	31.80%
2	10,976	12.87%	60,636	13.95%	31,706	37.17%	134,260	30.89%	64,577	75.70%	241,462	55.55%
3	11,743	13.77%	48,710	11.21%	43,449	50.93%	182,970	42.10%	53,601	62.83%	308,544	70.99%
4	8,326	9.76%	38,505	8.86%	51,775	60.69%	221,475	50.96%	41,858	49.07%	355,603	81.82%
5	6,661	7.81%	30,475	7.01%	58,436	68.50%	251,950	57.97%	33,532	39.31%	386,305	88.88%
6	5,282	6.19%	24,755	5.70%	63,718	74.69%	276,705	63.66%	26,871	31.50%	406,239	93.47%
7	4,076	4.78%	19,800	4.56%	67,794	79.47%	296,505	68.22%	21,589	25.31%	419,096	96.42%
8	3,103	3.64%	16,353	3.76%	70,897	83.11%	312,858	71.98%	17,513	20.53%	428,138	98.50%
9	2,265	2.66%	13,519	3.11%	73,162	85.76%	326,377	75.09%	14,410	16.89%	435,682	100.24%
10	2,098	2.46%	11,301	2.60%	75,260	88.22%	337,678	77.69%	12,145	14.24%	438,148	100.81%
11	1,851	2.17%	9,247	2.13%	77,111	90.39%	346,925	79.82%	10,047	11.78%	437,081	100.56%
12	1,373	1.61%	7,554	1.74%	78,484	92.00%	354,479	81.56%	8,196	9.61%	436,355	100.39%
13	1,085	1.27%	6,290	1.45%	79,569	93.27%	360,769	83.00%	6,823	8.00%	435,363	100.17%
14	1,183	1.39%	5,293	1.22%	80,752	94.66%	366,062	84.22%	5,738	6.73%	429,832	98.89%
15	606	0.71%	4,244	0.98%	81,358	95.37%	370,306	85.20%	4,555	5.34%	429,541	98.83%
20	1,618	1.90%	15,467	3.56%	82,976	97.27%	385,773	88.76%	3,949	4.63%	432,393	99.48%
30	1,279	1.50%	15,993	3.68%	84,255	98.77%	401,766	92.44%	2,331	2.73%	433,326	99.70%
60	765	0.90%	15,626	3.60%	85,020	99.66%	417,392	96.03%	1,052	1.23%	434,612	99.99%
100	193	0.23%	7,255	1.67%	85,213	99.89%	424,647	97.70%	287	0.34%	434,047	99.86%
150	40	0.05%	3,705	0.85%	85,253	99.94%	428,352	98.55%	94	0.11%	436,452	100.42%
1000	54	0.06%	6,289	1.45%	85,307	100.00%	434,641	100.00%	54	0.06%	434,641	100.00%
	85,307		434,641									

APPENDIX A

Schedule 7
Indian River County
Water Customer Billing Frequency Analysis
Analysis Period October 2016 Through September 2017
Government

Gallons X 000	Consumption Level Events				Cumulative Billing				Reverse Billing			
	Events	Percent	Flow	Percent	Events	Percent	Flow	Percent	Events	Percent	Flow	Percent
0	768	7.89%	0	0.00%	768	7.89%	0	0.00%	9,734	100.00%	0	0.00%
1	3,255	33.44%	7,161	14.44%	4,023	41.33%	7,161	14.44%	8,966	92.11%	12,872	25.96%
2	646	6.64%	5,431	10.95%	4,669	47.97%	12,592	25.40%	5,711	58.67%	22,722	45.83%
3	557	5.72%	4,816	9.71%	5,226	53.69%	17,408	35.11%	5,065	52.03%	30,932	62.39%
4	486	4.99%	4,319	8.71%	5,712	58.68%	21,727	43.82%	4,508	46.31%	37,815	76.27%
5	493	5.06%	3,790	7.64%	6,205	63.75%	25,517	51.47%	4,022	41.32%	43,162	87.06%
6	206	2.12%	3,434	6.93%	6,411	65.86%	28,951	58.39%	3,529	36.25%	48,889	98.61%
7	480	4.93%	3,118	6.29%	6,891	70.79%	32,069	64.68%	3,323	34.14%	51,970	104.82%
8	341	3.50%	2,685	5.42%	7,232	74.30%	34,754	70.10%	2,843	29.21%	54,770	110.47%
9	244	2.51%	2,369	4.78%	7,476	76.80%	37,123	74.88%	2,502	25.70%	57,445	115.87%
10	640	6.57%	2,021	4.08%	8,116	83.38%	39,144	78.95%	2,258	23.20%	55,324	111.59%
11	483	4.96%	1,407	2.84%	8,599	88.34%	40,551	81.79%	1,618	16.62%	53,036	106.97%
12	341	3.50%	945	1.91%	8,940	91.84%	41,496	83.70%	1,135	11.66%	51,024	102.91%
13	159	1.63%	672	1.36%	9,099	93.48%	42,168	85.05%	794	8.16%	50,423	101.70%
14	13	0.13%	631	1.27%	9,112	93.61%	42,799	86.32%	635	6.52%	51,507	103.89%
15	292	3.00%	423	0.85%	9,404	96.61%	43,222	87.18%	622	6.39%	48,172	97.16%
20	88	0.90%	1,364	2.75%	9,492	97.51%	44,586	89.93%	330	3.39%	49,426	99.69%
30	69	0.71%	2,051	4.14%	9,561	98.22%	46,637	94.07%	242	2.49%	51,827	104.53%
60	146	1.50%	2,354	4.75%	9,707	99.72%	48,991	98.81%	173	1.78%	50,611	102.08%
100	24	0.25%	457	0.92%	9,731	99.97%	49,448	99.74%	27	0.28%	49,748	100.34%
150	1	0.01%	101	0.20%	9,732	99.98%	49,549	99.94%	3	0.03%	49,849	100.54%
1000	2	0.02%	30	0.06%	9,734	100.00%	49,579	100.00%	2	0.02%	49,579	100.00%
	9,734		49,579									

APPENDIX A

Schedule 8
Indian River County
Water Customer Billing Frequency Analysis
Analysis Period October 2016 Through September 2017
Single Family Irrigation

Gallons X 000	Consumption Level Events				Cumulative Billing				Reverse Billing			
	Events	Percent	Flow	Percent	Events	Percent	Flow	Percent	Events	Percent	Flow	Percent
0	216	31.81%	0	0.00%	216	31.81%	0	0.00%	679	100.00%	0	0.00%
1	6	0.88%	463	3.79%	222	32.70%	463	3.79%	463	68.19%	920	7.53%
2	6	0.88%	457	3.74%	228	33.58%	920	7.53%	457	67.30%	1,822	14.91%
3	16	2.36%	451	3.69%	244	35.94%	1,371	11.22%	451	66.42%	2,676	21.89%
4	20	2.95%	435	3.56%	264	38.88%	1,806	14.77%	435	64.06%	3,466	28.35%
5	11	1.62%	415	3.39%	275	40.50%	2,221	18.17%	415	61.12%	4,241	34.69%
6	11	1.62%	404	3.30%	286	42.12%	2,625	21.47%	404	59.50%	4,983	40.76%
7	10	1.47%	393	3.21%	296	43.59%	3,018	24.69%	393	57.88%	5,699	46.62%
8	17	2.50%	381	3.12%	313	46.10%	3,399	27.81%	383	56.41%	6,327	51.76%
9	10	1.47%	366	2.99%	323	47.57%	3,765	30.80%	366	53.90%	6,969	57.01%
10	15	2.21%	354	2.90%	338	49.78%	4,119	33.70%	356	52.43%	7,529	61.59%
11	41	6.04%	328	2.68%	379	55.82%	4,447	36.38%	341	50.22%	7,747	63.38%
12	11	1.62%	300	2.45%	390	57.44%	4,747	38.83%	300	44.18%	8,215	67.20%
13	15	2.21%	285	2.33%	405	59.65%	5,032	41.16%	289	42.56%	8,594	70.30%
14	8	1.18%	274	2.24%	413	60.82%	5,306	43.41%	274	40.35%	9,030	73.87%
15	16	2.36%	266	2.18%	429	63.18%	5,572	45.58%	266	39.18%	9,322	76.26%
20	48	7.07%	1,157	9.46%	477	70.25%	6,729	55.05%	250	36.82%	10,769	88.10%
30	95	13.99%	1,531	12.52%	572	84.24%	8,260	67.57%	202	29.75%	11,470	93.83%
60	76	11.19%	1,790	14.64%	648	95.43%	10,050	82.22%	107	15.76%	11,910	97.43%
100	18	2.65%	705	5.77%	666	98.09%	10,755	87.98%	31	4.57%	12,055	98.62%
150	1	0.15%	606	4.96%	667	98.23%	11,361	92.94%	13	1.91%	13,161	107.67%
1000	12	1.77%	863	7.06%	679	100.00%	12,224	100.00%	12	1.77%	12,224	100.00%
	679		12,224									

APPENDIX A

Schedule 9
Indian River County
Water Customer Billing Frequency Analysis
Analysis Period October 2016 Through September 2017
Commercial Irrigation

Gallons X 000	Consumption Level Events				Cumulative Billing				Reverse Billing			
	Events	Percent	Flow	Percent	Events	Percent	Flow	Percent	Events	Percent	Flow	Percent
0	387	18.97%	0	0.00%	387	18.97%	0	0.00%	2,040	100.00%	0	0.00%
1	106	5.20%	1,625	6.56%	493	24.17%	1,625	6.56%	1,653	81.03%	3,172	12.80%
2	203	9.95%	1,470	5.93%	696	34.12%	3,095	12.49%	1,547	75.83%	5,783	23.34%
3	249	12.21%	1,229	4.96%	945	46.32%	4,324	17.45%	1,344	65.88%	7,609	30.71%
4	69	3.38%	1,046	4.22%	1,014	49.71%	5,370	21.67%	1,095	53.68%	9,474	38.24%
5	311	15.25%	901	3.64%	1,325	64.95%	6,271	25.31%	1,026	50.29%	9,846	39.74%
6	151	7.40%	662	2.67%	1,476	72.35%	6,933	27.98%	715	35.05%	10,317	41.64%
7	47	2.30%	535	2.16%	1,523	74.66%	7,468	30.14%	564	27.65%	11,087	44.75%
8	59	2.89%	492	1.99%	1,582	77.55%	7,960	32.13%	517	25.34%	11,624	46.91%
9	37	1.81%	455	1.84%	1,619	79.36%	8,415	33.96%	458	22.45%	12,204	49.25%
10	58	2.84%	409	1.65%	1,677	82.21%	8,824	35.61%	421	20.64%	12,454	50.26%
11	8	0.39%	363	1.47%	1,685	82.60%	9,187	37.08%	363	17.79%	13,092	52.84%
12	15	0.74%	353	1.42%	1,700	83.33%	9,540	38.50%	355	17.40%	13,620	54.97%
13	20	0.98%	336	1.36%	1,720	84.31%	9,876	39.86%	340	16.67%	14,036	56.65%
14	8	0.39%	319	1.29%	1,728	84.71%	10,195	41.15%	320	15.69%	14,563	58.77%
15	2	0.10%	312	1.26%	1,730	84.80%	10,507	42.40%	312	15.29%	15,157	61.17%
20	21	1.03%	1,506	6.08%	1,751	85.83%	12,013	48.48%	310	15.20%	17,793	71.81%
30	69	3.38%	2,574	10.39%	1,820	89.22%	14,587	58.87%	289	14.17%	21,187	85.51%
60	99	4.85%	4,879	19.69%	1,919	94.07%	19,466	78.56%	220	10.78%	26,726	107.86%
100	74	3.63%	3,200	12.91%	1,993	97.70%	22,666	91.48%	121	5.93%	27,366	110.44%
150	32	1.57%	1,335	5.39%	2,025	99.26%	24,001	96.86%	47	2.30%	26,251	105.94%
1000	15	0.74%	777	3.14%	2,040	100.00%	24,778	100.00%	15	0.74%	24,778	100.00%
	2,040		24,778									

APPENDIX A

Schedule 10
Indian River County
Water Customer Billing Frequency Analysis
Analysis Period October 2016 Through September 2017
Reclaimed Water

Gallons X 000	Consumption Level Events				Cumulative Billing				Reverse Billing			
	Events	Percent	Flow	Percent	Events	Percent	Flow	Percent	Events	Percent	Flow	Percent
0	10	16.67%	0	0.00%	10	16.67%	0	0.00%	60	100.00%	0	0.00%
1	2	3.33%	50	1.85%	12	20.00%	50	1.85%	50	83.33%	98	3.63%
2	0	0.00%	48	1.78%	12	20.00%	98	3.63%	48	80.00%	194	7.19%
3	0	0.00%	48	1.78%	12	20.00%	146	5.41%	48	80.00%	290	10.75%
4	0	0.00%	48	1.78%	12	20.00%	194	7.19%	48	80.00%	386	14.31%
5	0	0.00%	48	1.78%	12	20.00%	242	8.97%	48	80.00%	482	17.87%
6	0	0.00%	48	1.78%	12	20.00%	290	10.75%	48	80.00%	578	21.42%
7	0	0.00%	48	1.78%	12	20.00%	338	12.53%	48	80.00%	674	24.98%
8	0	0.00%	48	1.78%	12	20.00%	386	14.31%	48	80.00%	770	28.54%
9	4	6.67%	45	1.67%	16	26.67%	431	15.97%	48	80.00%	827	30.65%
10	0	0.00%	44	1.63%	16	26.67%	475	17.61%	44	73.33%	915	33.91%
11	0	0.00%	44	1.63%	16	26.67%	519	19.24%	44	73.33%	1,003	37.18%
12	4	6.67%	41	1.52%	20	33.33%	560	20.76%	44	73.33%	1,040	38.55%
13	0	0.00%	40	1.48%	20	33.33%	600	22.24%	40	66.67%	1,120	41.51%
14	0	0.00%	40	1.48%	20	33.33%	640	23.72%	40	66.67%	1,200	44.48%
15	0	0.00%	40	1.48%	20	33.33%	680	25.20%	40	66.67%	1,280	47.44%
20	8	13.33%	167	6.19%	28	46.67%	847	31.39%	40	66.67%	1,487	55.11%
30	4	6.67%	316	11.71%	32	53.33%	1,163	43.11%	32	53.33%	2,003	74.24%
60	12	20.00%	672	24.91%	44	73.33%	1,835	68.01%	28	46.67%	2,795	103.60%
100	8	13.33%	382	14.16%	52	86.67%	2,217	82.17%	16	26.67%	3,017	111.82%
150	4	6.67%	370	13.71%	56	93.33%	2,587	95.89%	8	13.33%	3,187	118.12%
1000	4	6.67%	111	4.11%	60	100.00%	2,698	100.00%	4	6.67%	2,698	100.00%
	60		2,698									

APPENDIX A

Schedule 11
Indian River County
Water Customer Billing Frequency Analysis
Analysis Period October 2016 Through September 2017
Commercial Hydrant

Gallons X 000	Consumption Level Events				Cumulative Billing				Reverse Billing			
	Events	Percent	Flow	Percent	Events	Percent	Flow	Percent	Events	Percent	Flow	Percent
0	59	39.60%	0	0.00%	59	39.60%	0	0.00%	149	100.00%	0	0.00%
1	16	10.74%	90	6.08%	75	50.34%	90	6.08%	90	60.40%	164	11.07%
2	12	8.05%	74	5.00%	87	58.39%	164	11.07%	74	49.66%	288	19.45%
3	7	4.70%	62	4.19%	94	63.09%	226	15.26%	62	41.61%	391	26.40%
4	7	4.70%	55	3.71%	101	67.79%	281	18.97%	55	36.91%	473	31.94%
5	5	3.36%	48	3.24%	106	71.14%	329	22.21%	48	32.21%	544	36.73%
6	5	3.36%	43	2.90%	111	74.50%	372	25.12%	43	28.86%	600	40.51%
7	4	2.68%	38	2.57%	115	77.18%	410	27.68%	38	25.50%	648	43.75%
8	1	0.67%	34	2.30%	116	77.85%	444	29.98%	34	22.82%	708	47.81%
9	4	2.68%	33	2.23%	120	80.54%	477	32.21%	33	22.15%	738	49.83%
10	0	0.00%	29	1.96%	120	80.54%	506	34.17%	29	19.46%	796	53.75%
11	0	0.00%	29	1.96%	120	80.54%	535	36.12%	29	19.46%	854	57.66%
12	1	0.67%	29	1.96%	121	81.21%	564	38.08%	29	19.46%	900	60.77%
13	2	1.34%	28	1.89%	123	82.55%	592	39.97%	28	18.79%	930	62.80%
14	4	2.68%	26	1.76%	127	85.23%	618	41.73%	26	17.45%	926	62.53%
15	1	0.67%	22	1.49%	128	85.91%	640	43.21%	22	14.77%	955	64.48%
20	5	3.36%	94	6.35%	133	89.26%	734	49.56%	21	14.09%	1,054	71.17%
30	6	4.03%	133	8.98%	139	93.29%	867	58.54%	16	10.74%	1,167	78.80%
60	3	2.01%	273	18.43%	142	95.30%	1,140	76.98%	10	6.71%	1,560	105.33%
100	2	1.34%	231	15.60%	144	96.64%	1,371	92.57%	7	4.70%	1,871	126.33%
150	4	2.68%	109	7.36%	148	99.33%	1,480	99.93%	5	3.36%	1,630	110.06%
1000	1	0.67%	1	0.07%	149	100.00%	1,481	100.00%	1	0.67%	1,481	100.00%
	149		1,481									