CITY OF UNALASKA
UNALASKA, ALASKA

RESOLUTION 2021-25

A RESOLUTION OF THE UNALASKA CITY COUNCIL AUTHORIZING THE CITY MANAGER TO IMPLEMENT A ONE-TIME RATE INCREASE TO THE ELECTRICAL PROPRIETARY FUND OF 6.1%; A ONE-TIME RATE INCREASE TO THE WATER PROPRIETARY FUND OF 3.6%; A WASTEWATER PROPRIETARY FUND RATE INCREASE OF 40%, PHASED IN OVER A FOUR-YEAR PERIOD; AND A SOLID WASTE PROPRIETARY FUND RATE INCREASE OF 33%, PHASED IN OVER A FOUR YEAR PERIOD

WHEREAS, the City of Unalaska has determined, through a detailed Rate Study for each Utility, that specific Utility rate increases to achieve a Debt Service Coverage Ratio beyond 1.25 for each Utility Proprietary Fund are necessary to continue operations at the current level of service; and

WHEREAS, a one-time rate increase necessary to the maintain the required Debt Service Coverage Ratio in the Electric Proprietary Fund, distributed equally among all customer classes, is 6.1%; and

WHEREAS, a one-time rate increase necessary to maintain the required Debt Service Coverage Ratio in the Water Proprietary Fund, distributed equally among all customer classes, is 3.6%; and

WHEREAS, phased rate increases necessary to the maintain the required Debt Service Coverage Ratio in the Wastewater Proprietary Fund, distributed equally among all customer classes over the next four fiscal years (FY22-FY25), is 40%; and

WHEREAS, phased rate increases necessary to the maintain the required Debt Service Coverage Ratio in the Solid Waste Proprietary Fund, distributed equally among all material classifications, tipping fees, and labor charges over the next four fiscal years (FY22-FY25), is 40%; and

NOW THEREFORE BE IT RESOLVED that the Unalaska City Council authorizes the City Manager to implement a one-time rate increase to the Electrical Proprietary Fund of 6.1%; a one-time rate increase to the Water Proprietary Fund of 3.6%; a Wastewater Proprietary Fund rate increase of 40%, phased in over a four-year period; and a Solid Waste Proprietary Fund rate increase of 33%, phased in over a four year period.

PASSED AND ADOPTED by a duly constituted quorum of the Unalaska City Council on April 27, 2021.

_____
Vincent M. Tutiakoff
Mayor

ATTEST:

_____
Roxanna Winters, CMC
Acting City Clerk

MEMORANDUM TO COUNCIL

To: Mayor and City Council Members
From: Dan Winters, Director of Public Utilities
Through: Erin Reinders, City Manager
Date: April 27, 2021
Re: RESOLUTION 2021-25. A resolution of the City of Unalaska City Council Authorizing the City Manager to implement a one-time rate increase to the Electrical Proprietary Fund of 6.1; a one-time rate increase to the Water Proprietary Fund of 3.6%; a Wastewater Proprietary Fund rate increase of 40%, phased in over a four-year period; and a Solid Waste Proprietary Fund rate increase of 33%, phased in over a four year period.

SUMMARY: Through Resolution 2021-25, Staff is requesting rate increases for all four utilities that would go into effect in July 2021. This will include:

- A one-time Electric Proprietary Fund rate increase 6.1%, equally distributed to all customer classes.
- A one-time Water Proprietary Fund rate increase of 3.6%, distributed equally to all customer classes.
- A 40% rate increase to the Wastewater Proprietary Fund, equally distributed across all customer classes, phased in over four years.
- A 33% rate increase to the Solid Waste Proprietary Fund, to all material classifications, tipping fees, and labor charges, phased in over four years.

Staff will incorporate these rate adjustments into the upcoming Schedule of Fees and Services Ordinance scheduled for the May 25, 2021 Council meeting.

Staff will also work up materials for Council to consider an increase to the sale tax by 1%. Doing so would create a Utility Infrastructure Tax fund that will supplement the Utility Proprietary Funds. An increase in the sales tax will require a vote of the residents of Unalaska and will be addressed in future Council Meetings.

PREVIOUS COUNCIL ACTION: At the February 23, 2021 Council Work Session, James Keen and Amber Miller of Aldrich LLP presented the FY2021 Rate Study to Council.

At the March 9, 2021 Council Work Session, conversations focused on the cost of service and rates for Electric and Water. Council's consensus was for a one-time 6.1% increase in Electrical rates to all customer classes, and a one-time 3.6% increase in Water rates to all customer classifications. Council had general consensus to proceed with an increase to the sales tax by 1%, which will create a Utility Infrastructure Fund, supplementing the Utility Proprietary Funds.

At the April 12, 2021 Council Meeting, Staff presented the FY2022 Departmental Operating Budgets. During the budget presentation, Staff reported an overall budget reduction of $2.8 million for the Department of Public Utilities (DPU). When only Personnel and Operating expenses are considered, the FY2022 DPU budget is $2.6 million less than FY2021, a decrease of 14.1%.

At the April 13, 2021 Council Work Session, Council discussed the cost of services and rates for the Wastewater and Solid Waste Proprietary Funds. Council's general consensus for the Wastewater utility rate increase was a 40% across the board increase, phased in over four years. Although there was some discussion of options to phase in the increase based on the cost of service instead. Council's general consensus for the Solid Waste utility was to increase the solid waste utility rates by 33%, phased in over four years. Again there was some discussion in support of focusing on cost of service rather than across the board increases. Just as with the Electric and Water discussion, Council had general consensus to proceed with an increase to the sales tax by 1%, which will create a Utility Infrastructure Fund, supplementing the Utility Proprietary Funds.

BACKGROUND: Department of Public Utilities Staff performs a rate study on each of the Utility Proprietary Funds approximately every three years. In 2012, Staff contracted Mike Hubbard of the Financial Engineering Company to perform a High-Level Rate Study, which depicted a rate increase of 29% for the Water Fund, 68% for the Wastewater Fund, and 75% for the Solid Waste Fund was needed by 2016. Rates increased consecutively for three years starting in FY2013. The sum of these rate increases was 21.3% for Water, 42.3% for Wastewater, and 32.1% for Solid Waste. These rate increases brought the difference between expenses and revenues closer to the budget before the new Water, and Wastewater Plants became operational. However, the rate increases did little to make up for the budget shortfall after the new plants were online.

Staff performed the last rate study in 2016. A rate increase of 15% for the Wastewater Proprietary Fund over four years, and a rate increase of 13.5% for the Solid Waste Proprietary Fund, over three years, was initiated on July 1, 2017. During Staff's discussion with Council, there was a clear consensus that another monetary source was necessary to reduce impacts on needed rate increases. Council decided that using a portion of the 1% Sales Tax Special Revenue Fund was the most logical approach. Council approved using an amount not to exceed $1,300,000 to supplement the Water, Wastewater, and Solid Waste Proprietary Funds. This supplement from the 1% Special Revenue Fund helped slow the timing of the inevitable rate increases. However, the lack of a rate increase to the full revenue requirements, increased costs of chemicals, personnel, and inflation, we are again looking at extreme rate increases for the Utility Proprietary Funds.

In July 2020, Staff contracted through Aldrich CPAs + Advisors LLP to conduct the FY2021 Utility Rate Study. As the background section review's this is the fourth meeting with City Council focused on this study and how utility rates might be impacted.

DISCUSSION: City of Unalaska Council and Staff have been discussing the Utilities rate increase since February of this year. During these rate discussions, Council's general consensus was to increase the electric, water, and the solid waste utility rates evenly to all customer classes that would achieve the Debt Service Coverage Ratio (DSC) beyond 1.25 for each utility. Maintaining a debt ratio above 1.25 will qualify the City to sell bonds and receive low interest loans for future projects.

It was also Council's consensus to increase the sales tax by 1%. Doing so would create a Utility Infrastructure Fund that will supplement the Utility Proprietary Funds. An increase in the sales tax will require a vote of the residents of Unalaska and will be addressed in future Council Meetings.

Electrical Proprietary Fund: The electrical utility has not experienced a rate increase in 18 years. Due to the loss of two industrial customers, industrial electrical sales declined by 17 million kilowatt-hours at a loss of $2.5 million in revenue since FY2018. These Industrial customers were buying electrical power from the City due to an EPA decree. When the EPA decree expired, they discontinued purchasing electrical power from the City. Earlier attempts to obtain purchase power agreements with the industrial customers were futile. The customers did not want a purchase power agreement. They knew the City would sell them electrical power without one, following City's fee schedule. Recent attempts to obtain industrial class as customers at one penny above electrical production cost, plus COPA, were unsuccessful.

The Electrical Proprietary Fund has a revenue deficit of ($2,514,450) and will require an increase in rates of 34.7% to satisfy the revenue requirement. On March 9, 2021, Council Meeting, Council's consensus was to increase the electrical utility rate by 6.1%, equally to all customer classes. The one-time rate increase of 6.1% will increase revenues by $444,436 and increase the DSC from 1.06 to 1.25.

Staff averaged the electric monthly utility electric bills for each customer class. A 6.1% electrical utility rate increase will increase the Residential electrical bill by $7.66, from $139.43 to $147.09. The Small Commercial customer will experience a $19.93 growth, from $493.90 to $513.83. The Large General customer will see an increase of $132.23 in their electrical bill, from $3,365.76 to $3,497.99. Industrial will see an increase in their monthly electrical utility bill of $1,733.10, from $47,074.47 to $48,807.67.

Customer's Monthly Electric Bill Impact Comparison

	Residential Bill		Small Commercial			Large General		Industrial	
	Current	After Increase	Current	After increase		Current	After Increase	Current	After Increase
Customer	$ 8.00	$ 8.49	$ 10.00	$ 10.61	Customer	$ 50.00	$ 53.07	$ 100.00	$ 106.13
Energy	$ 116.98	$ 124.15	$ 315.16	$ 334.48	Demand	$ 194.30	$ 206.21	$ 3,568.00	$ 3,786.77
COPA	$ 55.00	$ 55.00	$ 168.74	$ 168.74	Energy	$1,912.23	$2,029.48	$ 24,597.34	$26,105.54
PCE Credit	$ (40.55)	$ (40.55)	$ -	$ -	COPA	$1,209.23	$1,209.23	$ 18,809.23	$18,809.23
Total	$ 139.43	$ 147.09	$ 493.90	$ 513.83	Total	$3,365.76	$3,497.99	$ 47,074.57	$48,807.67

Water Proprietary Fund: The Water Proprietary Fund has not had a rate increase since FY2012, which was phased in over three years. Since FY2016, personnel expense has increased by 40%. A majority of the personnel cost increase is in personnel wage increases at an average of 3% per year, which equates to 15% of the 40% for personnel increase. In FY2019, Council approved adding two full-time employees to the Water Division, through Ordinance 2019-02, which also contributed to the personnel expense growth of approximately 25%. The addition of the two employees was due to the expansion of operations from the new water plant.

Operations expenses have increased by 54% in the Water Proprietary Fund since FY2016. Construction of the New Water Plant was completed in FY2015 and put in service, which caused the 54% increase in operational expenses.

The Water Proprietary Fund has a revenue shortfall of ($913,887). A rate increase of 34.9% will be necessary to meet the entire revenue requirement. On March 9, 2021, Council Meeting, it was Council's consensus to increase the water utility rate by 3.6%, equally to all customer classes. The one-time rate increase will increase water revenues by $94,532 and increase the DSC from 1.58 to a DSC of 2.00. However, it leaves a revenue shortfall of ($820,000). The higher DSC will provide more security and allow the utility to generate more cash towards capital expenditures.

Staff averaged the monthly water usage of residential customers at 14,000 gallons per month and industrial customers at 6,371,368 gallons per month. An increase of 3.6% in the water utility rates will increase the unmetered water customer average monthly bill by $1.29. The metered customer will see an average increase of $1.39 in their monthly bill. The averaged industrial customer will see an increase of $576.76 in their monthly bill.

Average Residential and Industrial Monthly Bill Impact Comparison

	Current Rate	3.6% Rate Increase	Monetary Increase Total
Unmetered Flat Rate	$ 35.59	$ 36.88	$ 1.29
Metered Flat Rate	$ 3.74	$ 3.87	$ 0.13
Metered/ 1000 gal	$ 2.51	$ 2.60	$ 0.09
Metered Monthly Bill	$ 38.88	$ 40.27	$ 1.39
Note: Water usage calculated at 14,000 gal/Month			

	Current Rate	3.6% Rate Increase	Monetary Increase Total
Metered Flat Rate	$ 34.34	$ 35.58	$ 1.24
Metered/1000 gal	$ 2.51	$ 2.60	$ 0.09
Metered Monthly Bill	$ 16,021.24	$ 16,598.00	$ 576.76
Note: Avaerage Industrial Usage 6,371,368 Gal/Month			

Wastewater Proprietary Fund: The completion of the New Wastewater Plant construction was in October 2015. The Wastewater Proprietary Fund experienced a 15% rate increase in FY2016 and were phased in over four years. The rate increase accomplished bringing the revenue closer to the projected expenses. However, the rate increases did little to make up for the budget shortfall after the new plant was fully operational. According to Mike Hubbard's September 2016 Rate Review presentation to Council, he stated *"future rate increases were necessary to balance the budgets".*

Since FY2016, personnel expenses have increased by 60%. An increase in personnel wages increased over the five years by 3% per year, which equates to 15% of the 60%

personnel increase. Planning for the added operational duties with the New Wastewater Plant, Council approved two new employees in 2019. The addition of the two employees and the lack of prior rate increases to meet the projected revenue shortfall contributed to the remaining 45% increase in personnel expenses.

Operation's expenses have increased by 102.1% since 2016 due to the installation of the larger plant. Maintaining the repair and maintenance of the enhanced plant's equipment increased by 1,200%. The new and more extensive process design takes more solids out of the wastewater through chemistry. Those chemical costs increased by 9,328%. After removing the solids from the wastewater, employees truck the sludge to the landfill for disposal. The disposal cost caused the solid waste line item to increase by 1,081%. Professional Services increased by 2,272% due to contracting a company with a Class 2 certification in wastewater to oversee our process. ADEC mandated us to do this until our supervisor has obtained his Class 3 certification and one operator has obtained their Class 2 certification.

The table below shows the comparison between the Wastewater FY2014 budget (before the completion of the New Wastewater Plant) and the FY2021 budget of those line items with significant increases.

Wastewater Major Operations Expense Increases			
	FY2014	FY2021	Total
Other Professional Service	$ 9,000	$ 213,500	$ 204,500
Solid Waste	$ 11,000	$ 130,000	$ 119,000
Repair and Maintenance	$ 5,000	$ 65,000	$ 60,000
Chemicals	$ 3,500	$ 330,000	$ 326,500
		Total	$ 710,000

At the April 13, 2021 Council Meeting, Council's decision concerning what method to increase the wastewater rate increases generally supported option 1B implementing a 40% rate increase equally distributed across all customer classes and phased in over four years. This is described below.

1B. Increase the Wastewater rates by 40%, evenly to all customer classes.

Class	Charge	Unit	Current	FY2022	FY2023	FY2024	FY2025
Unmetered Residential:	Customer	$/month	$ 114.04	$ 125.44	$ 136.85	$ 148.25	$ 159.66
	Volume	$/000 Gal	$ -	$ -	$ -	$ -	$ -
Annual Rate Increase:			0.0%	10.0%	9.1%	8.3%	7.7%
Rate Increase From FY2021			0.0%	10.0%	20.0%	30.0%	40.0%
Metered Commercial:	Customer	$/month	$ 20.87	$ 22.96	$ 25.04	$ 27.13	$ 29.22
	Volume	$/000 Gal	$ 17.79	$ 19.57	$ 21.35	$ 23.13	$ 24.91
Annual Rate Increase:			0.0%	10.0%	9.1%	8.3%	7.7%
Rate Increase From FY2021			0.0%	10.0%	20.0%	30.0%	40.0%
Metered Industrial:	Customer	$/month	$ 20.87	$ 22.96	$ 25.04	$ 27.13	$ 29.22
	Volume	$/000 Gal	$ 1.13	$ 1.24	$ 1.36	$ 1.47	$ 1.58
Annual Rate Increase:			0.0%	10.0%	9.1%	8.3%	7.7%
Rate Increase From FY2021			0.0%	10.0%	20.0%	30.0%	40.0%

There seemed to be some level of interest in an option that reflected more of a cost of service approach. Option 1C is a hybrid that works in this approach. This is described below.

1C. This option is only for the Wastewater proprietary Fund. Option 1C is a modified rate design that increases the Wastewater industrial rates more than the other classes. This option will reduce the increase needed from the other classes but short of the increase indicated by Option 1B. For example, the industrial class has an 80% increase phased in over four years. The other classes would have a minor increase, also phased in over four years. The table below shows each customer classes rate increase for each year, phased in over a four-year period.

Class	Charge	Unit	Current	FY2022	FY2023	FY2024	FY2025
Unmetered Residential:	Customer	$/month	$ 114.04	$ 125.02	$ 136.00	$ 146.98	$ 157.96
	Volume	$/000 Gal	$ -	$ -	$ -	$ -	$ -
Annual Rate Increase:			0.0%	9.6%	8.8%	8.1%	7.5%
Rate Increase From FY2021			0.0%	9.6%	19.3%	28.9%	38.5%
Metered Commercial:	Customer	$/month	$ 20.87	$ 22.88	$ 24.89	$ 26.90	$ 28.91
	Volume	$/000 Gal	$ 17.79	$ 19.50	$ 21.22	$ 22.93	$ 24.64
Annual Rate Increase:			0.0%	9.6%	8.8%	8.1%	7.5%
Rate Increase From FY2021			0.0%	9.6%	19.3%	28.9%	38.5%
Metered Industrial:	Customer	$/month	$ 20.87	$ 25.04	$ 29.22	$ 33.39	$ 37.57
	Volume	$/000 Gal	$ 1.13	$ 1.36	$ 1.58	$ 1.81	$ 2.03
Annual Rate Increase:			0.0%	20.0%	16.7%	14.3%	12.5%
Rate Increase From FY2021			0.0%	20.0%	40.0%	60.0%	80.0%

Solid Waste Proprietary Fund: The Solid Waste Proprietary Fund experienced a rate increase in FY2016. Since FY2016, personnel expenses have increased by 37.3%. An increase in personnel wages increased over the five-year period by 3% per year, which equates to 15% of the 37.3% personnel increase. In FY2019, Council approved adding two full-time employees to the Solid Waste Division through Ordinance 2018-10, contributing to the personnel expense growth of approximately 22.3%.

Solid Waste operations expenses have increased by 57.4% since FY2016. The increase in operational costs is attributed to a higher production of leachate from the new Cells and the influx of wastewater sludge. The rise in leachate also increases the cost of maintenance of the equipment in the Leachate Pump Building. The Wastewater Plant charges for the leachate it receives from the Solid Waste. Likewise, Solid Waste charges for the sludge it receives from Wastewater Plant, following Unalaska City Code of Ordinances.

Solid Waste proprietary Fund has a revenue shortfall of $1,540,289. A rate increase of 60.1% will be necessary to meet the total revenue requirement. On April 13, 2021, Council meeting, Council's consensus was to increase the solid waste utility rates by 33%, phased over four years.

Solid Waste is different from the other Proprietary Funds because Solid Waste charges customers for the types of material delivered to the Landfill and does not charge by

customer classes. An exception to this is the customer Maintenance Fee (LF01) that customers see on their monthly utility bill.

The table below shows the solid waste rate increases for each material class over four years to realize a 33% rate increase in the fourth year. At the April 13, 2021 Council Meeting, Council's decision seemed generally supportive of this approach. This is outlined below.

Class	Unit	Current	FY2022	FY2023	FY2024	FY2025
LF20 Gen Waste - Sch B Tipping Fees:	Per Ton	$ 251.20	$ 271.92	$ 292.65	$ 313.37	$ 334.10
Annual Rate Increase:		0.0%	8.3%	7.6%	7.1%	6.6%
Rate Increase From FY21:		0.0%	8.3%	16.5%	24.8%	33.0%
LF23 Equipment:	Per Hour	$ 166.43	$ 180.16	$ 193.89	$ 207.62	$ 221.35
Annual Rate Increase:		0.0%	8.3%	7.6%	7.1%	6.6%
Rate Increase From FY21:		0.0%	8.3%	16.5%	24.8%	33.0%
LF24 Scrap Metal HM:	Per Ton	$ 1,073.54	$ 1,162.11	$ 1,250.67	$ 1,339.24	$ 1,427.81
Annual Rate Increase:		0.0%	8.3%	7.6%	7.1%	6.6%
Rate Increase From FY21:		0.0%	8.3%	16.5%	24.8%	33.0%
LF51 Misc STL (Labor):	Per Hour	$ 87.40	$ 94.61	$ 101.82	$ 109.03	$ 116.24
Annual Rate Increase:		0.0%	8.3%	7.6%	7.1%	6.6%
Rate Increase From FY21:		0.0%	8.3%	16.5%	24.8%	33.0%

Class	Unit	Current	FY2022	FY2023	FY2024	FY2025
LF52 Trawl Nets:	Per Cubic Yard	$ 1,073.54	$ 1,162.11	$ 1,250.67	$ 1,339.24	$ 1,427.81
Annual Rate Increase:		0.0%	8.3%	7.6%	7.1%	6.6%
Rate Increase From FY21:		0.0%	8.3%	16.5%	24.8%	33.0%
LF53 Fish Waste:	Per Ton	$ 536.77	$ 581.05	$ 625.34	$ 669.62	$ 713.90
Annual Rate Increase:		0.0%	8.3%	7.6%	7.1%	6.6%
Rate Increase From FY21:		0.0%	8.3%	16.5%	24.8%	33.0%
LF54 Appliance with Refrigerant:	Each	$ 107.35	$ 116.21	$ 125.06	$ 133.92	$ 142.78
Annual Rate Increase:		0.0%	8.3%	7.6%	7.1%	6.6%
Rate Increase From FY21:		0.0%	8.3%	16.5%	24.8%	33.0%
LF01 Sch A Landfill Maintenance Fee:	Per Utility Bill	$ 27.97	$ 30.28	$ 32.59	$ 34.89	$ 37.20
Annual Rate Increase:		0.0%	8.3%	7.6%	7.1%	6.6%
Rate Increase From FY21:		0.0%	8.3%	16.5%	24.8%	33.0%

During April 13, 2021 Council Meeting, some discussion supported the cost of service approach, identified as option 1A. Option 1A will increase the rates for material classes that currently show a revenue deficit. The material classes that offer a current revenue surplus show a rate decrease. However, Staff does not recommend Option 1A. This option will decrease the rate for nets by 45.9% and reduce the rate for metal by 41%. Staff believes lowering the rates for the nets and metal will result in an influx of these materials at the Landfill. The City Staff have found it challenging to find companies that will take the nets, and when a company is located, the cost is astronomical. Keeping the net and metal rates higher will result in the fishing companies discarding these materials at locations that can handle the costs. Option 1A rate increase impact to the Solid Waste individual material classes are illustrated in the table below.

Class	Unit	Current	FY2022	FY2023	FY2024	FY2025
LF20 Gen Waste - Sch B Tipping Fees:	Per Ton	$ 251.20	$ 284.22	$ 317.25	$ 350.27	$ 383.30
Annual Rate Increase:		0.0%	13.1%	11.6%	10.4%	9.4%
Rate Increase From FY21:		0.0%	13.1%	26.3%	39.4%	52.6%
LF23 Equipment:	Per Hour	$ 166.43	$ 212.51	$ 258.59	$ 304.67	$ 350.75
Annual Rate Increase:		0.0%	27.7%	21.7%	17.8%	15.1%
Rate Increase From FY21:		0.0%	27.7%	55.4%	83.1%	110.7%
LF24 Scrap Metal HM:	Per Ton	$ 1,073.54	$ 963.57	$ 853.60	$ 743.63	$ 633.66
Annual Rate Increase:		0.0%	-10.2%	-11.4%	-12.9%	-14.8%
Rate Increase From FY21:		0.0%	-10.2%	-20.5%	-30.7%	-41.0%
LF51 Misc STL (Labor):	Per Hour	$ 87.40	$ 108.78	$ 130.17	$ 151.55	$ 172.93
Annual Rate Increase:		0.0%	24.5%	19.7%	16.4%	14.1%
Rate Increase From FY21:		0.0%	24.5%	48.9%	73.4%	97.9%

Class	Unit	Current	FY2022	FY2023	FY2024	FY2025
LF52 Trawl Nets:	Per Cubic Yard	$ 1,073.54	$ 950.34	$ 827.13	$ 703.93	$ 580.73
Annual Rate Increase:		0.0%	-11.5%	-13.0%	-14.9%	-17.5%
Rate Increase From FY21:		0.0%	-11.5%	-23.0%	-34.4%	-45.9%
LF53 Fish Waste:	Per Ton	$ 536.77	$ 644.63	$ 752.49	$ 860.35	$ 968.21
Annual Rate Increase:		0.0%	20.1%	16.7%	14.3%	12.5%
Rate Increase From FY21:		0.0%	20.1%	40.2%	60.3%	80.4%
LF54 Appliance with Refrigerant:	Each	$ 107.35	$ 103.09	$ 98.83	$ 94.57	$ 90.31
Annual Rate Increase:		0.0%	-4.0%	-4.1%	-4.3%	-4.5%
Rate Increase From FY21:		0.0%	-4.0%	-7.9%	-11.9%	-15.9%
LF01 Sch A Landfill Maintenance Fee:	Per Utility Bill	$ 27.97	$ 27.76	$ 27.55	$ 27.34	$ 27.13
Annual Rate Increase:		0.0%	-0.7%	-0.8%	-0.8%	-0.8%
Rate Increase From FY21:		0.0%	-0.7%	-1.5%	-2.2%	-3.0%

ALTERNATIVES: Staff and Aldrich LLP have researched alternatives concerning the needed rate increases and believe the options brought forward to Council are the most logical approach. However, the staff is always willing to research other options that Council may consider are viable. Council could decide to:

- Approve the Resolution as written.
- Amend the Resolution to only address certain funds at the point, and then continue discussion addressing the remaining funds at future meetings.
- Amend the Resolution to adjust the increase approach for one or more of the funds.

FINANCIAL IMPLICATIONS: The table below depicts the revenue gains and shortfall of the individual Utility Proprietary Funds, if Council adopts Resolution 2021-25. Even though there is a shortfall after the rate increases, a 1.25 DSC ratio will be realized for all Utility Proprietary Funds.

	Electric 6.1% Rate Inc.	Water 3.6% Rate Inc.	Wastewtaer 40% Rate Inc.	Solid Waste 33% Rate Inc.
Current Revenue Requirement	$ 9,762,823	$ 3,530,573	$ 4,319,505	$ 4,102,820
Current Revenue	$ 7,248,373	$ 2,616,686	$ 2,468,212	$ 2,562,531
Current Revenue Shortfall	$ (2,514,450)	$ (913,887)	$ (1,851,293)	$ (1,540,289)
Revenue from Rate Inc.	$ 444,436	$ 94,532	$ 987,284	$ 845,635
Revenue Shortfall After Rate Inc.	$ (2,070,014)	$ (819,355)	$ (864,009)	$ (694,654)

LEGAL: None

STAFF RECOMMENDATION: Staff recommends Council approve Resolution 2021-25**.** This would implement a one-time 6.1% rate increase to the Electric Proprietary Fund, equally distributed to all customer classes and a one-time Water Proprietary Fund rate increase of 3.6%, distributed equally to all customer classes. This would also approve a 33% rate increase to the Solid Waste Proprietary Fund, to all material classifications, tipping fees, and labor charges, phased in over four years. Additionally, this would approve a 40% rate increase to the Wastewater Proprietary Fund, equally distributed across all customer classes, phased in over four years.

PROPOSED MOTION: I move to adopt Resolution 2021-25.

CITY MANAGER COMMENTS: City Council budgetary goals have historically called for a rate study every three years. However, when Council implements rate increases over the course of four years, a new study is not conducted until the final year of implementation of the prior study. This rate study supports what previous rate studies indicated, that we would need to increase rates even further in the future. As outlined in the draft budget presentation earlier this month, staff is working hard to reduce operational expenditures.

ATTACHMENTS: Final Cost of Service Study for Electric, Water, Wastewater, and Solid Waste proprietary Funds.

City of Unalaska

Electric Utility

Cost of Service / Rate Design Study

April 21, 2021

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1. INTRODUCTION

Background and Purpose of Study

In November 2013, a review of the City of Unalaska's (the City) Electric Utility rates was completed and presented to the City Council. At the time the study was performed, the recommendation was that no rate adjustment be implemented and to revisit rates once the fourth unit was installed in the powerhouse and sales to a new Industrial customer could be better estimated.

In early 2016, a high-level review of the City's Electric Utility rates was completed and presented to the City Council. Based on the analysis conducted, existing rates were projected to recover revenues by approximately $200,000 in excess of operating costs. The existing General Service and Industrial rates were set higher than their respective allocated cost of service while Residential and Street Light rates were set lower than the allocated cost of service. One key assumption used in the analysis was that sales to the Industrial rate class would increase by 3 million kilowatt-hours from Fy2015 levels. This assumption was based on estimates of sales to a new industrial customer.

At that time, two options were presented for consideration by Council:

1) Maintain Existing Rates. Overall rates were set such that a surplus would be achieved in the near-term but would erode with time. However, cash margins were expected to remain relatively high.
2) Decrease Large General Service Rate by 5%. Recognizing that Large General Service rates were currently set higher than the allocated cost of service.

The City chose to maintain the existing rates. Since the 2016 study, the Electric Utility has experienced an overall decrease in revenues which, combined with increased expenses, has resulted in a net deficit in the electric fund over the past few years.[1] The 2021 fiscal year budget indicates that this trend is expected to continue. Accordingly, City staff felt it was prudent to review rates of the Electric Utility to ensure that it can meet operating expense requirements and capital improvement obligations in the near term while maintaining the utility's financial health. This report summarizes the analysis performed by Aldrich Advisors and the findings with respect to a cost of service study and review of rates for the City's Electric Utility.

[1] The City has lost two significant industrial customers in the past few years: Westward and Alyeska.

Methodology of Analysis

The analysis was conducted based on the following goals and considerations:

1. Rates should provide sufficient revenues to meet current cash-based revenue requirements for the FY2021 test year.
2. Rates should also provide cash flows sufficient to meet debt covenants and on-going capital expenditures, allowing the City to achieve at least a 1.25 Debt Service Coverage (DSC) ratio.
3. Capital improvements over the next five years should be considered so that large rate increases are minimized.
4. Recommendations should consider the current economic challenges of the community.
5. Rate design should consider the ability of larger industrial customers to self-generate.
6. Rates should be fair and equitable and take into account allocation of costs to each rate class.
7. Customer and demand charges should be reviewed for fairness and adequacy.

Annual operating expenses are developed based on the current budget (FY2021). Projected expenses were reviewed and adjusted as necessary to include any known updates to expenses and net operating margins and offsets for other revenues. Capital expenditures are based on the FY 2021-2025 Capital Major and Maintenance Plan (CMMP).

Based on the assumed sales and revenue requirements, costs are allocated to each rate class based on the methodologies developed by the National Association of Regulatory Utility Commissioners for electric utilities and published in their manual (the NARUC Manual). This ensures that the allocation process is performed in a fair and equitable manner. Although the City's rates are not subject to review by the Regulatory Commission of Alaska (RCA), the methodologies used herein are the same as that prescribed the RCA for regulated utilities.

Terms

Certain terms are used in this report that may not be familiar to those not closely associated with the power industry. These terms are described below.

Financial

Cash Basis

An entity's net cash flow over the course of a year. Depreciation is excluded and principal payments and debt and capital expenditures are included.

Debt Service Coverage ("DSC")

DSC = (Net Income before Depreciation and Interest) / Debt Service

Since depreciation is a non-cash expense and principal payments are not included in the calculation of net income, DSC provides an indication of an entity's ability to cover its cash requirements. The City must maintain a minimum DSC of 1.25, in accordance with Ordinance No. 2008-19.

Income Basis

The traditional method of measuring net income with depreciation included as an expense and principal payment and capital expenditures excluded.

Power

Energy

The total amount of power consumed over a given period. For example, a 100-watt light bulb, if left on continuously, uses 2,400 watt-hours of energy during the 24-hour period. During the entire year (8,760 hours), 876,000 watt-hours of energy are consumed.

Units: The unit of measurement is typically kilowatt-hours (kWh) or megawatt- hours (MWh).

1 MWh = 1,000 kWh = 1,000,000 watt-hours

Demand, or Peak Demand

The maximum rate of consumption of power. Usually, this is measured over a 15-minute period, but instantaneous demands are also used. If in the previous example a second light is turned on for one hour, the peak demand is 200 watts.

Units: The unit of measurement is typically kilowatts (kW) or megawatts (MW).

1 MW = 1,000 kW = 1,000,000 watts

System Peak

The combined peak demand of all utility customers placed on the utility.

Units: kW, MW

Coincident Peak

The usage of power of a particular rate group at the time of system peak.

Units: kW, MW

Non-Coincident Peak

The peak demand of a particular rate group. The non-coincident peak of a rate group does not necessarily happen at the time of the system peak. If the rate group's non-coincident peak occurs at the time of its coincident peak, then the two are equal, otherwise (as in usually the case) the non-coincident peak is greater than the coincident peak.

Units: kW, MW

Billing Determinants

The amount of energy sales, demand sales, and number of customers for each rate group during a year.

Units: kWh, kW-months, customer-months

2. SALES

The City's installed capacity is approximately 19.5 megawatts, and the firm capacity is 14.3 megawatts.[2] As of the end of FY2020, the City served 1,017 customers in five distinct customer classes, including Residential (766), Small General Service (178), Large General Service (39), Industrial (19), and Street Lights (15). Table 1 and Figure 1 summarize the energy sales for the past ten years. While energy usage by most rate classes has remained relatively constant, Industrial usage experienced an overall increase, that is until FY2017. Since FY2018, Industrial usage has decreased by approximately 8 percent.

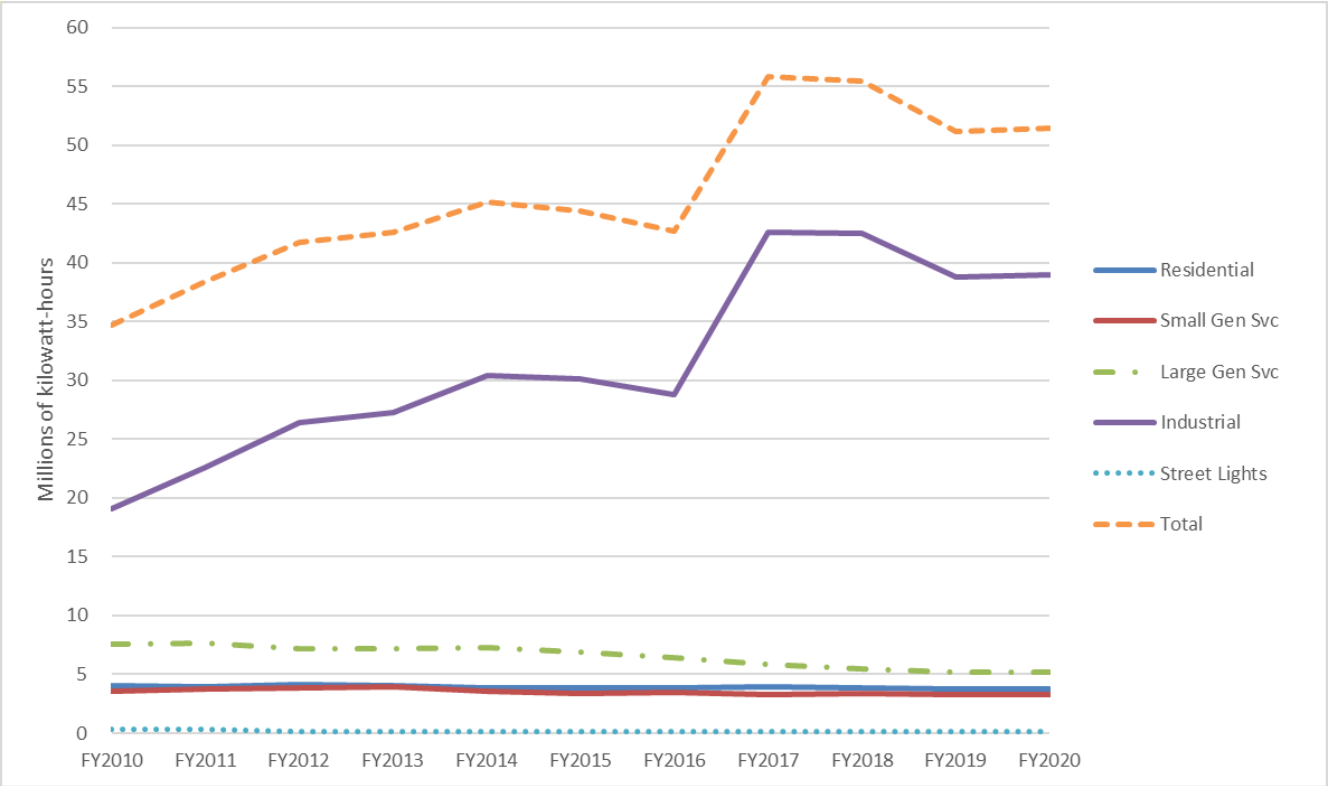
Prior to 2017, the overall increase in sales was due primarily to historically self-generating industrial customers beginning to purchase energy from the City. Most of the recent decrease in sales (post FY2018) is the result of the loss of two large industrial customers (Westward and Alyeska) which resumed self-generation for their facilities. Additionally, Large General Service has seen an almost 32% decrease in sales since FY2010. However, the significance of industrial sales has dominated the overall system load over the past 10 years.

Table 1 – Historical Sales

	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020
Energy Sales (MWh)											
Residential	4,045	3,991	4,105	4,063	3,858	3,854	3,827	3,906	3,863	3,745	3,771
Small Gen Svc	3,613	3,779	3,831	3,913	3,540	3,400	3,426	3,292	3,366	3,265	3,287
Large Gen Svc	7,608	7,705	7,192	7,220	7,249	6,879	6,409	5,886	5,486	5,217	5,178
Industrial	19,069	22,579	26,410	27,229	30,409	30,113	28,833	42,562	42,523	38,758	38,986
Street Lights	327	309	160	147	147	155	169	173	174	182	184
Total	34,662	38,363	41,698	42,572	45,203	44,401	42,664	55,819	55,412	51,167	51,406
Peak Demand (kW)	7,220	7,850	7,700	8,840	8,720	8,878	9,409	11,013	12,471	12,305	12,489

[2] Ignores Unit 10, rated at 5.2 MW. Firm capacity is defined as the total installed capacity less the rating of the largest unit. Both Units 10 and 11 have a rated capacity of 5.2 MW.

Figure 1 – Historical Sales



3. REVENUE REQUIREMENTS

Introduction

In very general terms, the Electric Utility, like any other business enterprise, must set rates to maintain adequate cash flows. But the definition of adequate cash flow can lead to confusion and, if not properly defined, can lead to inequity to all ratepayers.

In the very broadest sense, cash flow is defined as revenues less:

1. Cash outflows for day-to-day operations and debt payments,
2. Cash transfers to capital reserves or to pay for capital assets (assets with service lives longer than one or two years) that are not debt funded.

Establishing rates to meet this type of cash flow can lead to two problems. First, capital expenditures can vary significantly from year to year and thereby lead to instability of rates. Second, and perhaps more important, capital expenditures may be quite large for a brief period of time. If these large assets have long service lives, then ratepayers of "today" are paying for assets used by ratepayers in later years.

Some municipal utilities smooth out the need to collect capital expenditures from ratepayers by including a capital reserve fund requirement in its revenue requirements. Amounts collected for this fund are then set aside and used to fund relatively small, on-going capital expenditures.

In order to both recognize and "smooth" the costs of capital assets, depreciation is used. This expense is a non-cash expense with the annual amount typically equal to the cost of the asset divided by the service life of the asset.

There are, therefore, two methodologies used to measure revenue requirements:

- *Income Basis.* This methodology uses the typical income statement that includes day-to-day expenses plus depreciation and interest on debt. It does not include principal payments on debt nor does it include capital expenditures. This is the traditional method of developing rates and is preferred or often required by regulatory agencies.

- *Cash Basis.* This differs from the Income Basis by excluding depreciation from the calculation of the revenue requirement but including principal payments on debt and capital reserve requirements, sometimes in the form of a DSC or similar mechanism.

Regulated utilities typically must set rates on an Income Basis while also ensuring cash flows are adequate. In order to recognize the inherent inaccuracies of precisely predicting sales and expenses, rates are set to allow the utility an opportunity to collect a defined margin.

Revenue requirements for this analysis are presented on both an Income Basis, as seen on the Electric Utility's Operating Budget, and a Cash Basis to ensure that bond covenants are adequately met. Within the Study, options are provided to allow the City to consider both options and determine a pathway that will meet its objectives and to accommodate community sensitivities.

Electric Utility Debt

When debt was used to partially fund the construction of the new powerhouse, Ordinance No. 2008-19 (adopted by the City on November 7, 2008 and referred to as the "Master Ordinance") included typical language for setting future rates. Section 7 of the Master Ordinance states in part:

> *a) Rate Covenant. At all times the City will establish, maintain and collect rentals, tariffs, rates, fees, and charges in the operation of all of the business of the Electric Utility that will produce Net Revenue in each Fiscal Year at least equal to the greater of:*
>
> *(1) 125% of the amount required in such Fiscal Year to be paid as Debt Service on Outstanding Bonds, or*
>
> *(2) an amount equal to the sum of Maximum Annual Debt Service on each Outstanding series of Bonds*
>
> *If the Net Revenue in any Fiscal Year is less than required to fulfill the Rate Covenant, then the City will retain a Consultant to make recommendations as to operations and the revision of schedules of rentals, tariffs, rates, fees and charges, and on the basis of such recommendations and other available information the City will establish such rentals, tariffs, rates, fees and charges for Electric Utility services and operations as are necessary to meet the Rate Covenant in the Fiscal Year during which such adjustments are made. If the City has taken the steps set forth in this paragraph and the Net Revenue in the Fiscal Year in which adjustments are made nevertheless is not sufficient to meet the Rate Covenant, there shall be no default under the Rate Covenant unless the City fails to meet the Rate Covenant in the Fiscal Year in which adjustments are made in the immediately succeeding Fiscal Year.*

Debt service (principal and interest) is relatively level over the life of the bonds, and therefore, the 125 percent coverage noted should be maintained. This is commonly referred to as the DSC Ratio.

Net Revenues, as defined in the Master Ordinance, are Gross Revenues less Operating Expenses. In very general terms, Gross Revenues is defined as income, receipts, and revenues of the Electric Utility. Operating Expenses are defined in general as the operating, maintenance, and administrative costs of the utility. Operating Expenses do not include debt service on the bonds, depreciation, payment in lieu of taxes, or capital expenditures.

Therefore, Net Revenues must be equal to or greater than 125 percent of:

Gross Revenues – Operating Expenses

Note that in the preceding equation, interest on debt (but not principal) is included in expenses and must be added back in for the derivation of Net Revenues.

There are currently three debt instruments outstanding for the Electric Utility, and these are summarized as follows.

- 2010B Taxable: Original amount $3,365,000 with interest subsidies
- 2015 Refunding Bonds: Original amount $20,415,000 used to pay off $19,265,000 of the Original Bonds
- Interest-free Loan from the City General Fund: Original amount $1,400,000 and paid off over 10 years.

Debt service is summarized in Table 2 for the next five years. The maximum annual debt service, based on the interest accrual method and prior to interest subsidies, of the three debt instruments occurs in 2022 in the amount of $2,316,719. The required DSC would therefore be 125 percent of this amount, or $2,895,898. This amount represents the net margins required excluding depreciation, interest on debt, and any payments in lieu of taxes.

Table 2 – Annual Debt Service

	Fiscal Year				
	2021	2022	2023	2024	2025
2015-1 GO/Refunding - Powerhouse					
Interest Accrual	$ 768,125	$ 744,844	$ 718,994	$ 691,138	$ 646,825
Principal	$1,085,000	$1,105,000	$ 1,130,000	$1,155,000	$1,195,000
Total	$1,853,125	$1,849,844	$ 1,848,994	$1,846,138	$1,841,825
AMBB GO 2010B III Taxable					
Interest Accrual	$ 118,400	$ 121,875	$ 111,375	$ 100,375	$ 88,875
Principal	$ 205,000	$ 205,000	$ 215,000	$ 225,000	$ 235,000
Total	$ 323,400	$ 326,875	$ 326,375	$ 325,375	$ 323,875
City of Unalaska - General Fund					
Interest Accrual	$ -	$ -	$ -	$ -	$ -
Principal	$ 140,000	$ 140,000	$ 140,000	$ 140,000	$ -
Total	$ 140,000	$ 140,000	$ 140,000	$ 140,000	$ -
Total					
Interest Accrual	$ 886,525	$ 866,719	$ 830,369	$ 791,513	$ 735,700
Principal	$1,430,000	$1,450,000	$ 1,485,000	$1,520,000	$1,430,000
Total	$2,316,525	$2,316,719	$ 2,315,369	$2,311,513	$2,165,700
Less Interest Rate Subsidy	(73,505)	(73,505)	(73,505)	(73,505)	(73,505)
Net Debt Service	$2,243,020	$2,243,214	$ 2,241,864	$2,238,008	$2,092,195

Operating Budget

The operating budget for FY 2021 is summarized in Table 3 and provided in more detail in Appendix A-1. Certain adjustments were made to the budget and described as follows.

1. *Fuel Costs.* All fuel costs (approximately $7.76M) are eliminated from revenue requirements since these are collected through the Cost of Power Adjustment.
2. *PERS Contribution.* Employee contributions to Public Employee Retirement System (PERS) benefits are removed from the aggregate amount shown in the FY2021 budget. This adjustment is found in the "Personnel" section within each category of employee in Table 3.
3. *Interest Expense.* Interest expenses are less than that budgeted due to the recent refunding of bonds. Expenses are adjusted to equal the unsubsidized amount shown in Table 2 for FY2021.
4. *Other Income.* Other Income includes desired margins of $300,000, federal payments for the interest rate subsidy on the bonds. The budgeted amount is adjusted to equal the amount shown in Table 2 for FY2021.

Table 3 – Adopted FY2021 Budget

	Budget	Adjustments	Net
Administrative			
Personnel	737,016	(20,246)	716,770
Operations	415,359		415,359
Depreciation	3,779,145		3,779,145
Admin Overhead	157,116		157,116
Interest	935,742	(49,217)	886,525
Subtotal	$6,024,378	($69,463)	$5,954,915
Power Production			
Personnel	1,443,506	(40,531)	1,402,975
Operations	8,552,184	(7,763,259)	788,925
Subtotal	$9,995,690	($7,803,790)	$2,191,900
Line Repair/Maintenance			
Personnel	1,031,059	(29,499)	1,001,560
Operations	252,450		252,450
Subtotal	$1,283,509	($29,499)	$1,254,010
Vehicles			
Personnel	46,893	(1,303)	45,590
Operations	17,500		17,500
Subtotal	$64,393	($1,303)	$63,090
Facilities			
Personnel	68,286	(1,894)	66,392
Operations	77,000		77,000
Subtotal	$145,286	($1,894)	$143,392
Total Before Other Revenues	$17,513,256	($7,905,949)	$9,607,307
Less Other Revenues			
Other	237,957	(393,473)	(155,516)
Total	**$17,275,299**	**($7,512,476)**	**$9,451,791**

Revenue Requirements

As previously described, the City must maintain a DSC of 1.25. Revenue requirements must, therefore, be tested for not only whether the budget can be met but also whether the debt covenants are adequately covered. Table 4 below shows that by setting rates to recover revenue requirements with no additional margins, the resulting DSC is below the 1.25 minimum DSC requirement. This indicates a revenue increase is needed, even when the sufficiency of revenues is analyzed on a Cash Basis.

Table 4 – Debt Service Coverage

	FY2021	FY2022	FY2023	FY2024	FY2025
Revenue Requirement (No Depreciation, Interest, Margins)	$ 4,797,153	$ 4,797,153	$ 4,797,153	$ 4,797,153	$ 4,797,153
Principal	1,430,000	1,450,000	1,485,000	1,520,000	1,430,000
Interest	886,525	866,719	830,369	791,513	735,700
Cash Flow Required	$ 7,113,678	$ 7,113,872	$ 7,112,522	$ 7,108,666	$ 6,962,853
Revenues from Current Rates	$ 7,248,373	$ 7,248,373	$ 7,248,373	$ 7,248,373	$ 7,248,373
Net Income	$ 134,695	$ 134,501	$ 135,851	$ 139,708	$ 285,520
Debt Service Coverage (DSC) Ratio	1.06	1.06	1.06	1.06	1.13

As part of the analysis, Aldrich developed a revenue requirement on both a Cash Basis (using a 1.25 DSC) and an Income Basis (full revenue requirement). The results are shown in Tables 5 and 6 below.

Table 5 – Income Basis Revenue Requirement

Income Basis Revenue Requirement	FY 2021 Adjusted
Personnel	$ 3,233,287
Operations	1,551,234
Depreciation Expense	3,779,145
Admin Overhead	157,116
Interest Expense	886,525
Other Revenues	144,484
Margin	300,000
Total Revenue Requirement	**$ 9,762,823**

Table 6 – Cash Basis Revenue Requirement

Cash Basis Revenue Requirement	FY 2021 Adjusted
Personnel	$ 3,233,287
Operations	1,551,234
Depreciation Expense	0
Admin Overhead	157,116
Interest Expense	0
Other Revenues	144,484
Net Income to meet 1.25 DSC	2,895,656
Total Revenue Requirement	**$ 7,692,809**

Sales (and therefore revenues) and expenses used in this analysis are all forecasts that will undoubtedly differ from actual amounts. As such, target margins are sometimes included in revenue requirements to account for these inherent risks. For purposes of this analysis, a $300,000 margin was included in the development of the Income-Basis revenue requirement, but the need for margins will be investigated when reviewing the overall adequacy of rates.

4. COST-OF-SERVICE ANALYSIS

Why are Cost of Service Studies Performed?

In the preceding section, total revenue requirements were developed. Why can't revenue requirements simply be divided by total energy sales to develop a rate? The answer is that distinct customer classes cause the utility to incur costs differently. Therefore, a single rate for all customers ignores cost-causation and would not be equitable. For example, assume a utility with all but one of its customers uses the same amount of power evenly throughout the year. The one customer, however, uses a large amount of power during a short period of time and very little energy for the remainder of the year. As such, the utility must install greater capacity for the one customer, and a single rate would shift the cost burden to those customers not responsible for causing the additional costs.

A cost-of-service study recognizes the differences among various customers and how they affect costs, and costs of the utility are allocated to each group so that the "cost causer" is the "cost payer." Performed properly, the study ensures that rates are set in a fair and equitable manner and that no group of customers (rate class) is discriminated against.

In order to standardize the allocation process, the NARUC Manual was developed as a guide throughout the industry. Since no two utilities are alike, the manual acknowledges that certain deviations from the methods prescribed may be warranted due to local conditions.

The Process

In very general terms, a cost-of-service study is performed through a multistep process. The four basic steps include the following:

1. Projecting the amount of customer months, energy sales, and demand sales. (*Billing Determinants)*
2. Projecting the utility's revenue requirements. (*Revenue Requirements Analysis)*
3. Allocating the revenue requirements to each rate group (*Cost of Service Analysis)*
4. Designing rates that will recover each rate group's allocated cost of service (*Rate Design)*

The first two steps, Billing Determinants and Revenue Requirements, were described in the previous two sections. The next step is to allocate these costs to each rate group, and this is accomplished through the processes of *Functionalization, Classification,* and *Allocation.*

FUNCTIONALIZATION

A utility's production, transmission, distribution and consumer accounts expenses are functionalized through the Uniform System of Accounts. Administrative and General expenses, interest expenses, and other items are functionalized as either production, transmission, distribution, or consumer accounts using the labor components of expenses already functionalized, functionalized plant in service, and other factors.

CLASSIFICATION

Once the revenue requirements are functionalized, they are then classified as either demand-, energy-, or customer-related. At the risk of over-simplification, the NARUC Manual prescribes the functionalized revenue requirements to be classified as shown in Table 7. Detailed classification methodologies for the various line-item expense codes are provided in the NARUC Manual with the goal of classifying in a fair and equitable manner. For example, fuel is classified as energy since it is directly proportional to the amount of energy required by the utility. The fixed costs associated with generators (*i.e.*, depreciation, interest on debt, etc.) are typically classified as coincident demand related since the utility must install generation to meet the system coincident peak.

Table 7 – Classification of Revenue Requirements

Functionalized Revenue Requirement	Classification			
	Demand		Energy	Customer
	Coincident	Non Coincident		
Production	x		x	
Transmission	x			
Distribution		x		x

ALLOCATION

The final step in the cost-of-service analysis is to allocate the classified revenue requirements to each customer class (or rate group) based on each class' respective use of the allocation. For example, energy is typically allocated based on sales. If a particular class accounted for 30 percent of the sales, then 30 percent of the costs classified as energy-related would be allocated to that class.

Energy- and customer-related expenses are fairly straightforward, but demand allocations become much more complex since there are a number of different methods that can be used. Some form of the

coincident and non-coincident peaks is typically used and may include the annual peak, average of the four peak months, average of the twelve months over the year, average of the three summer and three winter peak months, and so on.

Complicating the matter is that a great deal of load research must be conducted in order to estimate these class peaks with any precision. Such research can be expensive, and the benefits of obtaining the data can quickly be eroded by the associated costs. Load research of comparable utilities and an analysis of billing demands can be used in lieu of the expensive load research.

After the revenue requirements have been allocated to each class, the existing rates are applied to the billing determinants (number of customers, energy sales, demand sales) to determine if the rates recover less than or more than the allocated cost of service. Rates are then adjusted accordingly.

Cost Allocation

Both the Income Basis and Cash Basis revenue requirements were applied to the cost of service analysis described below.

FUNCTIONALIZATION

Most of the functionalization process is accomplished through the City's accounting codes. Administrative costs are not functionalized but classified directly in the next step.

CLASSIFICATION (APPENDIX A-2)

The functionalized revenue requirements were then classified as either demand-, energy-, and customer-related pursuant to the guidelines established in the NARUC Manual.

ALLOCATION (APPENDIX A-1)

As described earlier in this report, the allocation of energy- and customer-related revenue requirements is fairly straightforward. Energy sales and the number of customers are readily available for each customer class. Demand data, however, is much more complex, and estimates must be made of each class' contribution to the system coincident peak as well as estimates of each class' non-coincident peak.

In the Electric Utility's case, two classes, Large General Service and Industrial, include a demand component in their monthly bill, and billing demands for each customer in these two classes are

available. However, the sum of the billing demands for each month will most likely be greater than the actual non-coincident peak for the class as a whole due to diversity among the customers. This diversity will probably be greater among the Large General Service customers than the Industrial customers due to the greater number of customers and the differences in types of business operations.

The non-coincident peak and coincident peak were estimated for each customer class by first estimating the peaks for the non-demand metered classes. This was done by using load research conducted by other utilities in Alaska.[3] While not directly applicable to the Electric Utility, it serves as a reasonable proxy.

For the demand-metered customers, the billing demands were summed and then diversity factors applied such that the sum of the coincident peaks for all classes equal the projected system peak.

Results

Based on the analysis described above, the Income Basis revenue requirements were allocated to each customer class, and the results are summarized in Table 8 on the following page.[4] Details of the allocation and the steps leading to it are provided in Appendix A-1.

[3] Specifically, load research data from the Municipality of Anchorage d/b/a Municipal Light & Power was used for comparative purposes as well as more rural electric utilities, like those served by the Alaska Village Electric Cooperative.
[4] The Cash Basis revenue requirement was applied to the final allocation results to provide alternative options for the City. An allocation table for the Cash Basis was not separately generated.

Table 8 – Allocation of Revenue Requirements

	Total	Residential	Small Gen Svc	Large Gen Svc	Industrial	Street Lights
ENERGY						
Energy	$ 1,123,354	$ 107,064	$ 93,329	$ 146,997	$ 770,733	$ 5,231
CAPACITY						
Coincident Peak						
CP	$ 6,172,586	$ 503,376	$ 438,744	$ 796,659	$ 4,395,972	$ 37,835
CP No Street Lights	-	-	-	-	-	-
Subtotal - Coincident Peak	$ 6,172,586	$ 503,376	$ 438,744	$ 796,659	$ 4,395,972	$ 37,835
Non-Coincident Peak						
NCP	$ 1,297,884	$ 164,028	$ 115,989	$ 129,352	$ 881,770	$ 6,746
NCP No Street Lights	-	-	-	-	-	-
Subtotal - Non-Coincident Pea	$ 1,297,884	$ 164,028	$ 115,989	$ 129,352	$ 881,770	$ 6,746
Subtotal - Capacity	$ 7,470,470	$ 667,403	$ 554,733	$ 926,011	$ 5,277,743	$ 44,580
CUSTOMER / METER						
Meters	$ 1,060,868	$ 798,678	$ 186,669	$ 41,027	$ 18,815	$ 15,679
Meter Cost	1,682	896	210	395	181	-
Meter Reading	-	-	-	-	-	-
Billing	-	-	-	-	-	-
Subtotal - Customer / Meter	$ 1,062,550	$ 799,574	$ 186,878	$ 41,422	$ 18,996	$ 15,679
DIRECT						
Direct 1 (Credit Card Fees)	$ 25,000	$ 6,250	$ 6,250	$ 6,250	$ 6,250	$ -
Direct 2 (Hook-up/Late/Other)	-	$ -	$ -	$ -	$ -	$ -
Direct 3	81,448	$ -	$ -	$ -	$ 81,448	$ -
Subtotal - Direct	$ 106,448	$ 6,250	$ 6,250	$ 6,250	$ 87,698	$ -
TOTAL	$ 9,762,822	$ 1,580,292	$ 841,190	$ 1,120,680	$ 6,155,170	$ 65,490
Revenues from Existing Rates						
Customer		$ 73,352	$ 21,430	$ 23,550	$ 21,600	$ 1,800
Energy		882,254	675,378	900,658	3,905,174	37,852
FCA						
Demand		-	-	91,592	613,733	-
Total	$ 7,248,373	$ 955,606	$ 696,808	$ 1,015,800	$ 4,540,507	$ 39,652
Surplus (Deficiency)	$ (2,514,449)	$ (624,686)	$ (144,382)	$ (104,880)	$ (1,614,663)	$ (25,838)
Required Adjustment	34.7%	65.4%	20.7%	10.3%	35.6%	65.2%

Looking Forward

It is important to remember that the revenue requirements are based on the FY2021 budget, and this analysis was prepared nearly halfway through the budget cycle. Several cost components of the Electric Utility will remain relatively fixed (deprecation being the most notable), others may decrease (interest expenses), but inflation will influence other components.

While the increase in expenses and the loss of large customers indicates the need for a significant rate increase, regaining larger customers and connecting new loads is part of a viable plan for reducing customer rates again.

Furthermore, it is recommended that a new cost of service analysis be conducted within at least 4 years from the current Study (in FY25).

5. SUMMARY AND OPTIONS

Based on the analysis conducted and assumptions summarized in this report, the Income-Based revenue requirement indicates existing rates will result in an approximately $2.5 million deficit in operating costs or 34.7% of revenues. Alternatively, the Cash-Based revenue requirement indicates a deficit of $440 thousand or 6.1% of revenues. The rationale for the different methodologies and explanation of the analysis was provided in prior sections of the Report.

In order to address the deficiencies, three options are presented for consideration:

1. Utilize the Cash-Based revenue requirement to develop rates;
2. Utilize the Income-Based revenue requirement to develop rates; and
3. Assess a new sales tax to offset revenue deficits.

Within Options 1 and 2, the City could either implement an across-the-board rate increase or apply the results of the Cost of Service Study. Because the Cash-Based revenue requirement is significantly less than the Income-Based revenue requirement, Option 1 could be combined with Option 3 in some fashion. Each option is discussed separately below, followed by a comparative analysis of customer impacts.

Option 1: Cash-Based Revenue Requirement Achieving a 1.25 DSC

Because the City's municipal ordinance requires achieving a 1.25 DSC ratio, it is appropriate to establish rates accordingly. While the much larger rate increase which the Income-Based revenue requirement indicates is defensible, there is also a sensitivity, especially to the Industrial class, to maintain rates at a level that encourages interconnection rather than self-generation. Option 1 is responsive to that sensitivity, resulting in an overall 6.1% revenue increase. However, even with the rate increase required to meet the 1.25 DSC, the projected revenues remain almost $2.1 million below the Income-Based revenue requirement.

Two variations of Option 1 are provided below, a cost of service study-based approach and an across the board increase.

Option 1A: 1.25 DSC, Cost of Service Study Based Rates

As shown in Table 9, on the following page, the residential customer class would face the most significant rate increase if the cost of service study results were applied. The Residential class would see a 30.3% increase and the Industrial class would see a 6.8% increase. However, the Small General Service and Large General Service classes would realize a rate decrease. This indicates that the current configuration of rates doesn't adequately allocate cost to the Residential and Industrial classes but relies too heavily upon the Small and Large Generation Service classes.

However, it should be noted that apart from detailed demand metering data, several assumptions were used to determine demand for each class. These results should be interpreted as providing general guidance, not definitive results. Regarding the Street Lights class, the revenues from this class are small in comparison to the other classes, so large swings in the Street Lights class surplus/deficit are not unusual.

Table 9 – Option 1A: Cost of Service Study Results Applied to Cash-Based Revenue Requirement

	Total	Residential	Small General Service	Large General Service	Industrial	Street Lights
Current:	**$ 7,248,373**	$ 955,606	$ 696,808	$ 1,015,800	$ 4,540,507	$ 39,652
Proposed:	**$ 7,692,809**	$ 1,245,223	$ 662,832	$ 883,062	$ 4,850,088	$ 51,604
Surplus/Deficit:	**$ (444,436)**	$ (289,616)	$ 33,976	$ 132,738	$ (309,581)	$ (11,952)
% Increase/(Decrease):	**6.1%**	30.3%	-4.9%	-13.1%	6.8%	30.1%

Table 10 provides a comparison of the current rates and the rates that would be implemented under Option 1A.

Table 10 – Option 1A: Cost of Service Study Results Applied to Customer Rates

Current Rates						
Charge	**Unit**	**Residential**	**Small General Service**	**Large General Service**	**Industrial**	**Street Lights**
Customer	$/month	$ 8.00	$ 10.00	$ 50.00	$ 100.00	$ 10.00
Energy	$/kWh	0.2340	0.2055	0.1740	0.1439	0.2055
Demand	$/kW	-	-	6.70	8.00	-
Option 1A: 1.25 DSC, Cost of Service Study Based Rates						
Charge	**Unit**	**Residential**	**Small General Service**	**Large General Service**	**Industrial**	**Street Lights**
Customer	$/month	$ 69.25	$ 71.01	$ 79.75	$ 92.10	$ 68.64
Energy	$/kWh	0.1618	0.1553	0.0224	0.0224	0.2130
Demand	$/kW	-	-	53.38	55.05	-

Option 1B: 1.25 DSC, Across-the-Board Rate Increase

The across-the board application of the 6.1% rate increases would impact all customer classes equally, as shown in Table 11.

Table 11 – Option 1B: Across-the-Board Increase Applied to Cash-Based Revenue Requirement

	Total	Residential	Small General Service	Large General Service	Industrial	Street Lights
Current:	**$ 7,248,373**	$ 955,606	$ 696,808	$ 1,015,800	$ 4,540,507	$ 39,652
Proposed:	**$ 7,692,809**	$ 1,014,199	$ 739,533	$ 1,078,084	$ 4,818,909	$ 42,084
Surplus/Deficit:	**$ (444,436)**	$ (58,593)	$ (42,725)	$ (62,284)	$ (278,402)	$ (2,431)
% Increase/(Decrease):	**6.1%**	6.1%	6.1%	6.1%	6.1%	6.1%

Table 12 provides a comparison of the current rates and the rates that would be implemented under Option 1B.

Table 12 – Option 1B: Across-the-Board Increase Applied to Customer Rates

Current Rates						
Charge	**Unit**	**Residential**	**Small General Service**	**Large General Service**	**Industrial**	**Street Lights**
Customer	$/month	$ 8.00	$ 10.00	$ 50.00	$ 100.00	$ 10.00
Energy	$/kWh	0.2340	0.2055	0.1740	0.1439	0.2055
Demand	$/kW	-	-	6.70	8.00	-
Option 1B: 1.25 DSC, Across-the-Board Rate Increase						
Charge	**Unit**	**Residential**	**Small General Service**	**Large General Service**	**Industrial**	**Street Lights**
Customer	$/month	$ 8.49	$ 10.61	$ 53.07	$ 106.13	$ 10.61
Energy	$/kWh	0.2483	0.2180	0.1846	0.1527	0.2180
Demand	$/kW	-	-	7.11	8.49	-

Option 2: Income-Based Revenue Requirement

At the request of the City staff, only the cost-of-service based results are presented for Option 2. As shown in Table 13, all customer classes would see a rate increase if the Income-Based revenue requirement was implemented. However, the Residential customer class would face the most significant rate increase if the cost of service study results were applied. The Residential class would see a 65.4% increase and the Industrial class would see a 35.6% increase. The Small General Service and Large General Service classes would realize a 20.7% and 10.3% increase respectively. This indicates that the current configuration of rates doesn't adequately allocate cost to the Residential and Industrial classes but relies too heavily upon the Small and Large Generation Service classes.

However, it should be noted that apart from detailed demand metering data, several assumptions were used to determine demand for each class. These results should be interpreted as providing general guidance, not definitive results. Regarding the Street Lights class, the revenues from this class are small in comparison to the other classes, so large swings in the Street Lights class surplus/deficit are not unusual.

Table 13 – Option 2: Cost of Service Study Results Applied to Income-Based Revenue Requirement

	Total	**Residential**	**Small General Service**	**Large General Service**	**Industrial**	**Street Lights**
Current:	**$ 7,248,373**	$ 955,606	$ 696,808	$ 1,015,800	$ 4,540,507	$ 39,652
Proposed:	**$ 9,762,822**	$ 1,580,292	$ 841,190	$ 1,120,680	$ 6,155,170	$ 65,490
Surplus/Deficit:	**$ (2,514,449)**	$ (624,686)	$ (144,382)	$ (104,880)	$ (1,614,663)	$ (25,838)
% Increase/(Decrease):	**34.7%**	65.4%	20.7%	10.3%	35.6%	65.2%

Table 14 provides a comparison of the current rates and the rates that would be implemented until Option 2.

Table 14 – Option 2: Cost of Service Study Results Applied to Income-Based Revenue Requirement

Current Rates						
Charge	**Unit**	**Residential**	**Small General Service**	**Large General Service**	**Industrial**	**Street Lights**
Customer	$/month	$ 8.00	$ 10.00	$ 50.00	$ 100.00	$ 10.00
Energy	$/kWh	0.2340	0.2055	0.1740	0.1439	0.2055
Demand	$/kW	-	-	6.70	8.00	-
Option 2: Income-Based Revenue Requirement, Cost of Service Study Based Rates						
Charge	**Unit**	**Residential**	**Small General Service**	**Large General Service**	**Industrial**	**Street Lights**
Customer	$/month	$ 87.89	$ 90.12	$ 101.21	$ 116.88	$ 87.11
Energy	$/kWh	0.2054	0.1971	0.0284	0.0284	0.2704
Demand	$/kW	-	-	67.74	69.86	-

Option 3: Utility Infrastructure Tax

As an alternative to Options 1 and 2, or in addition to Option 1, the City could implement a sales tax with proceeds dedicated to utility infrastructure projects. This could offset some of the revenues that would need to be collected through rates and provide the City with a cash flow and broad discretion on the utility infrastructure projects to which it could be applied. Additionally, this allows the City to collect revenue more broadly from temporary community residents that are benefited by the utility infrastructure but are not directly charged for services.

For the sake of illustration, the historic and projected proceeds from the existing 1% Special Revenue sales tax are provided in Table 15.

Table 15 – Utility Infrastructure Tax Projection

	FY2017 Actual	**FY2018 Actual**	**FY2019 Actual**	**FY2020 Budget**	**FY2021 Budget**
1% Sales Tax Special Revenue	$ 3,705,737	$ 3,522,767	$ 3,629,169	$ 3,500,000	$ 2,666,667

Options 1 & 2: Customer Impact Projection

Options 1 and 2 propose specific changes to customer rates. In evaluating the options, it is helpful to understand the potential impact on each customer class. Tables 16 through 20 provide side-by-side comparisons of the monthly impact for each customer class based on average actual monthly energy consumption and demand (as applicable) for FY2020.

Table 16 – Residential Customer Impact Comparison

Residential Bill (500 kWh Energy)	Current Rates	Cash-Based (1.25 DSC) Option 1A: Cost-Based	Cash-Based (1.25 DSC) Options 1B: Across-the-Board	Income-Based Option 2: Cost-Based
Customer	$ 8.00	$ 69.25	$ 8.49	$ 87.89
Energy	116.98	80.91	124.15	102.68
COPA	55.00	55.00	55.00	55.00
PCE Credit	(40.55)	(40.55)	(40.55)	(40.55)
	$ 139.43	$ 164.61	$ 147.09	$ 205.02
	% Change:	**18.1%**	**5.5%**	**47.0%**

Table 17 – Small General Service Customer Impact Comparison

Small General Service (1,534 kWh Energy)	Current Rates	Cash-Based (1.25 DSC) Option 1a: Cost-Based Rates	Cash-Based (1.25 DSC) Options 1b Across-the-Board Increase	Income-Based Option 2: Cost-Based Rates
Customer	$ 10.00	$ 71.01	$ 10.61	$ 90.12
Energy	315.16	238.29	334.48	302.41
COPA	168.74	168.74	168.74	168.74
	$ 493.90	$ 478.04	$ 513.84	$ 561.27
	% Change:	**-3.2%**	**4.0%**	**13.6%**

Table 18 – Large General Service Customer Impact Comparison

Large General Service (10,993 kWh Energy & 29 kW Demand)	Current Rates	Cash-Based (1.25 DSC) Option 1a: Cost-Based Rates	Cash-Based (1.25 DSC) Options 1b Across-the-Board Increase	Income-Based Option 2: Cost-Based Rates
Customer	$ 50.00	$ 79.75	$ 53.07	$ 101.21
Demand	194.30	1,547.89	206.21	1,964.41
Energy	1,912.23	245.92	2,029.48	312.10
COPA	1,209.23	1,209.23	1,209.23	1,209.23
	$ 3,365.76	$ 3,082.80	$ 3,497.99	$ 3,586.95
	% Change:	**-8.4%**	**3.9%**	**6.6%**

Table 19 – Industrial Service Customer Impact Comparison

Industrial (170,993 kWh Energy & 446 kW Demand)	Current Rates	Cash-Based (1.25 DSC) Option 1a: Cost-Based Rates	Cash-Based (1.25 DSC) Options 1b Across-the-Board Increase	Income-Based Option 2: Cost-Based Rates
Customer	$ 100.00	$ 92.10	$ 106.13	$ 116.88
Demand	3,568.00	24,550.14	3,786.77	31,156.19
Energy	24,597.34	3,825.27	26,105.54	4,854.58
COPA	18,809.23	18,809.23	18,809.23	18,809.23
	$ 47,074.57	$ 47,276.73	$ 48,807.67	$ 54,936.88
	% Change:	**0.4%**	**3.7%**	**16.7%**

Table 20 – Street Light Service Customer Impact Comparison

Streetlights (1,024 kWh Energy)	Current Rates	Cash-Based (1.25 DSC) Option 1a: Cost-Based Rates	Cash-Based (1.25 DSC) Options 1b Across-the-Board Increase	Income-Based Option 2: Cost-Based Rates
Customer	$ 10.00	$ 68.64	$ 10.61	$ 87.11
Energy	210.38	218.15	223.28	276.85
COPA	112.64	112.64	112.64	112.64
	$ 333.02	$ 399.42	$ 346.53	$ 476.59
	% Change:	**19.9%**	**4.1%**	**43.1%**

6. RECOMMENDATIONS

The findings of the analysis herein are:

1. Although expenses have increased by almost 14% since the last cost of service study was performed based on FY2016, the loss of two large industrial customers has decreased sales, thereby producing a need for a rate increase to meet the utility's revenue requirement.
2. The cost of service analysis indicates that in order to meet the full Income-Based revenue requirement, all customer class rates should increase. However, comparatively:
   a. Rates for the Residential Class is most significantly set under the cost of service.
   b. Rates for the Industrial Class need to increase significantly.
   c. Rates for the Small and Large General Service classes are currently set closest to the actual cost of service.
3. The minimum rate increase must allow the revenue requirement to meet the 1.25 DSC threshold established by City ordinance. This would require an overall 6.1% rate increase, that could be enacted on a cost of service basis or via an across-the-board basis.

Based on the outcome of this study, it is recommended that electric rates be increased by at least 6.1% at this time. This increase will fund utility operations and meet debt covenants. However, it falls short of meeting the capital improvement expenditures projected in the CMMP. If the City does not raise rates to the level indicated by the Income-Based revenue requirement analysis, other methods such as the Utility Infrastructure Tax should be considered to allow capital improvement projects to be funded as necessary to maintain the integrity of the system.

Appendix A-1

Summary of Allocation

	Allocation Reference	Description	Total	Residential	Small Gen Svc	Large Gen Svc	Industrial	Street Lights
ENERGY								
Energy	A.01.01	Energy Sales	$ 1,123,354	$ 107,064	$ 93,329	$ 146,997	$ 770,733	$ 5,231
CAPACITY								
Coincident Peak								
CP	A.02.01	CP	$ 6,172,586	$ 503,376	$ 438,744	$ 796,659	$ 4,395,972	$ 37,835
CP No Street Lights	A.02.03	CP No SL	-	-	-	-	-	-
Subtotal - Coincident Peak			$ 6,172,586	$ 503,376	$ 438,744	$ 796,659	$ 4,395,972	$ 37,835
Non-Coincident Peak								
NCP	A.03.01	NCP	$ 1,297,884	$ 164,028	$ 115,989	$ 129,352	$ 881,770	$ 6,746
NCP No Street Lights	A.03.03	NCP No SL	-	-	-	-	-	-
Subtotal - Non-Coincident Peak			$ 1,297,884	$ 164,028	$ 115,989	$ 129,352	$ 881,770	$ 6,746
Subtotal - Capacity			$ 7,470,470	$ 667,403	$ 554,733	$ 926,011	$ 5,277,743	$ 44,580
CUSTOMER / METER								
Meters	A.04.01	Meters	$ 1,060,868	$ 798,678	$ 186,669	$ 41,027	$ 18,815	$ 15,679
Meter Cost	A.04.02	Meter Cost	1,682	896	210	395	181	-
Meter Reading	A.04.03	Meter Reading	-	-	-	-	-	-
Billing	A.04.04	Billing	-	-	-	-	-	-
Subtotal - Customer / Meter			$ 1,062,550	$ 799,574	$ 186,878	$ 41,422	$ 18,996	$ 15,679
DIRECT								
Direct 1 (Credit Card Fees)	A.10.01	Direct 1 - CC Fees	$ 25,000	$ 6,250	$ 6,250	$ 6,250	$ 6,250	$ -
Direct 2 (Hook-up/Late/Other)	A.10.02	Direct 2 - Not Utilized	-	$ -	$ -	$ -	$ -	$ -
Direct 3	A.10.03	Direct 3 - Industrial	81,448	$ -	$ -	$ -	$ 81,448	$ -
Subtotal - Direct			$ 106,448	$ 6,250	$ 6,250	$ 6,250	$ 87,698	$ -
TOTAL			$ 9,762,822	$ 1,580,292	$ 841,190	$ 1,120,680	$ 6,155,170	$ 65,490
Revenues from Existing Rates								
Customer				$ 73,352	$ 21,430	$ 23,550	$ 21,600	$ 1,800
Energy				882,254	675,378	900,658	3,905,174	37,852
FCA								
Demand				-	-	91,592	613,733	-
Total			$ 7,248,373	$ 955,606	$ 696,808	$ 1,015,800	$ 4,540,507	$ 39,652
Surplus (Deficiency)			$ (2,514,449)	$ (624,686)	$ (144,382)	$ (104,880)	$ (1,614,663)	$ (25,838)
Required Adjustment			34.7%	65.4%	20.7%	10.3%	35.6%	65.2%
FY20 Billing Determinants:								
Customers (meter-months)			12,179	9,169	2,143	471	216	180
Energy (kWh)			39,567,897	3,771,123	3,287,311	5,177,682	27,147,540	184,241
Demand (kW-months)				-	-	13,670	76,717	-
Existing Rates:								
Customer				$ 8.00	$ 10.00	$ 50.00	$ 100.00	$ 10.00
Energy				0.23395	0.20545	0.17395	0.14385	0.20545
Demand						6.70	8.00	

Appendix A-2

Classification of Expenses

Func	Labor		Classification	Description	FY 2021 Adopted Budget	Adjustment	Revenue Requirement	Energy	Demand		Customer		Other		
									CP	NCP	Meters	Meter Cost	Direct 1	Direct 2	Direct 3
		ADMINISTRATIVE AND GENERAL													
		Personnel													
A	L	Salaries and Wages	C.30.01	Labor - Non A&G	429,514		429,514	44,185	212,172	88,080	85,077	-	-	-	-
A	L	Temp Employees	C.30.01	Labor - Non A&G	3,891		3,891	400	1,922	798	771	-	-	-	-
A	L	Overtime	C.30.01	Labor - Non A&G	1,817		1,817	187	898	373	360	-	-	-	-
A	L	Health Insurance	C.30.01	Labor - Non A&G	140,849		140,849	14,489	69,577	28,884	27,899	-	-	-	-
A	L	FICA/MEDI	C.30.01	Labor - Non A&G	32,240		32,240	3,317	15,926	6,611	6,386	-	-	-	-
A	L	PERS	C.30.01	Labor - Non A&G	116,231	(20,246)	95,985	9,874	47,415	19,683	19,012	-	-	-	-
A	L	AK ESC	C.30.01	Labor - Non A&G	1,928		1,928	198	952	395	382	-	-	-	-
A	L	Workers Comp	C.30.01	Labor - Non A&G	9,740		9,740	1,002	4,811	1,997	1,929	-	-	-	-
A	L	Other Emp Benefits	C.30.01	Labor - Non A&G	806		806	83	398	165	160	-	-	-	-
		Subtotal - Personnel			737,016	(20,246)	716,770	73,735	354,072	146,987	141,976	-	-	-	-
		Operations													
A		Legal Services	C.30.01	Labor - Non A&G	2,000		2,000	206	988	410	396	-	-	-	-
A		Engineering	C.30.01	Labor - Non A&G	18,550		18,550	1,908	9,163	3,804	3,674	-	-	-	-
A		Training and Education	C.30.01	Labor - Non A&G	2,575		2,575	265	1,272	528	510	-	-	-	-
A		Other Professional Services	C.30.01	Labor - Non A&G	34,149		34,149	3,513	16,869	7,003	6,764	-	-	-	-
A		PCB Related Costs	C.30.01	Labor - Non A&G			-	-	-	-	-	-	-	-	-
A		Software / Hardware Support	C.50.03	Total Plant	38,450		38,450	4,418	27,286	4,037	2,129	4	-	-	575
A		Water / Sewer	C.30.01	Labor - Non A&G	510		510	52	252	105	101	-	-	-	-
A		Solid Waste	C.30.01	Labor - Non A&G	1,215		1,215	125	600	249	241	-	-	-	-
A		Custodial Services	C.30.01	Labor - Non A&G	4,508		4,508	464	2,227	924	893	-	-	-	-
A		Repair / Maintenance Svcs	C.30.01	Labor - Non A&G	700		700	72	346	144	139	-	-	-	-
A		Builidng Land Rental	C.30.01	Labor - Non A&G			-	-	-	-	-	-	-	-	-
A		Equipment Rental	C.30.01	Labor - Non A&G	-		-	-	-	-	-	-	-	-	-
A		Insurance	C.50.03	Total Plant	209,028		209,028	24,017	148,338	21,948	11,574	24	-	-	3,126
A		Telephone and Fax	C.30.01	Labor - Non A&G	1,321		1,321	136	653	271	262	-	-	-	-
A		Network/Internet	C.30.01	Labor - Non A&G	23,320		23,320	2,399	11,520	4,782	4,619	-	-	-	-
A		Advertising	C.05.01	Meters	530		530	-	-	-	530	-	-	-	-
A		Printing	C.30.01	Labor - Non A&G	-		-	-	-	-	-	-	-	-	-
A		Travel	C.30.01	Labor - Non A&G	2,000		2,000	206	988	410	396	-	-	-	-
A		Credit Card Fees	C.10.01	Direct 1: CC Fees	25,000		25,000	-	-	-	-	-	25,000	-	-
A		Postage	C.30.01	Labor - Non A&G	2,123		2,123	218	1,049	435	421	-	-	-	-
A		Dues and Subscriptions	C.30.01	Labor - Non A&G	10,000		10,000	1,029	4,940	2,051	1,981	-	-	-	-
A		Employee Mvoving Expenses	C.30.01	Labor - Non A&G	5,000		5,000	514	2,470	1,025	990	-	-	-	-
A		Miscellaneous Expenses	C.30.01	Labor - Non A&G			-	-	-	-	-	-	-	-	-
A		Supplies	C.30.01	Labor - Non A&G	800		800	82	395	164	158	-	-	-	-
A		Office Supplies and Equipment	C.30.01	Labor - Non A&G	2,186		2,186	225	1,080	448	433	-	-	-	-
A		Computer Hardware/Software	C.30.01	Labor - Non A&G	9,470		9,470	974	4,678	1,942	1,876	-	-	-	-
A		Electricity	C.50.04	Plant - Buildings	9,518		9,518	-	9,518	-	-	-	-	-	-
A		Heating Fuel	C.50.04	Plant - Buildings	8,102		8,102	-	8,102	-	-	-	-	-	-
A		Gas for Vehicles	C.40.02	Plant: Vehicles	1,963		1,963	300	19	956	542	-	-	-	147
A		Business Meals	C.30.01	Labor - Non A&G	318		318	33	157	65	63	-	-	-	-
A		Employee Appreciation	C.30.01	Labor - Non A&G	1,623		1,623	167	802	333	321	-	-	-	-
A		Radio Communiations	C.30.01	Labor - Non A&G			-	-	-	-	-	-	-	-	-
A		Books/Periodicals	C.30.01	Labor - Non A&G	400		400	41	198	82	79	-	-	-	-
A		Small Tools	C.30.01	Labor - Non A&G			-	-	-	-	-	-	-	-	-
		Subtotal - Operations			415,359	-	415,359	41,364	253,908	52,117	39,093	29	25,000	-	3,848
		Other													
A		Depreciation (Existing)	C.60.01	Depreciation	3,779,145	-	3,779,145	633,774	2,490,198	388,735	209,238	1,618	-	-	55,582
A		Depreciation (New)	C.99.99	Not Used	-		-	-	-	-	-	-	-	-	-
A		Payment in Lieu of Taxes	C.50.03	Total Plant			-	-	-	-	-	-	-	-	-
A		Administrative Overhead	C.30.01	Labor - Non A&G	157,116		157,116	16,163	77,613	32,219	31,121	-	-	-	-
A		Interest Expense	C.02.01	CP	935,742	(49,217)	886,525	-	886,525	-	-	-	-	-	-
A		Interest Expense (New)	C.02.01	CP			-	-	-	-	-	-	-	-	-
A		Issuance Costs	C.02.01	CP	-		-	-	-	-	-	-	-	-	-
A		Bad Debt Expense	C.10.01	Direct 1: CC Fees			-	-	-	-	-	-	-	-	-
		Subtotal - Other			4,872,003	(49,217)	4,822,786	649,937	3,454,336	420,954	240,360	1,618	-	-	55,582
		Total - Administrative and General			**$ 6,024,378**	**$ (69,463)**	**$ 5,954,915**	**$ 765,036**	**$ 4,062,316**	**$ 620,058**	**$ 421,428**	**$ 1,647**	**$ 25,000**	**$ -**	**$ 59,429**

Func	Labor		Classification	Description	FY 2021 Adopted Budget	Adjustment	Revenue Requirement		Demand		Customer		Other		
								Energy	CP	NCP	Meters	Meter Cost	Direct 1	Direct 2	Direct 3
		POWER PRODUCTION													
		Personnel													
G	L	Salaries and Wages	C.21.02	Other Power Production	783,859		783,859	128,800	652,747	1,344	762	-	-	-	206
G	L	Temp Employees	C.21.02	Other Power Production	-		-	-	-	-	-	-	-	-	-
G	L	Overtime	C.21.02	Other Power Production	47,320		47,320	7,775	39,405	81	46	-	-	-	12
G	L	Health Insurance	C.21.02	Other Power Production	270,934		270,934	44,518	225,616	465	263	-	-	-	71
G	L	FICA/MEDI	C.21.02	Other Power Production	63,583		63,583	10,448	52,948	109	62	-	-	-	17
G	L	PERS	C.21.02	Other Power Production	232,677	(40,531)	192,146	31,572	160,007	330	187	-	-	-	51
G	L	AK ESC	C.21.02	Other Power Production	3,630		3,630	596	3,023	6	4	-	-	-	1
G	L	Workers Comp	C.21.02	Other Power Production	35,935		35,935	5,905	29,924	62	35	-	-	-	9
G	L	Other Emp Benefits	C.21.02	Other Power Production	5,568		5,568	915	4,637	10	5	-	-	-	1
		Subtotal - Personnel			1,443,506	(40,531)	1,402,975	230,530	1,168,307	2,406	1,364	-	-	-	369
		Operations													
G		Engineering Services	C.04.01	50% Egy / 50% CP	5,000		5,000	2,500	2,500	-	-	-	-	-	-
G		Training and Education	C.21.02	Other Power Production	6,000		6,000	986	4,996	10	6	-	-	-	2
G		Education Reimbursement	C.21.02	Other Power Production	1,500		1,500	246	1,249	3	1	-	-	-	0
G		Other Professional Services	C.04.01	50% Egy / 50% CP	103,000		103,000	51,500	51,500	-	-	-	-	-	-
G		Sofware/Hardware Support	C.04.01	50% Egy / 50% CP	1,500		1,500	750	750	-	-	-	-	-	-
G		Sampling, Testing, Monitoring	C.21.02	Other Power Production	5,000		5,000	822	4,164	9	5	-	-	-	1
G		Other Technical	C.04.01	50% Egy / 50% CP	20,000		20,000	10,000	10,000	-	-	-	-	-	-
G		Water / Sewer	C.21.02	Other Power Production	1,300		1,300	214	1,083	2	1	-	-	-	0
G		Solid Waste	C.21.02	Other Power Production	5,000		5,000	822	4,164	9	5	-	-	-	1
G		Custodial	C.02.01	CP	9,600		9,600	-	9,600	-	-	-	-	-	-
G		R & M Services	C.02.01	CP	154,500	-	154,500	-	154,500	-	-	-	-	-	-
G		Equipment Rental	C.99.99	Not Used			-	-	-	-	-	-	-	-	-
G		General Contractor	C.04.01	50% Egy / 50% CP	10,000		10,000	5,000	5,000	-	-	-	-	-	-
G		Telephone and Fax	C.21.02	Other Power Production	-		-	-	-	-	-	-	-	-	-
G		Network / Internet	C.99.99	Not Used			-	-	-	-	-	-	-	-	-
G		Radio Communications	C.21.02	Other Power Production	3,000		3,000	493	2,498	5	3	-	-	-	1
G		Advertising	C.99.99	Not Used			-	-	-	-	-	-	-	-	-
G		Travel	C.21.02	Other Power Production	15,250		15,250	2,506	12,699	26	15	-	-	-	4
G		Dues and Subscriptions	C.21.02	Other Power Production	500		500	82	416	1	0	-	-	-	0
G		Permit Fees	C.01.01	Energy	50,000		50,000	50,000	-	-	-	-	-	-	-
G		Employee Moving Expense	C.99.99	Not Used			-	-	-	-	-	-	-	-	-
G		Supplies	C.02.01	CP	375,000		375,000	-	375,000	-	-	-	-	-	-
G		Safety	C.21.02	Other Power Production	2,500		2,500	411	2,082	4	2	-	-	-	
G		Office Supplies and Equipment	C.21.02	Other Power Production	5,000		5,000	822	4,164	9	5	-	-	-	1
G		Computer Hardware/Software	C.21.02	Other Power Production	10,000		10,000	1,643	8,327	17	10	-	-	-	3
G		Electricity	C.99.99	Not Used			-	-	-	-	-	-	-	-	-
G		Uniforms	C.21.02	Other Power Production	1,000		1,000	164	833	2	1	-	-	-	
G		Propane	C.21.02	Other Power Production	1,200		1,200	197	999	2	1	-	-	-	0
G		Gas for Vehicles	C.40.02	Plant: Vehicles	2,500		2,500	381	24	1,217	690	-	-	-	187
G		Diesel for Equipment	C.40.02	Plant: Vehicles	75		75	11	1	37	21	-	-	-	6
G		Business Meals	C.99.99	Not Used	-		-	-	-	-	-	-	-	-	-
G		Employee Appreciation	C.21.02	Other Power Production	500		500	82	416	1	0	-	-	-	0
G		BksPrdcls	C.99.99	Not Used			-	-	-	-	-	-	-	-	-
G		Small Tools	C.99.99	Not Used			-	-	-	-	-	-	-	-	-
G		Service Contracts	C.99.99	Not Used			-	-	-	-	-	-	-	-	-
G		Miscellaneous Expenses	C.99.99	Not Used			-	-	-	-	-	-	-	-	-
G		Generator Fuel	C.01.01	Energy	7,763,259	(7,763,259)	-	-	-	-	-	-	-	-	-
G		Purchased Power	C.01.01	Energy			-	-	-	-	-	-	-	-	-
G		Purch Pwr - Consumer Generated	C.01.01	Energy			-	-	-	-	-	-	-	-	-
		Subtotal - Operations			8,552,184	(7,763,259)	788,925	129,632	656,966	1,353	767	-	-	-	206
		Total - Power Production			**$ 9,995,690**	**$ (7,803,790)**	**$ 2,191,900**	**$ 360,162**	**$ 1,825,272**	**$ 3,759**	**$ 2,131**	**$ -**	**$ -**	**$ -**	**$ 575**

Func	Labor		Classification	Description	FY 2021 Adopted Budget	Adjustment	Revenue Requirement	Energy	Demand		Customer		Other		
									CP	NCP	Meters	Meter Cost	Direct 1	Direct 2	Direct 3
		LINE REPAIR AND MAINTENANCE													
		Personnel													
D	L	Salaries and Wages	C.22.02	Other Line Repair	556,829		556,829	11,118	710	271,682	267,880	-	-	-	5,438
D	L	Temp Employees	C.22.02	Other Line Repair			-	-	-	-	-	-	-	-	-
D	L	Overtime	C.22.02	Other Line Repair	51,680		51,680	1,032	66	25,215	24,862	-	-	-	505
D	L	Health Insurance	C.22.02	Other Line Repair	175,661		175,661	3,507	224	85,707	84,507	-	-	-	1,716
D	L	FICA/MEDI	C.22.02	Other Line Repair	46,551		46,551	929	59	22,713	22,395	-	-	-	455
D	L	PERS	C.22.02	Other Line Repair	169,346	(29,499)	139,847	2,792	178	68,233	67,278	-	-	-	1,366
D	L	AK ESC	C.22.02	Other Line Repair	2,355		2,355	47	3	1,149	1,133	-	-	-	23
D	L	Workers Comp	C.22.02	Other Line Repair	25,100		25,100	501	32	12,247	12,075	-	-	-	245
D	L	Other Emp Benefits	C.22.02	Other Line Repair	3,537		3,537	71	5	1,726	1,702	-	-	-	35
		Subtotal - Personnel			1,031,059	(29,499)	1,001,560	19,997	1,278	488,671	481,832	-	-	-	9,782
		Operations													
D		Engineering Services	C.04.03	50% NCP / 50% Meters	6,000		6,000	-	-	3,000	3,000	-	-	-	-
D		Training and Education	C.22.02	Other Line Repair	4,100		4,100	82	5	2,000	1,972	-	-	-	40
D		Other Professional Services	C.04.03	50% NCP / 50% Meters	3,000		3,000	-	-	1,500	1,500	-	-	-	-
D		Software/Hardware Support	C.04.03	50% NCP / 50% Meters	1,150		1,150	-	-	575	575	-	-	-	-
D		Sampling, Testing, Monitoring	C.05.01	Meters	1,000		1,000	-	-	-	1,000	-	-	-	-
D		Survey Services	C.99.99	Not Used			-	-	-	-	-	-	-	-	-
D		Other Technical	C.99.99	Not Used			-	-	-	-	-	-	-	-	-
D		Solid Waste	C.22.02	Other Line Repair	3,000		3,000	60	4	1,464	1,443	-	-	-	29
D		Repairs and Maintenance	C.04.03	50% NCP / 50% Meters	5,000		5,000	-	-	2,500	2,500	-	-	-	-
D		Equipment Rental	C.04.03	50% NCP / 50% Meters	1,200		1,200	-	-	600	600	-	-	-	-
D		General Contractor	C.04.03	50% NCP / 50% Meters	10,000		10,000	-	-	5,000	5,000	-	-	-	-
D		Telephone and Fax	C.22.02	Other Line Repair	5,700		5,700	114	7	2,781	2,742	-	-	-	56
D		Radio Communications	C.04.03	50% NCP / 50% Meters	500		500	-	-	250	250	-	-	-	-
D		Advertising	C.99.99	Not Used			-	-	-	-	-	-	-	-	-
D		Travel	C.22.02	Other Line Repair	11,000		11,000	220	14	5,367	5,292	-	-	-	107
D		Dues and Subscriptions	C.22.02	Other Line Repair	-		-	-	-	-	-	-	-	-	-
D		Permit Fees	C.04.03	50% NCP / 50% Meters	5,000		5,000	-	-	2,500	2,500	-	-	-	-
D		Employee Moving Exp	C.99.99	Not Used			-	-	-	-	-	-	-	-	-
D		Miscellaneous Expenses	C.22.02	Other Line Repair	6,000		6,000	120	8	2,927	2,886	-	-	-	59
D		Supplies	C.22.02	Other Line Repair	170,000		170,000	3,394	217	82,945	81,784	-	-	-	1,660
D		Sand, Gravel, and Rock	C.04.03	50% NCP / 50% Meters	9,000		9,000	-	-	4,500	4,500	-	-	-	-
D		Office Supplies and Equipment	C.22.02	Other Line Repair	500		500	10	1	244	241	-	-	-	5
D		Machinery/Vehicle Parts	C.99.99	Not Used			-	-	-	-	-	-	-	-	-
D		Computer Hardware/Software	C.22.02	Other Line Repair	1,700		1,700	34	2	829	818	-	-	-	17
D		Electricity	C.22.02	Other Line Repair	1,200		1,200	24	2	585	577	-	-	-	12
D		Propane	C.22.02	Other Line Repair	400		400	8	1	195	192	-	-	-	4
D		Gas for Vehicles	C.40.02	Plant: Vehicles	2,500		2,500	381	24	1,217	690	-	-	-	187
D		Diesel	C.40.02	Plant: Vehicles	3,800		3,800	580	37	1,850	1,049	-	-	-	284
D		Business Meals	C.99.99	Not Used	-		-	-	-	-	-	-	-	-	-
D		Books/Periodicals	C.22.02	Other Line Repair	500		500	10	1	244	241	-	-	-	5
D		Employee Appreciation	C.22.02	Other Line Repair	200		200	4	0	98	96	-	-	-	2
		Subtotal - Operations			252,450	-	252,450	5,040	322	123,173	121,449	-	-	-	2,466
		Total - Line Repair			**$ 1,283,509**	**$ (29,499)**	**$ 1,254,010**	**$ 25,038**	**$ 1,600**	**$ 611,844**	**$ 603,281**	**$ -**	**$ -**	**$ -**	**$ 12,247**

Func	Labor		Classification	Description	FY 2021 Adopted Budget	Adjustment	Revenue Requirement	Energy	Demand		Customer		Other		
									CP	NCP	Meters	Meter Cost	Direct 1	Direct 2	Direct 3
		VEHICLE AND EQUIPMENT R & M													
		Personnel													
A, G, D	L	Salaries and Wages	C.23.02	Other Vehicle R&M	$ 26,743		$ 26,743	4,081	261	13,023	7,382	-	-	-	1,996
A, G, D	L	Temp Employees	C.23.02	Other Vehicle R&M			-	-	-	-	-	-	-	-	-
A, G, D	L	Overtime	C.23.02	Other Vehicle R&M	800		800	122	8	390	221	-	-	-	60
A, G, D	L	Health Insurance	C.23.02	Other Vehicle R&M	8,515		8,515	1,299	83	4,146	2,351	-	-	-	636
A, G, D	L	FICA/MEDI	C.23.02	Other Vehicle R&M	2,106		2,106	321	21	1,026	581	-	-	-	157
A, G, D	L	PERS	C.23.02	Other Vehicle R&M	7,482	(1,303)	6,179	943	60	3,009	1,706	-	-	-	461
A, G, D	L	AK ESC	C.23.02	Other Vehicle R&M	117		117	18	1	57	32	-	-	-	9
A, G, D	L	Workers Comp	C.23.02	Other Vehicle R&M	969		969	148	9	472	267	-	-	-	72
A, G, D	L	Other Emp Benefits	C.23.02	Other Vehicle R&M	161		161	25	2	78	44	-	-	-	12
		Subtotal - Personnel			$ 46,893	$ (1,303)	$ 45,590	$ 6,957	$ 444	$ 22,201	$ 12,585	$ -	$ -	$ -	$ 3,403
		Operations													
A, G, D		Other Professional	C.40.02	Plant: Vehicles			-	-	-	-	-	-	-	-	-
A, G, D		Other Professional	C.40.02	Plant: Vehicles			-	-	-	-	-	-	-	-	-
A, G, D		Repairs Maint Services	C.40.02	Plant: Vehicles	2,000		2,000	305	19	974	552	-	-	-	149
A, G, D		Construction Services	C.40.02	Plant: Vehicles			-	-	-	-	-	-	-	-	-
A, G, D		Permit Fees	C.40.02	Plant: Vehicles			-	-	-	-	-	-	-	-	-
A, G, D		Supplies	C.40.02	Plant: Vehicles	500		500	76	5	243	138	-	-	-	37
A, G, D		Vehicle and Machinery Parts	C.40.02	Plant: Vehicles	15,000		15,000	2,289	146	7,304	4,141	-	-	-	1,120
A, G, D		Gasoline	C.40.02	Plant: Vehicles			-	-	-	-	-	-	-	-	-
A, G, D		Diesel Fuel	C.40.02	Plant: Vehicles			-	-	-	-	-	-	-	-	-
A, G, D		General Contractor	C.40.02	Plant: Vehicles			-	-	-	-	-	-	-	-	-
A, G, D		Miscellaneous Expenses	C.40.02	Plant: Vehicles			-	-	-	-	-	-	-	-	-
		Subtotal - Operations			17,500	-	17,500	2,670	171	8,522	4,831	-	-	-	1,306
		Total - Vehicle and Equipment R & M			**$ 64,393**	**$ (1,303)**	**$ 63,090**	**$ 9,627**	**$ 615**	**$ 30,722**	**$ 17,416**	**$ -**	**$ -**	**$ -**	**$ 4,709**
		FACILITIES MAINTENANCE													
		Personnel													
G	L	Salaries and Wages	C.24.02	Other Facilities R&M	39,282		39,282	-	39,282	-	-	-	-	-	-
G	L	Temp Employees	C.24.02	Other Facilities R&M	-		-	-	-	-	-	-	-	-	-
G	L	Overtime	C.24.02	Other Facilities R&M	532		532	-	532	-	-	-	-	-	-
G	L	Health Insurance	C.24.02	Other Facilities R&M	12,533		12,533	-	12,533	-	-	-	-	-	-
G	L	FICA/MEDI	C.24.02	Other Facilities R&M	3,046		3,046	-	3,046	-	-	-	-	-	-
G	L	PERS	C.24.02	Other Facilities R&M	10,875	(1,894)	8,981	-	8,981	-	-	-	-	-	-
G	L	AK ESC	C.24.02	Other Facilities R&M	166		166	-	166	-	-	-	-	-	-
G	L	Workers Comp	C.24.02	Other Facilities R&M	1,619		1,619	-	1,619	-	-	-	-	-	-
G	L	Other Emp Benefits	C.24.02	Other Facilities R&M	233		233	-	233	-	-	-	-	-	-
		Subtotal - Personnel			68,286	(1,894)	66,392	-	66,392	-	-	-	-	-	-
		Operations													
G		Sampling, Testing, Monitoring	C.99.99	Not Used			-	-	-	-	-	-	-	-	-
G		Other Professional	C.02.01	CP	5,000		5,000	-	5,000	-	-	-	-	-	
G		Repairs / Maintenance	C.02.01	CP	33,000		33,000	-	33,000	-	-	-	-	-	-
G		Construction Services	C.02.01	CP	5,000		5,000	-	5,000	-	-	-	-	-	-
G		Permit Fees	C.99.99	Not Used			-	-	-	-	-	-	-	-	-
G		Supplies	C.02.01	CP	11,000		11,000	-	11,000	-	-	-	-	-	-
G		Safety	C.02.01	CP	10,000		10,000	-	10,000	-	-	-	-	-	
G		Facilitiy Supplies	C.02.01	CP	13,000		13,000	-	13,000	-	-	-	-	-	-
G		Service Contracts	C.99.99	Not Used			-	-	-	-	-	-	-	-	-
		Subtotal - Operations			77,000	-	77,000	-	77,000	-	-	-	-	-	-
		Total - Facilities Maintenance			**$ 145,286**	**$ (1,894)**	**$ 143,392**	**$ -**	**$ 143,392**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
		SUBTOTAL			**$ 17,513,256**	**$ (7,905,949)**	**$ 9,607,307**	**$ 1,159,863**	**$ 6,033,195**	**$ 1,266,384**	**$ 1,044,257**	**$ 1,647**	**$ 25,000**	**$ -**	**$ 76,961**

Func	Labor		Classification	Description	FY 2021 Adopted Budget	Adjustment	Revenue Requirement		Demand		Customer		Other		
								Energy	CP	NCP	Meters	Meter Cost	Direct 1	Direct 2	Direct 3
		OTHER REVENUES (EXPENSES)													
		Desired Margin	C.50.03	Total Plant		(300,000)	(300,000)	(34,470)	(212,896)	(31,501)	(16,612)	(35)	-	-	(4,487)
		Other Services	C.01.01	Energy	8,100		8,100	8,100	-	-	-	-	-	-	-
		Late Payment Fees	C.01.01	Energy	19,176		19,176	19,176	-	-	-	-	-	-	-
		Interest Income	C.99.99	Not Used			-	-	-	-	-	-	-	-	-
		PERS Nonemployer Contributions	C.99.99	Not Used	93,473	(93,473)	-	-	-	-	-	-	-	-	-
		LGS PFT	C.01.01	Energy	12,785		12,785	12,785	-	-	-	-	-	-	-
		Ind PFT	C.01.01	Energy	30,918		30,918	30,918	-	-	-	-	-	-	-
		Federal Interest Subsidy	C.02.01	CP	73,505	-	73,505	-	73,505	-	-	-	-	-	-
		Subtotal - Other			$ 237,957	$ (393,473)	$ (155,516)	$ 36,509	$ (139,391)	$ (31,501)	$ (16,612)	$ (35)	$ -	$ -	$ (4,487)
		TOTAL NET REVENUE REQUIREMENTS			**$ 17,275,299**	**$ (7,512,476)**	**$ 9,762,823**	**$ 1,123,354**	**$ 6,172,586**	**$ 1,297,884**	**$ 1,060,868**	**$ 1,682**	**$ 25,000**	**$ -**	**$ 81,448**

Appendix A-3

Classification of Plant

Item	Description	Depr Life	Classification	Description	Gross Plant				Demand		Customer		Other		
					Beg of Yr 6/30/2020	Add'ns	Revised	Energy	CP	NCP	Meters	Meter Cost	Direct 1	Direct 2	Direct 3
LAND															
	TOTALS LAND 31-161.00				212,598	-	212,598	-	147,225	65,373	-	-	-	-	-
BLDG															
86ELECTB01	POWERHOUSE IMPRVMTS 79-86	14.25	C.02.01	CP	1,189,469		1,189,469	-	1,189,469	-	-	-	-	-	-
89ELECTB01	POWERHOUSE	33.33	C.02.01	CP	33,289		33,289	-	33,289	-	-	-	-	-	-
98ELECTB01	POWERHOUSE RENOV. PHASE I	20.00	C.02.01	CP	82,484		82,484	-	82,484	-	-	-	-	-	-
98ELECTB02	POWERHOUSE COOLING PHASE I	20.00	C.02.01	CP	532,831		532,831	-	532,831	-	-	-	-	-	-
98ELECTB03	STACK EXTENSIONS	30.00	C.02.01	CP	399,087		399,087	-	399,087	-	-	-	-	-	-
99ELECTB01	POWERHOUSE COOLING PHASE II	20.00	C.02.01	CP	49,534		49,534	-	49,534	-	-	-	-	-	-
99ELECTB01	POWERHOUSE RENOV. PHASE II ROOFING	15.00	C.02.01	CP	84,796		84,796	-	84,796	-	-	-	-	-	-
01ELECTB01	New Powerhouse	40.00	C.02.01	CP	34,526,260		34,526,260	-	34,526,260	-	-	-	-	-	-
	TOTALS BLDG 31-162.00				36,897,751	-	36,897,751	-	36,897,751	-	-	-	-	-	-
IOTB															
86ELECTI01	CAPITALIZE CONSTRUCTION	20.00	C.50.01	Plant: Other IOTB	51,895		51,895	7,919	506	25,271	14,325	-	-	-	3,874
86ELECTI02	DISTRIBUTION LINE	20.00	C.04.03	50% NCP / 50% Meters	2,348,176		2,348,176	-	-	1,174,088	1,174,088	-	-	-	-
86ELECTI07	CAPITALIZE DISTRIBUTION	20.00	C.04.03	50% NCP / 50% Meters	229,875		229,875	-	-	114,938	114,938	-	-	-	-
88ELECTI01	CAPITALIZE LINE DISTRIBTUION	20.00	C.04.03	50% NCP / 50% Meters	68,129		68,129	-	-	34,065	34,065	-	-	-	-
88ELECTI02	CAPITALIZE DISTRIBUTION	20.00	C.04.03	50% NCP / 50% Meters	92,205		92,205	-	-	46,103	46,103	-	-	-	-
89ELECTI02	TRANSFORMERS	20.00	C.04.03	50% NCP / 50% Meters	30,716		30,716	-	-	15,358	15,358	-	-	-	-
89ELECTI03	TRANSFORMERS	20.00	C.04.03	50% NCP / 50% Meters	6,719		6,719	-	-	3,360	3,360	-	-	-	-
90ELECTI01	CAPITALIZE DISTRIBUTION	20.00	C.04.03	50% NCP / 50% Meters	214,089		214,089	-	-	107,045	107,045	-	-	-	-
90ELECTI02	SWITCH GEAR	20.00	C.03.01	NCP	20,834		20,834	-	-	20,834	-	-	-	-	-
91ELECTI01	CAPITALIZE DISTRIBUTION	20.00	C.04.03	50% NCP / 50% Meters	288,348		288,348	-	-	144,174	144,174	-	-	-	-
92ELECTI01	PRIMARY LINE	20.00	C.04.03	50% NCP / 50% Meters	142,932		142,932	-	-	71,466	71,466	-	-	-	-
93ELECTI01	PRIMARY LINE	20.00	C.04.03	50% NCP / 50% Meters	185,033		185,033	-	-	92,517	92,517	-	-	-	-
95ELECTI02	TOWN SUBSTATION	20.00	C.03.01	NCP	994,008		994,008	-	-	994,008	-	-	-	-	-
96ELECTI01	DOWNTOWN LOOP	20.00	C.04.03	50% NCP / 50% Meters	239,549		239,549	-	-	119,774	119,774	-	-	-	-
96ELECTI02	HUD HOUSING UPGRADE	20.00	C.04.03	50% NCP / 50% Meters	16,096		16,096	-	-	8,048	8,048	-	-	-	-
96ELECTI03	SPIT DOCK UPGRADE	20.00	C.04.03	50% NCP / 50% Meters	41,706		41,706	-	-	20,853	20,853	-	-	-	-
96ELECTI04	CHERNOFSKI DRIVE UPGRADE	20.00	C.04.03	50% NCP / 50% Meters	16,535		16,535	-	-	8,268	8,268	-	-	-	-
97ELECTI01	EAGLE VIEW UPGRADE	20.00	C.04.03	50% NCP / 50% Meters	36,621		36,621	-	-	18,310	18,310	-	-	-	-
98ELECTI01	SUMMER BAY RD PRIMARY LINE	20.00	C.03.01	NCP	155,000		155,000	-	-	155,000	-	-	-	-	-
99ELECTI01	UNDRWATER CABLE CROSSING	20.00	C.02.01	CP	136,345		136,345	-	136,345	-	-	-	-	-	-
00ELECTI02	LOOP/PTARMIGAN ROAD	20.00	C.04.03	50% NCP / 50% Meters	71,456		71,456	-	-	35,728	35,728	-	-	-	-
01ELECTI01	BALLYHOO SWITCH	20.00	C.03.01	NCP	40,850		40,850	-	-	40,850	-	-	-	-	-
01ELECTI02	TOWN SUBSTATION SWITCH	20.00	C.03.01	NCP	39,128		39,128	-	-	39,128	-	-	-	-	-
01ELECTIO3	HAYSTACK DRIVE UPGRADE	20.00	C.04.03	50% NCP / 50% Meters	79,278		79,278	-	-	39,639	39,639	-	-	-	-
01ELECTI04	STANDARD OIL HILL UPGRADE	20.00	C.04.03	50% NCP / 50% Meters	257,471		257,471	-	-	128,736	128,736	-	-	-	-
03ELECTI01	SWITCH CITY DOCK	20.00	C.03.01	NCP	31,037		31,037	-	-	31,037	-	-	-	-	-
03ELECTI02	E. BROADWAY/STEWARD RD SWITCH	20.00	C.03.01	NCP	13,030		13,030	-	-	13,030	-	-	-	-	-
05ELECTI01	NIRVANA POWER UPGRADES	20.00	C.04.03	50% NCP / 50% Meters	85,336		85,336	-	-	42,668	42,668	-	-	-	-
05ELECTI02	UNISEA TIE-IN UPGRADE	20.00	C.10.03	Direct 3: Industrial	365,934		365,934	-	-	-	-	-	-	-	365,934
05ELECTI03	APL ELECTRICAL SERVICE	20.00	C.03.01	NCP	106,511		106,511	-	-	106,511	-	-	-	-	-
06ELECTI01	DELTA WESTERN TIE IN	20.00	C.10.03	Direct 3: Industrial	61,369		61,369	-	-	-	-	-	-	-	61,369
07ELECTI01	CSX SWITCH	20.00	C.03.01	NCP	23,696		23,696	-	-	23,696	-	-	-	-	-
07ELECTI02	CAPTAINS BAY SWITCH	20.00	C.03.01	NCP	22,666		22,666	-	-	22,666	-	-	-	-	-
08ELECTI02	BIORKA/DELTA WAY SWITCH	20.00	C.03.01	NCP	17,393		17,393	-	-	17,393	-	-	-	-	-
08ELECTI03	TWON SUBSTATION RELAY IMPROVEMENTS	20.00	C.03.01	NCP	43,382		43,382	-	-	43,382	-	-	-	-	-
08ELECTI04	HARBOR CROWN ELECTRIC UPGRADE	20.00	C.04.03	50% NCP / 50% Meters	28,582		28,582	-	-	14,291	14,291	-	-	-	-
	SOUTH CHANNEL BRIDGE BETTERMENTS	20.00	C.04.03	50% NCP / 50% Meters	683,150		683,150	-	-	341,575	341,575	-	-	-	-
	POWERHOUSE COOLING PIPE CLEANOUT	10.00	C.04.03	50% NCP / 50% Meters	139,880		139,880	-	-	69,940	69,940	-	-	-	-
	LSA ELECTRIC EXTENSION	20.00	C.04.03	50% NCP / 50% Meters	2,505,530		2,505,530	-	-	1,252,765	1,252,765	-	-	-	-
	BALLYHOO RD DRAINAGE AND ELEC	20.00	C.04.03	50% NCP / 50% Meters	990,000		990,000	-	-	495,000	495,000	-	-	-	-
	WESTWARD SEAFOOD TIE	20.00	C.10.03	Direct 3: Industrial	123,630		123,630	-	-	-	-	-	-	-	123,630
	AIRPORT EXPANSION	20.00	C.04.03	50% NCP / 50% Meters	43,583		43,583	-	-	21,791	21,791	-	-	-	-
16ELECT104	APL ELECTRICAL UPGRADE	20.00	C.04.03	50% NCP / 50% Meters	265,789		265,789	-	-	132,895	132,895	-	-	-	-
	WASTE HEAT RECOVERY	20.00	C.01.01	Energy	2,517,095		2,517,095	2,517,095	-	-	-	-	-	-	-
	PRIMARY LINE RELOCATE	20.00	C.03.01	NCP	120,719		120,719	-	-	120,719	-	-	-	-	-
16ELECT104	STACK SILENCER INSULATION REPLACEMENT	20.00	C.02.01	CP	24,460		24,460	-	24,460	-	-	-	-	-	-
17ELECT101	ALYESKA ELECTRICAL TIE-IN	20.00	C.10.03	Direct 3: Industrial	680,340		680,340	-	-	-	-	-	-	-	680,340
17ELECT102	ELECTRICAL BACKFLOW PREVENTER INSTALL	20.00	C.03.01	NCP	36,335		36,335	-	-	36,335	-	-	-	-	-
18ELECT101	CAPTAINS BAY ELECTRICAL UPGRADE	20.00	C.03.01	NCP	1,814,475		1,814,475	-	-	1,814,475	-	-	-	-	-
	FLOOR REPAIR OLD POWERHOUSE	20.00	C.50.01	Plant: Other IOTB	-		-	-	-	-	-	-	-	-	-
	TOTALS IOTB 31-163.00				16,546,915	-	16,546,915	2,525,014	161,311	8,057,727	4,567,717	-	-	-	1,235,146

Item	Description	Depr Life	Classification	Description	Gross Plant				Demand		Customer		Other		
					Beg of Yr 6/30/2020	Add'ns	Revised	Energy	CP	NCP	Meters	Meter Cost	Direct 1	Direct 2	Direct 3
M & E															
89ELECTI04	GEN/SET #7 3512 24Z01469 / 6PA02429	14.25	C.02.01	CP	75,604		75,604	-	75,604	-	-	-	-	-	-
89ELECTI05	GEN/SET #7 3512 24Z01469 / 6PA02429	14.25	C.02.01	CP	50,000		50,000	-	50,000	-	-	-	-	-	-
90ELECTI03	GEN/SET #8 3516 73Z00272 / 96420	14.25	C.02.01	CP	241,903		241,903	-	241,903	-	-	-	-	-	-
93ELECTM02	ALPHA LAVA CENTRIFUGE	5.00	C.02.01	CP	18,265		18,265	-	18,265	-	-	-	-	-	-
93ELECTM04	1986 F800 BUCKET TRUCK	5.00	C.50.01	Plant: Other IOTB	40,856		40,856	6,235	398	19,895	11,278	-	-	-	3,050
96ELECTM02	1996 D3C III CRAWLER TRACTOR	10.00	C.50.01	Plant: Other IOTB	73,356		73,356	11,194	715	35,722	20,250	-	-	-	5,476
96ELECTM03	750KVA PAD MOUNT TRNSFRMR	10.00	C.02.01	CP	11,135		11,135	-	11,135	-	-	-	-	-	-
96ELECTM04	1996 FORD F350 4X4 TRUCK	5.00	C.50.01	Plant: Other IOTB	-		-	-	-	-	-	-	-	-	-
96ELECTM06	1996 FORD F250 4X4 TRUCK	5.00	C.50.01	Plant: Other IOTB	-		-	-	-	-	-	-	-	-	-
96GFDPWM05	1997 FORD F150 4X4 SPR CAB-Transf from DPW	5.00	C.50.01	Plant: Other IOTB	-		-	-	-	-	-	-	-	-	-
96ELECTM07	1995 TRAIL KING UTILITY TRLR TK18U	10.00	C.50.01	Plant: Other IOTB	9,382		9,382	1,432	91	4,569	2,590	-	-	-	700
96ELECTM08	TRANSFORMER/NEW TOWN SUBSTAT	10.00	C.02.01	CP	67,209		67,209	-	67,209	-	-	-	-	-	-
97ELECTM03	97 AUTOCAR VOLVO BOOM TRK #E6	10.00	C.50.01	Plant: Other IOTB	152,915		152,915	23,334	1,491	74,464	42,212	-	-	-	11,414
97ELECTM04	GEN/SET #9 3512B 2S19157/SFN01033	10.00	C.02.01	CP	184,200		184,200	-	184,200	-	-	-	-	-	-
98ELECTM01	S.C.A.D.A. PHASE I POWERHOUSE	15.00	C.02.01	CP	172,358		172,358	-	172,358	-	-	-	-	-	-
98ELECTM02	TRENCH SHORING EQUIP	10.00	C.50.01	Plant: Other IOTB	28,709		28,709	4,381	280	13,980	7,925	-	-	-	2,143
99ELECTM01	S.C.A.D.A. PHASE II SWITCH CONTROLS	15.00	C.02.01	CP	24,805		24,805	-	24,805	-	-	-	-	-	-
01ELECTM01	BUCKET TRUCK	10.00	C.50.01	Plant: Other IOTB	74,534		74,534	11,374	727	36,295	20,575	-	-	-	5,564
02ELECTM01	2001 FORD F250 4X4 TRUCK	5.00	C.50.01	Plant: Other IOTB	28,742	(28,742)	-	-	-	-	-	-	-	-	-
03ELECTM01	GENERATOR #9 COOLING	10.00	C.02.01	CP	23,904		23,904	-	23,904	-	-	-	-	-	-
04ELECTM01	CASE 590 BACKHOE	10.00	C.50.01	Plant: Other IOTB	92,347		92,347	14,092	900	44,969	25,492	-	-	-	6,893
04ELECTM03	2004 FORD F250 3/4 TON w/ SVC BOX	5.00	C.50.01	Plant: Other IOTB	-	-	-	-	-	-	-	-	-	-	-
05ELECTM01	ABB TRANSFORMER, HD15382-002	20.00	C.02.01	CP	129,245	-	129,245	-	129,245	-	-	-	-	-	-
07ELECTM03	3 PHSE TRANSFORMER 15-32130	20.00	C.02.01	CP	19,700	-	19,700	-	19,700	-	-	-	-	-	-
07ELECTM04	3 PHSE TRANSFORMER 15-21230	20.00	C.02.01	CP	19,983	-	19,983	-	19,983	-	-	-	-	-	-
08ELECTM01	E5629 ONE TON LINE CREW TRUCK	10.00	C.50.01	Plant: Other IOTB	70,366	-	70,366	10,738	686	34,266	19,424	-	-	-	5,252
09GFDPSM01	FORD EXPEDITION 4X4 UPD9546	10.00	C.50.01	Plant: Other IOTB	39,039		39,039	5,957	381	19,010	10,777	-	-	-	2,914
09ELECTM01	S-9 Transformer S/N 5361324907	20.00	C.02.01	CP	38,514	-	38,514	-	38,514	-	-	-	-	-	-
11ELECTM01	FORKLIFT	10.00	C.50.01	Plant: Other IOTB	32,569		32,569	4,970	318	15,860	8,991	-	-	-	2,431
11ELECTM02	Margsret's Bay 15 KV Switch Gear	20.00	C.03.01	NCP	29,000		29,000	-	-	29,000	-	-	-	-	-
11ELECTM03	Margsret's Bay 15 KV Switch Gear	20.00	C.03.01	NCP	22,400		22,400	-	-	22,400	-	-	-	-	-
11ELECTM04	Henry Swanson Dr. 35KVA Switch Gear	20.00	C.03.01	NCP	21,000		21,000	-	-	21,000	-	-	-	-	-
	APL 4-216 35KV Switch Gear	20.00	C.03.01	NCP	26,000		26,000	-	-	26,000	-	-	-	-	-
	Ballyhoo NPF 300 KVA Transformer	20.00	C.03.01	NCP	30,072		30,072	-	-	30,072	-	-	-	-	-
	kloosterboer Constr. 300KVA Transformer	20.00	C.03.01	NCP	30,072		30,072	-	-	30,072	-	-	-	-	-
	Salmon Way M3-T2 75KVA Transformer	20.00	C.03.01	NCP	10,556		10,556	-	-	10,556	-	-	-	-	-
	Ballyhoo Rd. 300KVA Transformer	20.00	C.03.01	NCP	35,700		35,700	-	-	35,700	-	-	-	-	-
	East Point 500KVA Transformer	20.00	C.03.01	NCP	18,400		18,400	-	-	18,400	-	-	-	-	-
	Ballyhoo 150KVA Transformer	20.00	C.03.01	NCP	18,850		18,850	-	-	18,850	-	-	-	-	-
	Ziggy's 150KVA Transformer	20.00	C.03.01	NCP	13,650		13,650	-	-	13,650	-	-	-	-	-
	WARTSILLA #1 GENERATOR	25.00	C.02.04	75% CP/25% Egy	4,041,182		4,041,182	1,010,295	3,030,886	-	-	-	-	-	-
	WARTSILLA #2 GENERATOR	25.00	C.02.04	75% CP/25% Egy	4,041,182		4,041,182	1,010,295	3,030,886	-	-	-	-	-	-
	POWERHOUSE THIRD ENGINE	20.00	C.02.04	75% CP/25% Egy	8,945,981		8,945,981	2,236,495	6,709,486	-	-	-	-	-	-
	COMPLIANCE MANAGEMENT SOFTWARE	7.00	C.01.01	Energy	14,511		14,511	14,511	-	-	-	-	-	-	-
15ELECTM01	FY14 OVERHAUL ENGINE REPAIR/MAINT		C.02.04	75% CP/25% Egy	273,558		273,558	68,390	205,169	-	-	-	-	-	-
15ELECTM02	POWERHOUSE 4TH ENGINE		C.02.04	75% CP/25% Egy	8,062,790		8,062,790	2,015,697	6,047,092	-	-	-	-	-	-
16ELECTM01	150 KVA TRANSFORMER		C.03.01	NCP	10,216		10,216	-	-	10,216	-	-	-	-	-
16ELECTM02	WARTSILA GEN #1 OVERHAUL S/N PAAE0210		C.02.04	75% CP/25% Egy	576,772		576,772	144,193	432,579	-	-	-	-	-	-
16ELECTM03	WARTSILA GEN #2 OVERHAUL S/N PAAE0210		C.02.04	75% CP/25% Egy	512,204		512,204	128,051	384,153	-	-	-	-	-	-
16ELECTM04	UTILITY VAULT-HORIZON LINES UPGRADE		C.03.01	NCP	12,791		12,791	-	-	12,791	-	-	-	-	-
16ELECTM05	300 KVA TRANSFORMER		C.03.01	NCP	14,950		14,950	-	-	14,950	-	-	-	-	-
16ELECTM06	300 KVA TRANSFORMER		C.03.01	NCP	14,950		14,950	-	-	14,950	-	-	-	-	-
16ELECTM07	500 KVA TRANSFORMER & SATELLITE SYNCH		C.03.01	NCP	17,405		17,405	-	-	17,405	-	-	-	-	-
16ELECTM08	300 KVA TRANSFORMER		C.03.01	NCP	18,115		18,115	-	-	18,115	-	-	-	-	-
16ELECTM09	300 KVA TRANSFORMER		C.03.01	NCP	16,263		16,263	-	-	16,263	-	-	-	-	-
16ELECTM10	VIPER PADMOUNT RECLOSURE		C.03.01	NCP	49,055		49,055	-	-	49,055	-	-	-	-	-
16ELECTM11	CONCRETE UTILITY VAULT		C.03.01	NCP	10,237		10,237	-	-	10,237	-	-	-	-	-
16ELECTM12	CONCRETE UTILITY VAULT		C.03.01	NCP	10,237		10,237	-	-	10,237	-	-	-	-	-
16ELECTM13	CONCRETE UTILITY VAULT		C.03.01	NCP	10,237		10,237	-	-	10,237	-	-	-	-	-
16ELECTM14	500 KVA TRANSFORMER & SATELLITE SYNCH		C.03.01	NCP	17,400		17,400	-	-	17,400	-	-	-	-	-
16ELECTM15	500 KVA TRANSFORMER & SATELLITE SYNCH		C.03.01	NCP	19,776		19,776	-	-	19,776	-	-	-	-	-
16ELECTM16	300 KVA TRANSFORMER		C.03.01	NCP	13,170		13,170	-	-	13,170	-	-	-	-	-
16ELECTM17	POWERHOUSE CONTROL SYSTEM UPGRADE		C.02.01	CP	558,100		558,100	-	558,100	-	-	-	-	-	-
17ELECTM01	E8466 FORD F150 CREW CAB 4X4 W/TOPPER		C.50.01	Plant: Other IOTB	44,632		44,632	6,811	435	21,734	12,320	-	-	-	3,332
17ELECTM02	E9076 FORD F250 CREW CAB 4X4 W/TOPPER		C.50.01	Plant: Other IOTB	33,034		33,034	5,041	322	16,086	9,119	-	-	-	2,466
17ELECTM03	75 KVA PAD MOUNT TRANSFOMER 3-PHASE		C.03.01	NCP	12,125		12,125	-	-	12,125	-	-	-	-	-
18ELECTM01	E3653 FOR F250 EXT CAB 4X4 W/SERV BOX		C.50.01	Plant: Other IOTB	47,608		47,608	7,265	464	23,183	13,142	-	-	-	3,554
18ELECTM02	WARTSILA GEN #1 TOP END OVERHAUL S/N P		C.02.04	75% CP/25% Egy	215,902		215,902	53,976	161,927	-	-	-	-	-	-

Item	Description	Depr Life	Classification	Description	Gross Plant				Demand		Customer		Other		
					Beg of Yr 6/30/2020	Add'ns	Revised	Energy	CP	NCP	Meters	Meter Cost	Direct 1	Direct 2	Direct 3
18ELECTM03	WARTSILA GEN #2 TOP END OVERHAUL S/N P		C.02.04	75% CP/25% Egy	215,902		215,902	53,976	161,927	-	-	-	-	-	-
18ELECTM04	CAT ENGINE #13 TOP END OVERHAUL		C.02.04	75% CP/25% Egy	318,367		318,367	79,592	238,775	-	-	-	-	-	-
18ELECTM05	38 KVA PAD MOUNTED SWITCH		C.03.01	NCP	35,000		35,000	-	-	35,000	-	-	-	-	-
18ELECTM06	VIPER 38KV RECLOSURE		C.03.01	NCP	34,775		34,775	-	-	34,775	-	-	-	-	-
19ELECTM01	DPU 7380 FOR EXPLORER (25%) DPU DIRECTOR		C.50.01	Plant: Other IOTB	8,140		8,140	1,242	79	3,964	2,247	-	-	-	608
19ELECTM02	E4126 FORD F250 EXTENDED CAB 8' FLATBED		C.50.01	Plant: Other IOTB	39,884		39,884	6,086	389	19,422	11,010	-	-	-	2,977
19ELECTM03	PROBEWELL PORTABLE METER TESTER		C.05.02	Meter Cost	10,095		10,095	-	-	-	-	10,095	-	-	-
20ELECTM01	OLD POWERHOUSE BATTERY REPLACEMENT		C.02.01	CP	-	705,100	705,100	-	705,100	-	-	-	-	-	-
20ELECTM02	WARTSILA UNIT 10 MAJOR OVERHAUL		C.02.04	75% CP/25% Egy	-	878,169	878,169	219,542	658,627	-	-	-	-	-	-
20ELECTM03	WARTSILA UNIT 11 MAJOR OVERHAUL		C.02.04	75% CP/25% Egy	-	902,026	902,026	225,507	676,520	-	-	-	-	-	-
20ELECTM04	VALLEY GENSET UNIT 7 IN FRAME OVERHAUL		C.02.04	75% CP/25% Egy	-	140,554	140,554	35,138	105,415	-	-	-	-	-	-
20ELECTM05	RADIODETECTION RD8100 LOCATOR		C.04.03	50% NCP / 50% Meters	-	11,096	11,096	-	-	5,548	5,548	-	-	-	-
	TOTALS M&E 31-164.00				30,251,887	2,608,205	32,860,092	7,415,809	24,191,144	961,372	222,899	10,095	-	-	58,773
					83,909,151	2,608,205	86,517,356	9,940,823	61,397,431	9,084,472	4,790,616	10,095	-	-	1,293,919

City of Unalaska

Water Utility

Cost of Service / Rate Design Study

April 21, 2021

Aldrich SM

Introduction

Background and Purpose of Study

In February 2009, a review of the City of Unalaska's (the "City") Water Utility rates was completed and presented to the City Council. The analysis was based on the actual number of customers and sales volumes during the fiscal year ending June 30, 2008 and focused on two issues. First, were the rates in effect at that time sufficient to provide adequate revenues for the whole system. Second, a cost of service analysis was performed to determine whether each rate class was paying close to its fair share of costs.

The study found that:

1) Rates for the metered class were less than cost of service
2) Rates for the unmetered class were higher than cost of service
3) An overall revenue shortfall was projected at current rates

Based on these findings, rates were increased.

In early 2016, a high-level review of the City's Water Utility rates was completed and presented to the City Council. This analysis showed that although the Water Utility's rates were not high enough to cover its full revenue requirement, they were adequate to provide net positive cash flow and set aside some amounts towards future capital expenditures.

Since the time of the last study, the Water Utility has experienced an overall decrease in un-metered customers (residential) and an increase in the number of metered commercial accounts but a decrease in consumption volume. This has led to a decrease in revenue which, combined with increases in expenses, has resulted in a net deficit in the water fund over the past few years. The 2021 fiscal year budget indicates that this trend is expected to continue. Accordingly, City staff felt it was prudent to review rates of the Water Utility to ensure that it can meet operating expense requirements and capital improvement obligations in the near term while maintaining the utility's financial health. This report summarizes the analysis performed by Aldrich Advisors and the findings with respect to a cost of service study and review of rates for the City's Water Utility.

Methodology of Analysis

In setting rates for the Water Utility, the City must ensure that 1) rates will recover adequate revenues to maintain the utility's fiscal health and 2) the rates are set in an equitable manner that does not favor one class over another. The American Water Works Association ("AWWA") has developed two manuals to provide a common framework from which to develop rates that recover cost from customer classes in proportion to the cost of serving those classes. These manuals, the M1 Manual, *Principles of Water Rates, Fees, and Charges*, and the M54 Manual, *Developing Rates for Small Systems*, are now used throughout the industry when performing rate studies for water and wastewater systems. The M1 Manual is used to allocate costs to specific rates classes while the M54 Manual is used to evaluate the overall adequacy of a system's rates with the use of the "across-the-board" adjustments.

The analysis conducted and summarized in this report uses the procedures developed and prescribed in the M1 Manual. The overall methodology of allocating costs to the various rate classes is described in the Process section of the report while the details of the analysis are provided in the Analysis and Adequacy of Rates / Rate Design sections.

The Process

General

The overall objective of a cost of service study is to allocate the utility's cost to each customer class in a fair and equitable manner. Once the costs are allocated to each class, rates are set to recover the allocated costs such that the "cost causer" is also the "cost payer".

The process of allocating cost and designing rates includes four basic steps:

1) Billing Determinants / Allocator Development: Estimating customer usage, peak demands, and number of customers,
2) Revenue Requirement Analysis: Projecting the utility's revenue requirements,
3) Cost of Service Analysis: Allocating the revenue requirements to each rate group, and
4) Rate Design: Designing rates that will recover the revenue requirement while balancing the results of the cost of service study, customer sensitivities, and utility objectives.

This section provides a general overview of each of these steps and a summary is provided in Figure 1 on page 5.

Billing Determinants / Allocator Development

Several cost components of a water utility depend on total usage or peak usage of the system. The number of customers and usage must first be projected prior to projecting the revenue requirements. The data used in projecting water usage is also used to develop allocation factors (described below). Thus, billing determinants and allocation factors are developed simultaneously.

Billing determinants include the number of customers for each customer class and volume of water consumed for each class. Billing determinants are typically based on a utility's billings incurred during the most recent fiscal year, or another recent 12-month period. However, historical trends are also reviewed, and any anticipated system expansions are also considered.

Allocation factors are based on class data which may or may not be readily available. For instance, total water usage for a metered class is readily available but total water usage for an unmetered class must be estimated. Daily peak demands and hourly peak demands must usually be estimated for all classes using sample research performed by the utility or other sources.

Revenue Requirements

Revenue requirements are also based on a utility's most recent 12-month financial results. The historical expenses are reviewed and "normalized" to account for abnormal amounts that occurred during the historical period and known changes that will occur in the future. Total revenue requirements for the utility should include not only normalized expenses but also net operating margins and offsets for other revenues. Net operating margins may be required to satisfy lender covenants or simply to address risks associated with actual sales and expenses differing from projections. Additionally, the utility may wish to build equity in anticipation of large capital additions that will be funded in the near future.

Cost of Service

Once the revenue requirements are projected, these costs must be allocated to each rate class. Customers are separated into rate classes, with each class having different usage characteristics. Since the cost of providing service varies for each class, the utility's costs are allocated among all classes using methods that are designed to be fair and equitable and to not favor one class over another.

The M1 Manual recommends two separate methods to be used in the cost of service process: the Base-Extra Capacity Method and the Commodity Demand Method. Both methods recognize that the cost of serving customers depends on the total volume of water used as well as the rate of use (peaking requirements). The Base-Extra Capacity Method recognizes that there are certain costs associated with meeting base (average) demands and other cost associated with meeting peak demands (excess capacity). The Commodity Demand

method takes a more general approach by distinguishing between variable-, fixed-, and customer-related cost. Both methods, if performed properly, will yield similar results, and both approaches are used in this analysis.

Whichever method is used, the M1 Manual prescribes the use of a multi-step process that includes *Functionalization, Classification,* and *Allocation*.

Functionalization

Part of the functionalization process is performed based on whether revenue requirements are production-, transmission-, or distribution-related. Much of this functionalization is accomplished through a utility's normal accounting and budgeting process utilizing the Uniform System of Accounts (USOA). The USOA was designed to segregate costs by function.

Classification

Once the revenue requirements are functionalized, they are then classified. For the Base-Extra Capacity Method, classifications include Base Costs, Extra Capacity Costs, and Customer Costs[1]. For the Commodity Demand method, classifications include Commodity (variable) Costs, Demand (Fixed) Costs, and Customer Costs.

Allocation

The final step in the cost of service analysis is to allocate the classified revenue requirements to each customer (or rate) class based on each class' respective contribution to the classifications.

Developing the allocation factors used for expenses classified as customer-related is fairly straightforward as they are based on the number of customers in each rate class or some derivative thereof. Developing the allocation factors for average use and commodity-related expenses is also relatively simple, although estimates of water usage for non-metered customers must be developed. Demand-related factors are more complex as they are based on peak flows of each customer class and this data is not measured on a customer-specific basis. Estimates developed herein are based on a review of peak flows of the entire system, monthly volumes for each class and individual customers, and industry data. Supporting studies used in sizing the system are also used in support of developing these demand-related allocation factors.

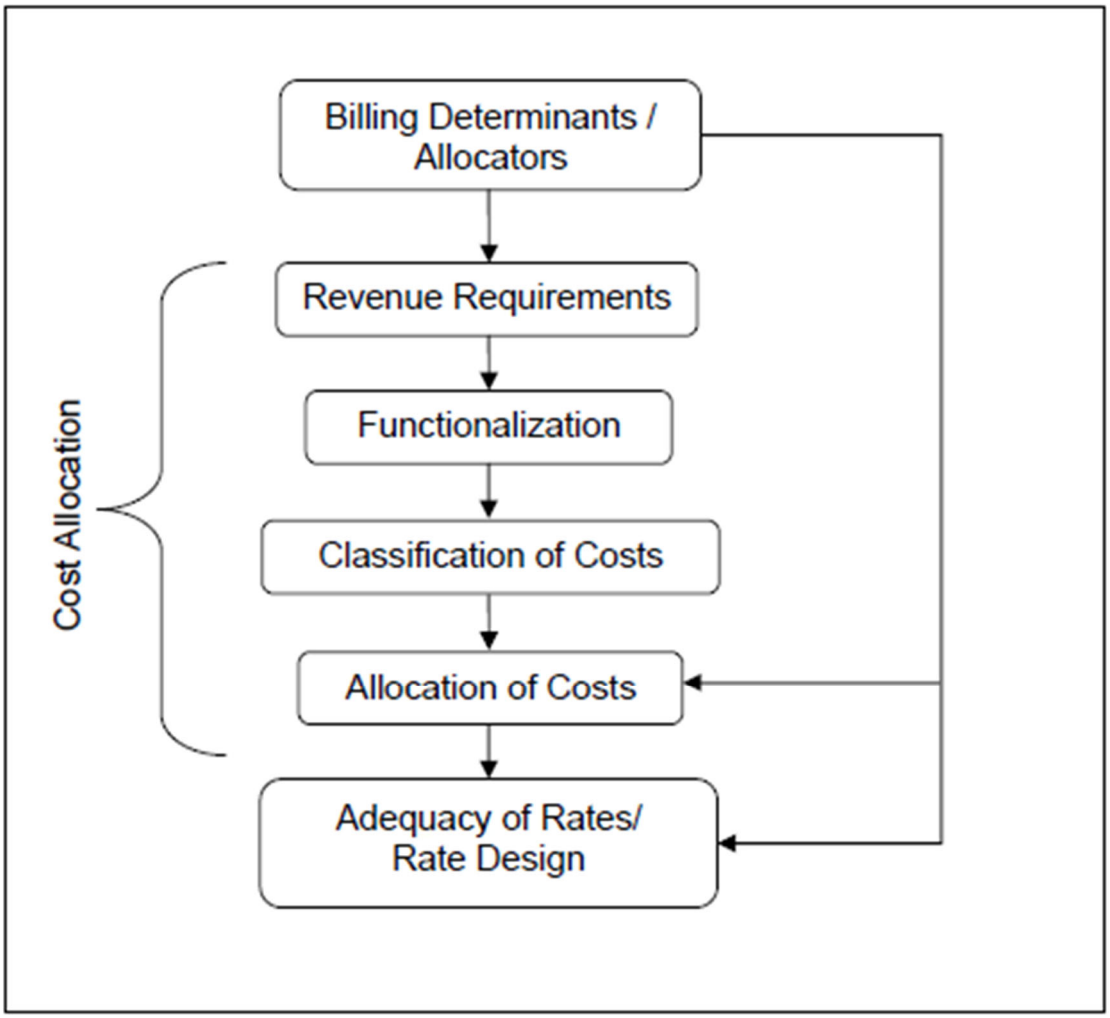
Rate Design

After the revenue requirements have been allocated to each class, the existing rates are applied to the billing determinants to determine if the rates recover less than or more than the allocated cost of service. Rates are then adjusted accordingly.

The overall process just described is summarized in Figure 1 on the following page. The next section discusses the specific analysis conducted for the City.

[1] Revenue requirements can also be classified as direct-fire related. Since the City does not impose direct assessments for fire-related services, the direct-fire classification is not used.

Figure 1
The Process



Analysis

Billing Determinants and Allocators

The Water Utility's billing determinants for the past four fiscal years are summarized in Table 1 below and provided in more detail in Appendix A. The number of customers has shown a slight increase, but sales decreased by almost 7 percent in the past four years. The maximum daily demand decreased by around 13.5 percent.

Table 1
Historical Billing Determinants

	Fiscal Year Ending June 30,			
	2017	2018	2019	2020
Number of Customers (Annual Average)				
Unmetered				
Residential	357	350	338	335
Multi-Family	5	5	5	5
Subtotal - Unmetered	362	355	343	340
Metered	270	278	281	296
Total	632	633	624	637
Volume (000 Gallons)				
Metered	1,048,269	965,216	1,003,470	975,416
Unmetered*	26,816	26,257	25,399	25,218
Hydrants	2,000	1,077	2,361	3,058
Water Truck	2,000	1,431	1,218	2,486
Subtotal	1,079,085	993,981	1,032,448	1,006,178
Unaccounted for Volume	205,062	160,645	133,999	147,121
Production (000 Gallons)	1,284,147	1,154,626	1,166,447	1,153,299
Maximum Daily Production Gallons (000 Gallons)	7,611	6,696	6,248	6,574
Losses (Pct Production)	16.0%	13.9%	11.5%	12.8%

* Unmetered use is based on 200 gallons per day per customer account

As described in the prior section, costs will be allocated to the various customer classes based on the number of customers or customer equivalents, total volume, and peak demand.[2] Customer and customer equivalents can be derived directly from the billing determinants in Appendix A. However, since one class of customers, Schedule A – Single Family or Duplex Water Service, is not metered, estimates must be made regarding that class' annual volume.

The City uses an estimate of 200 gallons per day for unmetered usage. The United States Environmental Protection Agency's website says the average American family uses more than 300 gallons of water per day at home and about 70 percent of this occurs indoors.

A 2016 study conducted by the Water Research Foundation reveals that the average usage for residential accounts is in the 120 to 480 gallon/day range, with an average of about 240 gallons/day. The upper range including residential customers with significant outside uses of water.

The City's estimate of 200 gallons per day per residential unit appears to be reasonable. As a further check, total system losses were calculated based on this assumed use, and the resulting loss factors appear within reason.

[2] Customer equivalents are calculated on the ratio of meter size to a base meter size of 5/8 inch. For example, one customer with a 1-inch meter would be equal to 1.60 customer equivalents (1 / 5/8).

Accordingly, 200 gallons per day for residential accounts and 400 gallons per day for duplex accounts are used in this analysis.

Peak daily and peak hourly flows used in allocating costs to each customer class are derived from a review of individual billing data for metered customers, peak flow data collected by the City for the system, and data from other utilities. Details of these allocation factors are presented in Appendix E of this report.

Revenue Requirements

The Water Utility's expenses for the past three years and the budget for the current fiscal year are summarized in Table 2, below. Details for fiscal year ending June 30, 2020 and the current year budget are provided in Appendix B.

Total expenses decreased about two percent from FY 2018 to FY 2019 but increased about 12 percent from FY 2019 to FY 2020. Budget expenses for FY 2021 are almost 12 percent higher than the previous year. Much of the increase is attributed to increased labor and benefits expense, general supplies expense, and professional services, which can be controlled to some extent by the City. Other expenses that cannot be as readily controlled, such as insurance, electricity and others, do not appear to be adding large increase to the overall revenue requirements. Increases in labor and benefits expense alone accounts for almost 94 percent of the total increase from FY 2019 to FY 2020 and for almost 48 percent of the total increase in budget expenses for FY 2021 from FY 2020 actuals.

Costs that vary with production levels form only a small part of the expense structure with most costs being considered fixed. Accordingly, the budget for FY 2021 forms the basis for the Test Year revenue requirement.

Table 2
Annual Operating Expenses

	Fiscal Year Ending June 30,			
	2018	2019	2020	2021
	Actual	Actual	Actual	Budget
Administrative				
Labor/Benefits	$ 364,483	$ 345,292	$ 355,573	$ 443,032
Administrative Operations	129,357	153,127	145,913	188,473
Depreciation	1,117,481	1,126,256	1,124,222	1,124,222
Administrative Overhead	21,335	23,484	22,200	22,212
Interest/Bad Debt	33,556	68,161	48,826	46,401
Subtotal	1,666,212	1,716,320	1,696,734	1,824,340
Water Operations				
Labor/Benefits	651,497	621,566	888,144	1,010,007
Operations	486,490	406,800	463,550	604,810
Vehicle				
Labor/Benefits	11,959	11,364	19,774	27,350
Operations	1,671	14,876	5,278	12,500
Facilities				
Labor/Benefits	33,510	26,523	61,494	22,085
Operations	25,663	31,810	34,010	38,550
Total	2,877,002	2,829,259	3,168,984	3,539,642
Target Margin				100,000
Capital Expenditures				45,000
Less Other Income	(29,720)	(13,868)	(56,612)	(1,102,127)
Net Revenue Requirement	$ 2,847,282	$ 2,815,391	$ 3,112,372	2,582,515
Millions Gallons Produced	1,155	1,166	1,153	
Cost ($/000 Gallon)	$ 2.47	$ 2.41	$ 2.70	

In addition to meeting its expected expenses, the utility should typically set rates that result in positive net margins. Margins serve three purposes for municipal utilities:

1. Debt covenants may require certain levels of net operating margins.
2. A net margin helps provide some security in maintaining a utility's financial health in the event sales or expenses differ significantly from that assumed.
3. The equity built up with net margins can be used to fund capital expenditures and therefore minimize debt.

A target net margin is typically based on a utility's rate base, which is equal to the net plant in service plus an amount for working capital and other miscellaneous items. Other factors are also considered including future cash flows after debt service, capital expenditures, and debt covenants. Based on the Water Utility's net plant in service, a minimal return on rate base of 4 percent yields a target margin of almost $750,000, which is considered excessive. The Water Utility's FY 2021 budget included a $100,000 transfer out for capital projects. This has been treated as the target margin, which is much more realistic.

Table 3 provides a summary of the adjusted Test Year revenue requirements used in performing the cost of service analysis. Details of these revenue requirements are provided in Appendix B. Three adjustments were made to the budgeted revenue requirements:

1. PERS Nonemployer Contributions were removed from Other Income and used to reduce labor/benefits expenses. Benefits expenses include both employer and employee PERS contributions, but the employee portions are not Utility expenses. Since the PERS Nonemployer Contributions represent the amount of employee contributions that are budgeted to be collected by the Utility, these amounts have been reclassified to reduce the related expense lines.
2. Budgeted capital expenditures of $45,000 were removed. Capital expenditures are not included in the revenue requirements. Instead, these investments are recovered over time through depreciation expense.
3. Budgeted Use of Unrestricted Net Assets of $993,058 was removed from Other Income. These are non-recurring revenues that are transferred to the Utility from the General Fund to help cover revenue shortfalls.

Table 3
Revenue Requirement Summary

	Fiscal Year Ending June 30,		
	2021 Budget	Adjustments	Adjusted Rev Requirements
Administrative			
Labor/Benefits	$ 443,032	$ (10,866)	$ 432,166
Administrative Operations	188,473		188,473
Depreciation	1,124,222		1,124,222
Administrative Overhead	22,212		22,212
Interest/Bad Debt	46,401		46,401
Subtotal	1,824,340	(10,866)	1,813,474
Water Operations			
Labor/Benefits	1,010,007	(23,664)	986,343
Operations	604,810		604,810
Vehicle			
Labor/Benefits	27,350	(679)	26,671
Operations	12,500		12,500
Facilities			
Labor/Benefits	22,085	(536)	21,549
Operations	38,550		38,550
Total	3,539,642	(35,745)	3,503,897
Target Margin	100,000		100,000
Capital Expenditures	45,000	(45,000)	-
Less Other Income	(1,102,127)	1,028,803	(73,324)
Net Revenue Requirement	$ 2,582,515	$ 948,058	$ 3,530,573

Cost Allocation

Functionalization

Revenue requirements are functionalized through the City's account coding process.

Classification (Appendix C and D)

The functionalized revenue requirements were then classified pursuant to the guidelines established in the M1 manual. Specifically, for the Base-Extra Capacity Method, revenue requirements were classified as Base related, Extra Capacity related, and Customer related. For the Commodity Demand Method, revenue requirements were classified as Commodity related, Demand related, and Customer related.

Allocation (Appendix C and D)

The classified revenue requirements were then allocated based on each customer class' respective share of the classification. Allocation factors for commodity related revenue requirements are based on each class' sales volume and allocation factors for customer related revenue requirements are based on customer equivalents. Allocation factors for demand related revenue requirements are based on estimates of each class' respective maximum day demand and maximum hour demand. These estimates were developed through reviews of previous studies for the City and industry data.

Based on the process described above, the revenue requirements were allocated to each customer class, and the allocation process is summarized in Table 4, on the next page. Additional details of the allocation, and the steps leading to it, are provided in Appendix C and D.

Table 4
Allocation of Revenue Requirements

	Total	Unmetered	Metered
Base Extra Capacity Method			
Base	$ 2,000,243	$ 50,411	$ 1,949,832
Extra Capacity	1,313,980	26,330	1,287,650
Customers	368	198	170
Piping	211,954	55,106	156,848
Direct	4,027	4,027	-
Total	$ 3,530,573	$ 136,072	$ 3,394,501
Commodity - Demand Method			
Commodity	$ 1,075,838	$ 27,113	$ 1,048,725
Demand	2,238,385	49,074	2,189,311
Customers	368	198	170
Piping	211,954	55,106	156,848
Direct	4,027	4,027	-
Total	$ 3,530,573	$ 135,519	$ 3,395,054

Adequacy of Rates / Rate Design

Existing Rate Structure

The Water Department's current rate structure is shown in Table 5, which has been in effect since 2015.

Table 5
Existing Rates

Rate Class	Customer Charge ($/month)	Volume ($/thousand gallons)
Unmetered	35.59	-
Metered:		
5/8" Service	3.53	2.51
3/4" Service	3.74	2.51
1" Service	4.15	2.51
1 1/2" Service	5.21	2.51
2" Service	6.47	2.51
3" Service	9.40	2.51
4" Service	13.18	2.51
6" Service	24.08	2.51
8" Service	36.67	2.51
10" Service	63.43	2.51
12" Service	100.12	2.51

Projected Revenues – Existing Rates

Table 6 provides a summary of the revenues projected to be collected based on the assumed billing determinants and existing rates. The projections summarized in the table indicate that existing rates must be increased an average of 34.9 percent to recover all revenue requirements. On a class basis, the unmetered class has rates set above its allocated cost of service, and the metered class has rates set less than its cost of service.

Table 6
Test Year Net Revenues – Existing Rates

	Total	Unmetered	Metered
Revenues			
Customer Charge	$ 168,390	$ 147,521	$ 20,870
Volume Charge	2,448,295	-	2,448,295
Total	$ 2,616,686	$ 147,521	$ 2,469,165
Base Extra Capacity Method			
Revenue Requirements	$ 3,530,573	$ 136,072	$ 3,394,501
Surplus (Deficiency)	$ (913,887)	$ 11,448	$ (925,336)
Percent	-34.9%	7.8%	-37.5%
Commodity - Demand Method			
Revenue Requirements	$ 3,530,573	$ 135,519	$ 3,395,054
Surplus (Deficiency)	$ (913,887)	$ 12,002	$ (925,889)
Percent	-34.9%	8.1%	-37.5%

Table 7 compares the revenue requirements developed in this study with those developed in the most recent cost of service study and Table 8 compares the customer counts and production data used in these studies. These tables provide some insight into the need for such a significant rate increase to recover all revenue requirements. Table 7 shows that the net revenue requirement increased between the prior study and this study by over $1 million and 40 percent. The largest increases were in the following categories: labor and benefits expense (almost $420,000), depreciation expense (over $225,000), water operations expense (almost $225,000), and an increase in target margin ($100,000). While the revenue requirements have increased over 40 percent, Table 8 shows that customer counts have increased only about two percent while water consumption has decreased by over nine percent. Without a significant increase in customers or water consumption, the Utility must raise rates to cover increases in costs or operate at a deficit.

Table 7
Historical Revenue Requirement Comparison

	Fiscal Year Ending June 30,			
	2016 Adj Rev Requirements	2020 Adj Rev Requirements	Dollar Change	Percentage Change
Administrative				
Labor/Benefits	$ 351,019	$ 432,166	$ 81,147	23.1%
Administrative Operations	148,734	188,473	39,739	26.7%
Depreciation	897,846	1,124,222	226,376	25.2%
Administrative Overhead	20,517	22,212	1,695	8.3%
Interest/Bad Debt	-	46,401	46,401	100.0%
Subtotal	1,418,116	1,813,474	395,358	27.9%
Water Operations				
Labor/Benefits	658,828	986,343	327,515	49.7%
Operations	381,445	604,810	223,365	58.6%
Vehicle				
Labor/Benefits	22,090	26,671	4,581	20.7%
Operations	10,000	12,500	2,500	25.0%
Facilities				
Labor/Benefits	15,396	21,549	6,153	40.0%
Operations	6,500	38,550	32,050	493.1%
Total	2,512,375	3,503,897	991,522	39.5%
Target Margin	-	100,000	100,000	100.0%
Less Other Income	(22,967)	(73,324)	(50,357)	219.3%
Net Revenue Requirement	$ 2,489,408	$ 3,530,573	$ 1,041,165	41.8%

Table 8
Historical Customer Count and Production Comparison

	Fiscal Year Ending June 30,			
	2016	2020	Change	Percent Change
Number of Customers (Annual Average)				
Unmetered				
Residential	360	335	(25)	-6.9%
Multi-Family	4	5	1	15.4%
Subtotal - Unmetered	365	340	(24)	-6.7%
Metered	261	296	35	13.5%
Total	626	637	11	1.8%
Volume (000 Gallons)				
Metered	1,070,535	975,416	(95,119)	-8.9%
Unmetered*	27,018	25,218	(1,800)	-6.7%
Hydrants	11,213	3,058	(8,155)	-72.7%
Water Truck	1,897	2,486	589	31.0%
Subtotal	1,110,663	1,006,178	(104,485)	-9.4%
Unaccounted for Volume	163,909	147,121	(16,788)	-10.2%
Production (000 Gallons)	1,274,572	1,153,299	(121,273)	-9.5%

* Unmetered use is based on 200 gallons per day per customer account

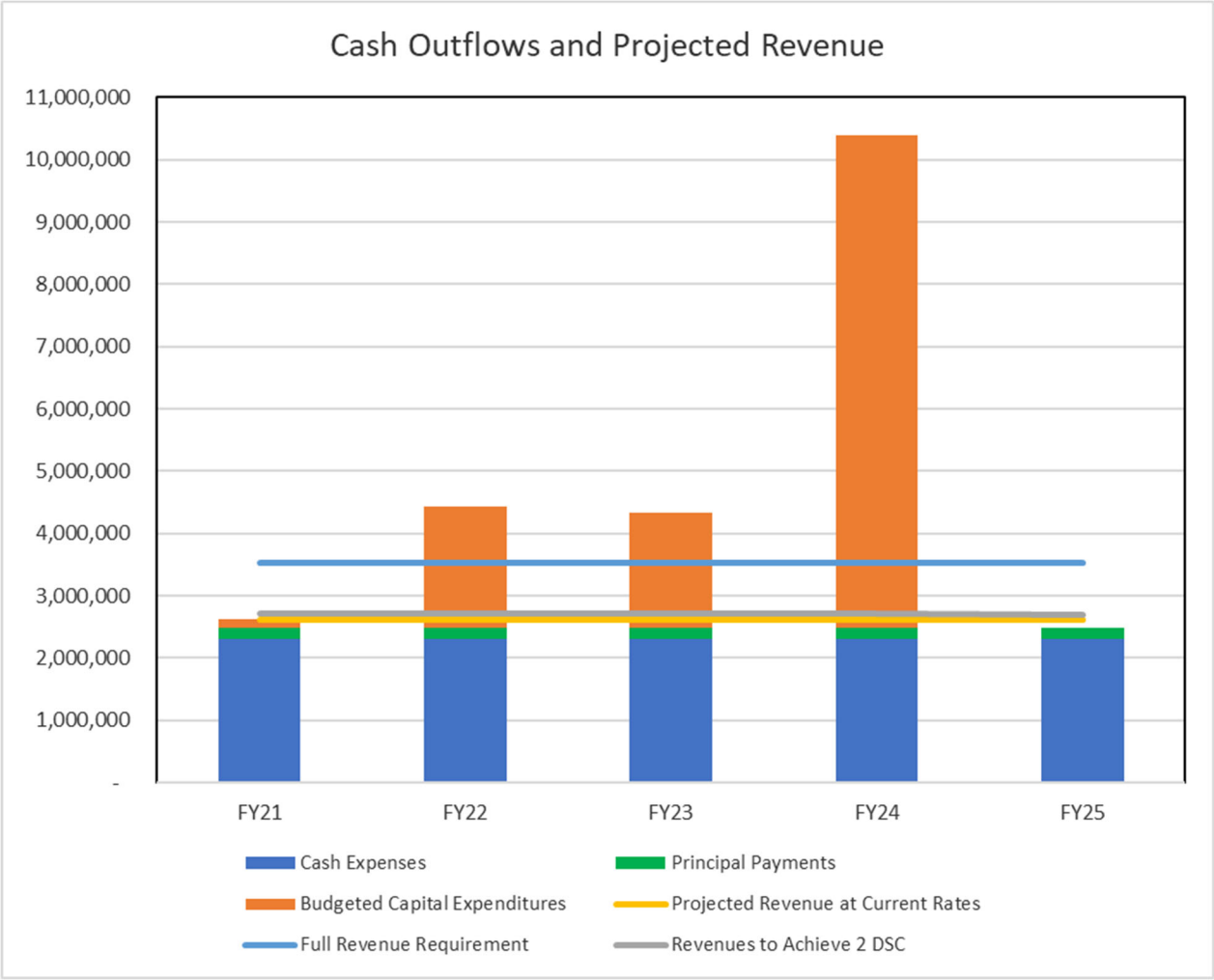
The budget for the fiscal year ending June 30, 2021 shows a budgeted net income of zero but after the adjustments described in the Analysis section above, the deficiency shown in Table 6 is over $900,000. The actual net loss in FY 2020 was almost $500,000. The reason for the difference between the calculated deficiency and the prior year actual results are:

1. The revenue requirements summarized in Table 6 include a target margin of $100,000. No corresponding amount is included in the actual margin.
2. FY 2021 budgeted other income includes a debt reimbursement grant of $45,000. No similar revenue was received in FY 2020.
3. FY 2021 budgeted expenses were approximately $370,000 higher than FY 2020 actual expenses. The primary drivers in this increase were:
    a. Labor/Benefits expense was budgeted approximately $175,000 higher than FY 2020 actual
    b. Administrative Operations expense was budgeted approximately $40,000 higher than FY 2020 actual
    c. Water Operations expense was budgeted approximately $140,000 higher than FY 2020 actual

Expenses in 2021 and thereafter are expected to increase due to inflationary effects on the utility's expense structure and an increase in depreciation as new assets are included in the system. Revenue deficits with the existing rates are, therefore, also expected to increase in the future absent load growth.

Figure 2, on the next page, shows that if sales volume and operating expenses remain at the level projected for FY 2021, with no rate increase, cash generated should be sufficient to cover cash expenses (including interest) and debt principle payments. However, there will be little, if any, cash left to pay for capital expenditures. The annual budgeted capital expenditures for FY 2021 through FY 2025 vary from none to almost $8 million. The graph also shows that if rates are increased and sales equal the revenue requirements, enough cash will be generated to cover some of the budgeted capital expenditures, but not all of them. The remaining amounts will need to be funded through either debt, retained earnings, transfers from the general fund, other revenues sources, or a combination of these.

Figure 2
Cash Outflows and Projected Revenues



Alternate Cash Basis Revenue Requirement

Traditional ratemaking typically calculates revenue requirements on an income basis (as described in the Revenue Requirements section above). This method includes all operating expenses, interest on debt, and depreciation (a non-cash expense) in the revenue requirement. However, another way to look at the revenue requirement concept is on a cash basis. This method includes all operating expenses and interest on debt but rather than including non-cash depreciation expense, it includes principal payments instead. When evaluating the revenue requirement using this method, the debt service coverage ratio (DSC) can be used to define the utility's cash requirements. DSC is equal to the utility's earnings before interest, taxes, and depreciation, divided by its required debt service payments (principle and interest). Table 9 shows that the Water Utility's DSC based on projected revenues from current rates and the budgeted debt service payments for FY 2021 is 1.58. To achieve a DSC of 2.0, rates would need to be increased by 3.6 percent. Figure 2 shows that if sales volume and operating expenses remain at the level projected for FY 2021, with a rate increase to achieve a 2.0 DSC, cash generated should be sufficient to cover cash expenses (including interest) and debt principle payments however there will be little extra cash left to pay for capital expenditures.

Table 9
Alternate Cash Basis Revenue Requirement

	Total	Unmetered	Metered
Revenues			
Customer Charge	$ 168,390	$ 147,521	$ 20,870
Volume Charge	2,448,295	-	2,448,295
Total	$ 2,616,686	$ 147,521	$ 2,469,165
Minimum Required Cash Flow			
Full Revenue Requirement	$ 3,530,573	$ 135,519	$ 3,395,054
Less:			
Depreciation	$ 1,124,222	$ 43,152	$ 1,081,070
Interest Expense	46,401	1,781	44,620
Target Margin	100,000	3,838	96,162
Operating Expenses	$ 2,259,950	$ 86,748	$ 2,173,202
FY 2021 Principal Payments	181,963	6,985	174,978
Interest on Long Term Debt	43,671	1,676	41,995
Minimum Required Cash Flow	$ 2,485,584	95,409	2,390,175
Achieved DSC	1.58		
Cash Basis Revenue Requirement			
Target DSC	2.00		
Target DSC Revenue Requirement	$ 2,711,218	$ 104,068	$ 2,607,151
Surplus (Deficiency)	$ (94,532)	$ 43,453	$ (137,986)
Percent	-3.6%	29.5%	-5.6%

Rate Options

While the analysis summarized above shows that unmetered rates are currently higher than cost of service, it is noted that cost of service studies are somewhat imprecise in nature, especially for water and wastewater services. Consequently, rate adjustments need not be set precisely at cost of service to be fair and equitable. Several rate options are discussed below for the City's consideration and are summarized on Table 10 and each option's effect on rates is summarized on Table 11.

Rate Option 1
Increase rates to meet a 2.0 target DSC, resulting in revenues approximately equal to the cash basis revenue requirement. This could be accomplished by:

Option 1a
Increase rates based on cost of service study results by keeping unmetered rates unchanged and increasing metered rates by 3.8 percent. The results indicate that unmetered rates should decrease however, keeping unmetered rates unchanged is more consistent with the City's goal to encourage customers to move to metered service.

Option 1b
Increase rates across-the-board by 3.6 percent.

Rate Option 2
Adjust rates to meet the full revenue requirement, based on the cost of service study results. Decrease unmetered rates by 8.1 percent and increase metered rates by 37.5 percent, resulting in revenues approximately equal to the full revenue requirement, by class.

Rate Option 3
Implement a one percent sales tax to fund utility infrastructure to help fund capital expenditures. The total estimated revenues from a one percent sales tax would be approximately $2.67 million, based on FY 2021 budget projections for the existing one percent Special Revenue sales tax. This revenue could be split between the City of Unalaska utilities to fund utility infrastructure needs and specific projects at the direction of the City Council.

Combine Rate Option 1 and 3
Options 1 and 3 could be combined with revenues from Option 1 providing cash to fund operating expenses and debt payments and revenues from Option 3 providing cash for capital projects.

Table 10
Rate Options

	Total	Unmetered	Metered Total	Avg Monthly Increase in Bill Unmetered	Avg Monthly Increase in Bill Metered
Revenues at Existing Rates	$ 2,616,686	$ 147,521	$ 2,469,165		
Full Revenue Requirement (Full RR)					
Allocated Costs (Commodity Demand)	$ 3,530,573	$ 135,519	$ 3,395,054		
Surplus (Deficiency)	$ (913,887)	$ 12,002	$ (925,889)		
Required Increase (Decrease)	34.9%	-8.1%	37.5%		
Percent of total	100%	3.84%	96.16%		
Cash Basis Revenue Requirement (Target DSC RR)					
Target DSC Revenue Requirement	$ 2,711,218	$ 104,068	$ 2,607,151		
Surplus (Deficiency)	$ (94,532)	$ 43,453	$ (137,986)		
Required Increase (Decrease)	3.6%	-29.5%	5.6%		
Percent of total	100%	3.84%	96.16%		
Option 1a: 2.0 DSC; No increase to Unmetered					
Proposed Adjustment		0.0%	3.8%		
After Proposed Adjustment:					
Revenues at Proposed Rates	$ 2,710,514	$ 147,521	$ 2,562,993	$ -	$ 26.39
Surplus (Deficiency) - Target DSC RR	(704)	43,453	(44,158)		
Percent of total	100%	5.44%	94.56%		
Option 1b: 2.0 DSC; Across the Board increase					
Proposed Adjustment		3.6%	3.6%		
After Proposed Adjustment:					
Revenues at Proposed Rates	$ 2,711,218	$ 152,850	$ 2,558,368	$ 1.30	$ 25.09
Surplus (Deficiency) - Target DSC RR	-	48,782	(48,783)		
Percent of total	100%	5.64%	94.36%		
Option 2: Full revenue requirement; Based on COSS results					
Proposed Adjustment		-8.1%	37.5%		
After Proposed Adjustment:					
Revenues at Proposed Rates	$ 3,530,573	$ 135,519	$ 3,395,054	$ (2.94)	$ 260.45
Surplus (Deficiency) - Full RR	-	-	-		
Percent of total	100%	3.84%	96.16%		

Table 11
Rate Effects

	Customer Charge ($/month)				Volume ($/thousand gallons)			
Rate Class	Current	Option 1a	Option 1b	Option 2	Current	Option 1a	Option 1b	Option 2
Unmetered	35.59	35.59	36.88	32.69	-	-	-	-
Metered:								
5/8" Service	3.53	3.66	3.66	4.85	2.51	2.61	2.60	3.45
3/4" Service	3.74	3.88	3.88	5.14	2.51	2.61	2.60	3.45
1" Service	4.15	4.31	4.30	5.71	2.51	2.61	2.60	3.45
1 1/2" Service	5.21	5.41	5.40	7.16	2.51	2.61	2.60	3.45
2" Service	6.47	6.72	6.70	8.90	2.51	2.61	2.60	3.45
3" Service	9.40	9.76	9.74	12.92	2.51	2.61	2.60	3.45
4" Service	13.18	13.68	13.66	18.12	2.51	2.61	2.60	3.45
6" Service	24.08	25.00	24.95	33.11	2.51	2.61	2.60	3.45
8" Service	36.67	38.06	37.99	50.42	2.51	2.61	2.60	3.45
10" Service	63.43	65.84	65.72	87.22	2.51	2.61	2.60	3.45
12" Service	100.12	103.92	103.74	137.66	2.51	2.61	2.60	3.45
		Change to Customer Charge				Change to Volume Charge		
		Option 1a	Option 1b	Option 2		Option 1a	Option 1b	Option 2
Unmetered		-	1.29	(2.90)		-	-	-
Metered:								
5/8" Service		0.13	0.13	1.32		0.10	0.09	0.94
3/4" Service		0.14	0.14	1.40		0.10	0.09	0.94
1" Service		0.16	0.15	1.56		0.10	0.09	0.94
1 1/2" Service		0.20	0.19	1.95		0.10	0.09	0.94
2" Service		0.25	0.23	2.43		0.10	0.09	0.94
3" Service		0.36	0.34	3.52		0.10	0.09	0.94
4" Service		0.50	0.48	4.94		0.10	0.09	0.94
6" Service		0.92	0.87	9.03		0.10	0.09	0.94
8" Service		1.39	1.32	13.75		0.10	0.09	0.94
10" Service		2.41	2.29	23.79		0.10	0.09	0.94
12" Service		3.80	3.62	37.54		0.10	0.09	0.94

Recommendations

The findings of the analysis herein are:

1. Although expenses have increased by over 40 percent since the last cost of service study was performed, the number of customers hasn't changed significantly, and the volume of sales has decreased by over nine percent.
2. Due to the decrease in sales to the metered class and the fixed-cost nature of utility operations:
    a. Rates for the metered class are set less than cost of service.
    b. Rates for the unmetered class are set higher than the cost of service.
3. Revenues from metered sales account for 94 percent of total revenues. Revenues from the nine largest customers with the three largest service meters account for 79 percent of total revenues. Since rates for that class are less than cost of service, an overall revenue shortfall is projected.
4. The minimum cash flow required by the utility, prior to capital expenditures, is estimated to be approximately $2.5 million per year and the projected sales revenues are $2.6 million per year.

Based on the outcome of this study, it is recommended that water rates be increased at this time. Although cash flow can be supported at existing rates, both near-term and long-term operations call for a rate increase. Capital improvements necessary to maintain the integrity of the system must be funded. Those that are smaller are probably best funded from cash generated through revenues, and while larger additions might be funded from debt or grants, the City's willingness to set appropriate rates will facilitate the ability to secure external funding.

Appendix A

Historical Billing Determinants

Billing Determinant Summary

Assumed Use per Unmetered (GPD)

Residental	200	
Duplex	200	/unit

	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20
Average Number of Customers						
Metered:						
5/8 inch	12	11	9	7	7	7
3/4 inch	70	87	99	112	114	132
1 inch	56	52	63	63	64	63
1 1/2 inch	23	22	14	10	10	10
2 inch	52	51	52	52	52	52
3 inch	18	18	14	14	14	14
4 inch	12	12	11	11	11	9
6 inch	5	5	5	5	5	5
8 inch	2	2	2	2	2	2
10 inch	2	2	2	2	2	2
12 inch		-	-			
Subtotal	251	261	270	278	281	296
Unmetered:						
Residential	365	360	357	350	338	335
Duplex	4	4	5	5	5	5
Total	620	626	632	633	624	637
Volume (gallons)						
Metered:						
5/8 inch	353,000	211,000	136,587	142,000	139,000	162,000
3/4 inch	4,397,478	7,117,629	9,342,576	7,238,757	6,793,123	7,596,984
1 inch	7,653,000	8,161,710	8,874,384	9,431,573	9,514,852	8,386,766
1 1/2 inch	5,403,000	5,004,869	4,349,726	3,247,000	3,115,308	3,006,692
2 inch	58,343,581	61,751,327	69,788,431	55,710,388	52,390,207	54,323,128
3 inch	74,541,000	69,288,000	45,295,000	63,993,000	56,151,038	45,143,962
4 inch	53,268,000	55,807,000	35,396,105	30,249,000	29,611,100	36,041,910
6 inch	389,835,000	359,028,000	314,281,000	322,328,000	373,381,000	336,041,000
8 inch	120,900,000	169,966,000	184,053,000	166,737,000	191,928,000	177,793,000
10 inch	300,277,000	334,199,000	376,752,000	306,139,000	280,446,000	306,921,000
12 inch						
Subtotal	1,014,971,059	1,070,534,535	1,048,268,809	965,215,718	1,003,469,628	975,416,442
Unmetered:						
Residential	26,614,400	26,383,400	26,086,000	25,526,600	24,669,400	24,486,200
Duplex	596,400	634,400	730,000	730,000	730,000	732,000
Subtotal	27,210,800	27,017,800	26,816,000	26,256,600	25,399,400	25,218,200
Hydrants	1,926,000	11,213,000	2,000,000	1,077,000	2,361,000	3,058,000
Water Truck	1,636,000	1,897,000	2,000,000	1,431,000	1,218,000	2,486,000
Total	1,045,743,859	1,110,662,335	1,079,084,809	993,980,318	1,032,448,028	1,006,178,642
Losses	116,704,141	163,908,665	205,062,191	160,644,682	133,998,972	147,121,358
Requirements	1,162,448,000	1,274,571,000	1,284,147,000	1,154,625,000	1,166,447,000	1,153,300,000
Production						
Surface Water	1,096,862,000	1,095,218,000	1,058,613,000	999,776,000	1,106,044,000	1,014,406,000
Well House 1	8,123,000	56,386,000	64,176,000	20,210,000	25,371,000	62,925,000
Well House 2	57,463,000	122,967,000	161,358,000	134,639,000	35,032,000	75,969,000
Total	1,162,448,000	1,274,571,000	1,284,147,000	1,154,625,000	1,166,447,000	1,153,300,000
Maximum Daily	6,898,000	7,465,000	7,611,000	6,696,000	6,248,000	6,574,000
Minimum Daily	1,043,000	1,020,000	1,109,000	881,000	697,000	695,000

Appendix B

Historical and Projected Revenue Requirements

Historic and Projected Revenue Requirements

	FY 2018 (Actual)	FY 2019 (Actual)	FY 2020 (Actual)	FY 2021 (Budget)	Normalized Budget
Administration					
Labor					
Salaries - Admin	$ 217,464	$ 231,775	$ 218,184	$ 257,931	$ 257,931
Temporary Employees	3,947	1,126	539	2,594	2,594
Overtime - Admin	1,305	385	594	928	928
Benefits and PR Taxes - Admin	141,767	112,006	156,338	181,579	170,713
Subtotal - Labor and Benefits	$ 364,483	$ 345,292	$ 375,655	$ 443,032	$ 432,166
Operations					
Legal Services	$ -	$ -	$ -	$ 1,000	$ 1,000
Engineering/Architectural Svs	2,713	4,611	5,209	1,100	1,100
Training Services	954	350	-	1,000	1,000
Education Reimbursement	-	-	-	2,500	2,500
Other Professional Svs	2,070	9,586	3,649	6,400	6,400
Software/Hardware Support	17,486	22,788	17,615	30,771	30,771
Water/Sewage	962	940	945	547	547
Solid Waste	5,048	1,403	1,585	1,215	1,215
Custodial Services/Supplies	3,487	3,639	3,793	4,509	4,509
Repairs/Maintenance Services	309	460	344	525	525
Building/Land Rental	-	-	-	-	-
General Insurance	31,308	43,036	50,137	73,447	73,447
Telephone / Fax / TV	1,654	2,693	3,540	1,321	1,321
Network/Internet	9,678	9,650	10,126	18,400	18,400
Advertising	-	-	-	332	332
Travel and Related Cost	2,562	735	603	1,500	1,500
Banking/Credit Card Fees	5,703	5,854	5,170	4,087	4,087
Postal Services	3,900	(3,972)	2,815	4,100	4,100
Membership Dues	-	208	214	250	250
Employee Moving Cost	-	-	-	5,000	5,000
General Supplies	855	290	258	660	660
Safety Related Items	-	785	611	-	-
Office Supplies	1,180	1,305	747	1,200	1,200
Computer Hardware/Software	9,891	19,144	15,374	7,576	7,576
Electricity	14,952	16,778	11,921	9,518	9,518
Heating Oil	11,936	10,688	9,455	8,102	8,102
Gasoline for Vehicles	695	674	409	1,963	1,963
Business Meals	-	-	-	200	200
Food/Beverage/Employee Appreciat	1,743	1,211	1,145	1,050	1,050
Books/Periodicals	272	272	247	200	200
Other		-	1	-	-
Subtotal - Administrative Ops	$ 129,358	$ 153,128	$ 145,913	$ 188,473	$ 188,473
Other					
Depreciation	1,117,481	1,126,256	1,124,222	1,124,222	1,124,222
PILOT	-	-	-	-	-
Bad Debt	-	298	6	-	-
Admin OH	21,335	23,484	22,200	22,212	22,212
Interest	33,556	67,863	48,820	46,401	46,401
Subtotal - Administrative Other	$ 1,172,372	$ 1,217,901	$ 1,195,248	$ 1,192,835	$ 1,192,835
Total Administrative	**$ 1,666,213**	**$ 1,716,321**	**$ 1,716,816**	**$ 1,824,340**	$ 1,813,474

Historic and Projected Revenue Requirements

	FY 2018 (Actual)	FY 2019 (Actual)	FY 2020 (Actual)	FY 2021 (Budget)	Normalized Budget
Water Operations					
Labor					
Salaries - Operations	$ 350,974	$ 316,721	$ 471,776	$ 515,566	$ 515,566
Temporary Employees	39,000	30,624	14,296	57,428	57,428
Overtime - Operations	25,392	114,140	68,971	33,603	33,603
Benefits and PR Taxes - Operations	236,131	160,081	129,150	403,410	379,746
Subtotal - Labor and Benefits	$ 651,497	$ 621,566	$ 684,193	$ 1,010,007	$ 986,343
Operations					
Engineering/Architectural Svs	$ -	$ -	$ -	$ 28,000	$ 28,000
Training Services	4,075	19,325	14,596	6,500	6,500
Other Professional Svs	145,007	59,138	70,077	104,700	104,700
Software/Hardware Support	549	5,676	4,565	4,500	4,500
Sampling/Testing	18,109	24,556	3,225	7,960	7,960
Other Technical Services	229	-	-	1,400	1,400
Solid Waste	3,621	3,277	3,649	3,700	3,700
Repairs/Maintenance Services	15,210	39,030	74,652	65,000	65,000
Construction Services	-	-	-	18,000	18,000
Telephone / Fax / TV	4,880	4,508	6,598	5,500	5,500
Network/Internet	46	-	-	500	500
Radio	-	7,731	-	16,900	16,900
Advertising	-	-	-	-	-
Travel and Related Cost	-	1,833	3,187	9,000	9,000
Postal Services	-	-	-	-	-
Membership Dues	1,077	976	1,233	900	900
Permit Fees	300	1,638	400	550	550
Other	-	-	-	-	-
General Supplies	89,739	55,714	76,329	106,100	106,100
Safety Related Items	1,020	7,365	11,347	12,000	12,000
Lab Supplies	8,395	6,988	3,961	11,000	11,000
Sand/Gravel/Rock	5,000	3,000	3,000	3,000	3,000
Chemicals	10,934	17,774	22,812	13,000	13,000
Office Supplies	1,236	506	-	1,200	1,200
Facility Maintenance Supplies	-	-	-	-	-
Computer Hardware/Software	6,930	2,245	7,014	1,500	1,500
Electricity	143,309	123,620	136,011	148,000	148,000
Propane	1,882	2,340	539	2,200	2,200
Heating Oil	17,651	11,903	11,848	24,000	24,000
Gasoline for Vehicles	5,787	5,862	5,723	6,000	6,000
Diesel for Equipment	615	822	1,114	800	800
Food/Beverage/Employee Appreciat	-	135	881	2,000	2,000
Books/Periodicals	888	841	790	900	900
Other	1	(2)	(1)	-	-
Subtotal - Operations Ops	$ 486,490	$ 406,801	$ 463,550	$ 604,810	$ 604,810
Total Water Operations	**$ 1,137,987**	**$ 1,028,367**	**$ 1,147,743**	**$ 1,614,817**	$ 1,591,153
Vehicle and Equipment					
Labor					
Salaries - Operations	$ 7,183	$ 7,284	$ 12,668	$ 15,601	$ 15,601
Overtime - Operations	14	-	-	465	465
Benefits and PR Taxes - Operations	4,762	4,080	8,281	11,284	10,605
Subtotal - Labor and Benefits	$ 11,959	$ 11,364	$ 20,949	$ 27,350	$ 26,671
Operations					
Repairs/Maintenance Services	$ -	$ 112	$ 1,651	$ -	$ -
Construction Services	-	-	-	-	-
General Supplies	-	-	40	-	-
Machinery / Vehicle Parts	1,671	14,764	3,586	12,500	12,500
Other	-	-	-	-	-
Subtotal - Vehicles/Equipment Ops	$ 1,671	$ 14,876	$ 5,277	$ 12,500	$ 12,500
Total Vehicle and Equipment	**$ 13,630**	**$ 26,240**	**$ 26,226**	**$ 39,850**	$ 39,171

Historic and Projected Revenue Requirements

	FY 2018 (Actual)	FY 2019 (Actual)	FY 2020 (Actual)	FY 2021 (Budget)	Normalized Budget
Building R & M					
Labor					
Salaries - Operations	$ 19,407	$ 16,488	$ 19,638	$ 12,747	$ 12,747
Templorary Employees - Operations	533	797	20	-	-
Overtime - Operations	511	252	72	133	133
Benefits and PR Taxes - Operations	13,059	8,986	13,556	9,205	8,669
Subtotal - Labor and Benefits	$ 33,510	$ 26,523	$ 33,286	$ 22,085	$ 21,549
Operations					
Other Professional	$ -	$ 125	$ 11,075	$ -	$ -
Repairs/Maintenance Services	17,884	26,854	8,646	28,550	28,550
Construction Services	-	-	-	1,000	1,000
General Supplies	1,234	290	524	1,500	1,500
Safety Related Items	-	895	22	-	-
Machinery / Vehicle Parts	-	-	-	-	-
Facility Maintenance Supplies	6,535	3,645	13,744	7,500	7,500
Other	-	-	-	-	-
Subtotal - Vehicles/Equipment Ops	$ 25,653	$ 31,809	$ 34,011	$ 38,550	$ 38,550
Total Building R & M	**$ 59,163**	**$ 58,332**	**$ 67,297**	**$ 60,635**	$ 60,099
Total Expenses	$ 2,876,993	$ 2,829,260	$ 2,958,082	$ 3,539,642	$ 3,503,897
Net Margin	(143,235)	200,000	2,947,031	100,000	100,000
Capital Expenditures	2,959	-	-	45,000	-
Less Other Revenues					
Debt Reimbursements Grants	-	-	-	(45,000)	(45,000)
PERS Nonemployer Contributions	(29,720)	(13,868)	(63,753)	(35,745)	-
System Development Chgs	-	-	-	(3,171)	(3,171)
Other Services	(2,942)	(13,881)	(5,563)	(23,513)	(23,513)
Late Fees	(1,436)	(602)	(1,726)	(1,640)	(1,640)
Gain-loss on Sale of Fixed Assets	-	-	(4,300)	-	-
Budgetd Use of Unrestricted Net As	-			(993,058)	-
Total Other Revenues	(34,098)	(28,351)	(75,342)	(1,102,127)	(73,324)
Net Revenue Requirements	**$ 2,702,619**	**$ 3,000,909**	**$ 5,829,771**	**$ 2,582,515**	**$ 3,530,573**

Appendix C

Cost of Service Model
(Base-Extra Capacity Method)

Allocation of Revenue Requirement
Base-Extra Capacity Method

Base-Extra Capacity (BEC) Method

	Allocation	Description	Total	3 Un-Metered	4 Metered Large	5 Metered Other
Base	A.01.01	Avg Demand/Day	2,000,243	50,411	1,640,668	309,164
Excess Capacity						
Excess Max Day	A.02.01	Excess - Day	1,167,169	23,112	1,046,021	98,037
Excess Max Hr	A.02.02	Excess - Hour	146,811	3,219	127,190	16,403
Customers						
Number	A.05.01	Customers	368	198	5	165
Equivalents	A.05.02	Customer Equivalents	-	-	-	-
Piping	A.03.01	Piping Dist	211,954	55,106	92,203	64,645
Direct 1	A.10.01	Direct Un-Metered	4,027	4,027	-	-
			$ 3,530,573	$ 136,072	$ 2,906,087	$ 488,414
Revenues From Existing Rates						
Customer Charges				$ 147,521	$ 3,847	$ 17,023
Volume Charges				-	2,060,095	388,200
Total			$ 2,616,686	$ 147,521	$ 2,063,942	$ 405,223
Surplus (Deficiency)			$ (913,887)	$ 11,448	$ (842,145)	$ (83,191)
Percent of Revenues from Existing Rates			-34.9%	7.8%	-40.8%	-20.5%

Classification of Revenue Requirement
Base-Extra Capacity Method

Base-Extra Capacity (BEC) Method

						3	4	5	6	7	8	9
			FY 2021 Adopted Budget	**Adjustment**	**Total**	**Base**	**Demand (Extra Capacity)**		**Customers**		**Piping**	**Direct 1**
							Excess Max Day	**Excess Max Hr**	**Number**	**Equivalents**		
Administration												
Labor												
Salaries - Admin	C.10.07	Other Operating Labor	$ 257,931		$ 257,931	$ 173,392	$ 69,601	$ 14,938	$ -	$ -	$ -	$ -
Temporary Employees	C.10.07	Other Operating Labor	2,594		2,594	1,744	700	150	-	-	-	-
Overtime - Admin	C.10.07	Other Operating Labor	928		928	624	250	54	-	-	-	-
Benefits and PR Taxes - Admin	C.10.07	Other Operating Labor	181,579	(10,866)	170,713	114,761	46,066	9,887	-	-	-	-
Subtotal - Labor and Benefits			$ 443,032	$ (10,866)	$ 432,166	$ 290,521	$ 116,617	$ 25,028	$ -	$ -	$ -	$ -
Operations												
Legal Services	C.01.01	Base	$ 1,000		$ 1,000	$ 1,000	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Architectural Svs	C.01.01	Base	1,100		1,100	1,100	-	-	-	-	-	-
Training Services	C.01.01	Base	1,000		1,000	1,000	-	-	-	-	-	-
Education Reimbursement	C.01.01	Base	2,500		2,500	2,500	-	-	-	-	-	-
Other Professional Svs	C.01.01	Base	6,400		6,400	6,400	-	-	-	-	-	-
Software/Hardware Support	C.01.01	Base	30,771		30,771	30,771	-	-	-	-	-	-
Water/Sewage	C.01.01	Base	547		547	547	-	-	-	-	-	-
Solid Waste	C.01.01	Base	1,215		1,215	1,215	-	-	-	-	-	-
Custodial Services/Supplies	C.10.03	Buildings	4,509		4,509	1,870	2,609	30	-	-	-	-
Repairs/Maintenance Services	C.10.03	Buildings	525		525	218	304	3	-	-	-	-
Building/Land Rental	C.00.00	-	-		-	-	-	-	-	-	-	-
General Insurance	C.10.02	Net Plant in Service	73,447		73,447	28,070	32,956	1,007	124	-	11,290	-
Telephone / Fax / TV	C.01.01	Base	1,321		1,321	1,321	-	-	-	-	-	-
Network/Internet	C.01.01	Base	18,400		18,400	18,400	-	-	-	-	-	-
Advertising	C.01.01	Base	332		332	332	-	-	-	-	-	-
Travel and Related Cost	C.01.01	Base	1,500		1,500	1,500	-	-	-	-	-	-
Banking/Credit Card Fees	C.05.01	Direct 1	4,087		4,087	-	-	-	-	-	-	4,087
Postal Services	C.01.01	Base	4,100		4,100	4,100	-	-	-	-	-	-
Membership Dues	C.01.01	Base	250		250	250	-	-	-	-	-	-
Employee Moving Cost	C.01.01	Base	5,000		5,000	5,000	-	-	-	-	-	-
General Supplies	C.01.01	Base	660		660	660	-	-	-	-	-	-
Office Supplies	C.01.01	Base	1,200		1,200	1,200	-	-	-	-	-	-
Computer Hardware/Software	C.01.01	Base	7,576		7,576	7,576	-	-	-	-	-	-
Electricity	C.02.02	Base/Max Day/Max Hr	9,518		9,518	3,486	4,850	1,183	-	-	-	-
Heating Oil	C.10.03	Buildings	8,102		8,102	3,360	4,688	54	-	-	-	-
Gasoline for Vehicles	C.10.05	Vehicles/Equip - Non Labor	1,963		1,963	1,963	-	-	-	-	-	-
Business Meals	C.01.01	Base	200		200	200	-	-	-	-	-	-
Food/Beverage/Employee Apprecia	C.01.01	Base	1,050		1,050	1,050	-	-	-	-	-	-
Books/Periodicals	C.01.01	Base	200		200	200	-	-	-	-	-	-
Other	C.00.00	-	-		-	-	-	-	-	-	-	-
Subtotal - Administrative Ops			$ 188,473	$ -	$ 188,473	$ 125,289	$ 45,407	$ 2,276	$ 124	$ -	$ 11,290	$ 4,087
Other												
Depreciation	C.10.10	Depr Expense	1,124,222		1,124,222	429,126	491,162	22,846	-	-	181,089	-
PILOT	C.10.02	Net Plant in Service	-		-	-	-	-	-	-	-	-
Bad Debt	C.00.00	-	-		-	-	-	-	-	-	-	-
Admin OH	C.10.09	Total Exp Before Other Revenues	22,212		22,212	12,704	7,267	942	1	-	1,273	26
Interest	C.10.02	Net Plant in Service	46,401		46,401	17,734	20,820	636	78	-	7,133	-
Subtotal - Administrative Other			$ 1,192,835	$ -	$ 1,192,835	$ 459,563	$ 519,249	$ 24,423	$ 80	$ -	$ 189,494	$ 26
Total Administrative			**$ 1,824,340**	$ (10,866)	$ 1,813,474	$ 875,372	$ 681,273	$ 51,728	$ 204	$ -	$ 200,784	$ 4,113

Classification of Revenue Requirement
Base-Extra Capacity Method

Water Operations																			
Labor																			
Salaries - Operations	C.10.04	Water Ops - Non Labor		$ 515,566		$ 515,566	$ 344,917	$ 139,405	$ 31,243	$ -	$ -	$ -	$ -						
Temporary Employees	C.10.04	Water Ops - Non Labor		57,428		57,428	38,420	15,528	3,480	-	-	-	-						
Overtime - Operations	C.10.04	Water Ops - Non Labor		33,603		33,603	22,481	9,086	2,036	-	-	-	-						
Benefits and PR Taxes - Operations	C.10.04	Water Ops - Non Labor		403,410	(23,664)	379,746	254,053	102,681	23,013	-	-	-	-						
Subtotal - Labor and Benefits				$ 1,010,007	$ (23,664)	$ 986,343	$ 659,871	$ 266,700	$ 59,772	$ -	$ -	$ -	$ -						
Operations																			
Engineering/Architectural Svs	C.02.02	Base/Max Day/Max Hr		$ 28,000		$ 28,000	$ 10,254	$ 14,267	$ 3,479	$ -	$ -	$ -	$ -						
Training Services	C.01.01	Base		6,500		6,500	6,500	-	-	-	-	-	-						
Other Professional Svs	C.02.02	Base/Max Day/Max Hr		104,700		104,700	38,343	53,347	13,009	-	-	-	-						
Software/Hardware Support	C.01.01	Base		4,500		4,500	4,500	-	-	-	-	-	-						
Sampling/Testing	C.01.01	Base		7,960		7,960	7,960	-	-	-	-	-	-						
Other Technical Services	C.01.01	Base		1,400		1,400	1,400	-	-	-	-	-	-						
Solid Waste	C.01.01	Base		3,700		3,700	3,700	-	-	-	-	-	-						
Repairs/Maintenance Services	C.01.01	Base		65,000		65,000	65,000	-	-	-	-	-	-						
Construction Services	C.01.01	Base		18,000		18,000	18,000	-	-	-	-	-	-						
Telephone / Fax / TV	C.01.01	Base		5,500		5,500	5,500	-	-	-	-	-	-						
Network/Internet	C.01.01	Base		500		500	500	-	-	-	-	-	-						
Radio	C.01.01	Base		16,900		16,900	16,900	-	-	-	-	-	-						
Advertising	C.01.01	Base		-		-	-	-	-	-	-	-	-						
Travel and Related Cost	C.01.01	Base		9,000		9,000	9,000	-	-	-	-	-	-						
Postal Services	C.00.00		-	-		-	-	-	-	-	-	-	-						
Membership Dues	C.01.01	Base		900		900	900	-	-	-	-	-	-						
Permit Fees	C.01.01	Base		550		550	550	-	-	-	-	-	-						
Other	C.00.00		-	-		-	-	-	-	-	-	-	-						
General Supplies	C.01.01	Base		106,100		106,100	106,100	-	-	-	-	-	-						
Safety Related Items	C.01.01	Base		12,000		12,000	12,000	-	-	-	-	-	-						
Lab Supplies	C.01.01	Base		11,000		11,000	11,000	-	-	-	-	-	-						
Sand/Gravel/Rock	C.01.01	Base		3,000		3,000	3,000	-	-	-	-	-	-						
Chemicals	C.02.02	Base/Max Day/Max Hr		13,000		13,000	4,761	6,624	1,615	-	-	-	-						
Office Supplies	C.01.01	Base		1,200		1,200	1,200	-	-	-	-	-	-						
Facility Maintenance Supplies	C.00.00		-	-		-	-	-	-	-	-	-	-						
Computer Hardware/Software	C.01.01	Base		1,500		1,500	1,500	-	-	-	-	-	-						
Electricity	C.02.02	Base/Max Day/Max Hr		148,000		148,000	54,201	75,410	18,389	-	-	-	-						
Propane	C.01.01	Base		2,200		2,200	2,200	-	-	-	-	-	-						
Heating Oil	C.10.03	Buildings		24,000		24,000	9,953	13,888	159	-	-	-	-						
Gasoline for Vehicles	C.10.05	Vehicles/Equip - Non Labor		6,000		6,000	6,000	-	-	-	-	-	-						
Diesel for Equipment	C.10.05	Vehicles/Equip - Non Labor		800		800	800	-	-	-	-	-	-						
Food/Beverage/Employee Apprecia	C.01.01	Base		2,000		2,000	2,000	-	-	-	-	-	-						
Books/Periodicals	C.01.01	Base		900		900	900	-	-	-	-	-	-						
Other	C.00.00		-	-		-	-	-	-	-	-	-	-						
Subtotal - Operations Ops				$ 604,810	$ -	$ 604,810	$ 404,622	$ 163,536	$ 36,651	$ -	$ -	$ -	$ -						
Total Water Operations				**$ 1,614,817**	$ (23,664)	$ 1,591,153	$ 1,064,493	$ 430,237	$ 96,423	$ -	$ -	$ -	$ -						
Vehicle and Equipment																			
Labor																			
Salaries - Operations	C.10.05	Vehicles/Equip - Non Labor		$ 15,601		$ 15,601	$ 15,601	$ -	$ -	$ -	$ -	$ -	$ -						
Overtime - Operations	C.10.05	Vehicles/Equip - Non Labor		465		465	465	-	-	-	-	-	-						
Benefits and PR Taxes - Operations	C.10.05	Vehicles/Equip - Non Labor		11,284	(679)	10,605	10,605	-	-	-	-	-	-						
Subtotal - Labor and Benefits				$ 27,350	$ (679)	$ 26,671	$ 26,671	$ -	$ -	$ -	$ -	$ -	$ -						
Operations																			
Repairs/Maintenance Services	C.01.01	Base		$ -		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -						
Construction Services	C.01.01	Base		-		-	-	-	-	-	-	-	-						
General Supplies	C.01.01	Base		-		-	-	-	-	-	-	-	-						
Machinery / Vehicle Parts	C.01.01	Base		12,500		12,500	12,500	-	-	-	-	-	-						
Other	C.01.01	Base		-		-	-	-	-	-	-	-	-						
Subtotal - Vehicles/Equipment Ops				$ 12,500	$ -	$ 12,500	$ 12,500	$ -	$ -	$ -	$ -	$ -	$ -						
Total Vehicle and Equipment				**$ 39,850**	$ (679)	$ 39,171	$ 39,171	$ -	$ -	$ -	$ -	$ -	$ -						

Classification of Revenue Requirement
Base-Extra Capacity Method

Building R & M														
Labor														
Salaries - Operations	C.10.06	Building R&M - Non Labor	$ 12,747		$ 12,747	$ 5,286	$ 7,376	$ 84	$ -	$ -	$ -	$ -		
Overtime - Operations	C.10.06	Building R&M - Non Labor	133		133	55	77	1	-	-	-	-		
Benefits and PR Taxes - Operations	C.10.06	Building R&M - Non Labor	9,205	(536)	8,669	3,595	5,017	57	-	-	-	-		
Subtotal - Labor and Benefits			$ 22,085	$ (536)	$ 21,549	$ 8,937	$ 12,470	$ 143	$ -	$ -	$ -	$ -		
Operations														
Repairs/Maintenance Services	C.10.03	Buildings	$ 28,550		$ 28,550	$ 11,840	$ 16,521	$ 189	$ -	$ -	$ -	$ -		
Construction Services	C.10.03	Buildings	1,000		1,000	415	579	7	-	-	-	-		
General Supplies	C.10.03	Buildings	1,500		1,500	622	868	10	-	-	-	-		
Machinery / Vehicle Parts	C.10.03	Buildings	-		-	-	-	-	-	-	-	-		
Facility Maintenance Supplies	C.10.03	Buildings	7,500		7,500	3,110	4,340	50	-	-	-	-		
Other	C.00.00	-	-		-	-	-	-	-	-	-	-		
Subtotal - Vehicles/Equipment Ops			$ 38,550	$ -	$ 38,550	$ 15,987	$ 22,308	$ 255	$ -	$ -	$ -	$ -		
Total Building R & M			**$ 60,635**	$ (536)	$ 60,099	$ 24,924	$ 34,778	$ 397	$ -	$ -	$ -	$ -		
Total Expenses			$ 3,539,642	$ (35,745)	$ 3,503,897	$ 2,003,960	$ 1,146,287	$ 148,549	$ 204	$ -	$ 200,784	$ 4,113		
Net Margin	C.10.02	Net Plant in Service	100,000		100,000	38,219	44,870	1,371	169	-	15,372	-		
Capital Expenditures	C.00.00	-	45,000	(45,000)	-	-	-	-	-	-	-	-		
Less Other Revenues														
Debt Reimbursements Grants	C.10.09	Total Exp Before Other Revenues	(45,000)		(45,000)	(25,737)	(14,722)	(1,908)	(3)	-	(2,579)	(53)		
PERS Nonemployer Contributions	C.10.09	Total Exp Before Other Revenues	(35,745)	35,745	-	-	-	-	-	-	-	-		
System Development Chgs	C.10.09	Total Exp Before Other Revenues	(3,171)		(3,171)	(1,814)	(1,037)	(134)	(0)	-	(182)	(4)		
Other Services	C.10.09	Total Exp Before Other Revenues	(23,513)		(23,513)	(13,448)	(7,692)	(997)	(1)	-	(1,347)	(28)		
Late Fees	C.10.09	Total Exp Before Other Revenues	(1,640)		(1,640)	(938)	(537)	(70)	(0)	-	(94)	(2)		
Budgetd Use of Unrestricted Net A:	C.10.09	Total Exp Before Other Revenues	(993,058)	993,058	-	-	-	-	-	-	-	-		
Total Other Revenues			(1,102,127)	1,028,803	(73,324)	(41,936)	(23,988)	(3,109)	(4)	-	(4,202)	(86)		
Net Revenue Requirements			**$ 2,582,515**	**$ 948,058**	**$ 3,530,573**	**$ 2,000,243**	**$ 1,167,169**	**$ 146,811**	**$ 368**	**$ -**	**$ 211,954**	**$ 4,027**		

Classification of Net Plant
Base-Extra Capacity Method

ACCT#	DESCRIPTION	FIXED ASSETS 6/30/2020	END YEAR ACC DEPR	Net Plant	3	4	5	6	7	8	9
					Classification BEC						
					Ref	Type	Base	Excess Max Day	Excess Max Hr	Customer	Customer Equivalents	Piping	Direct 1
LAND	LOWER LOOP ROAD	46,500	-	46,500	C.01.01	Base	46,500	-	-	-	-	-	-
	ICY CREEK LAND BLM TRACT 41	7,300	-	7,300	C.01.01	Base	7,300	-	-	-	-	-	-
	EASEMENTS FROM OC LAND EXCNG	71,274	-	71,274	C.01.01	Base	71,274	-	-	-	-	-	-
	TOTALS LAND 5100-16100	125,074	-	125,074			125,074	-	-	-	-	-	-
BLDG	1978 FILTER HOUSE	21,400	21,400	-	C.02.01	Base/Max Day	-	-	-	-	-	-	-
	1989 TREATMENT PLANT	52,000	49,613	2,387	C.02.01	Base/Max Day	998	1,389	-	-	-	-	-
	1991 2 WELL HOUSES	170,700	152,458	18,242	C.06.02	20% Base/40% MD/40% MH	3,648	7,297	7,297	-	-	-	-
	EQUILIBRIUM TANK	643,850	535,908	107,942	C.02.02	Base/Max Day/Max Hr	39,531	54,999	13,412	-	-	-	-
	WELL HOUSE #2 ELECT. UPGRADE	116,972	74,082	42,890	C.06.02	20% Base/40% MD/40% MH	8,578	17,156	17,156	-	-	-	-
	WELL HOUSE #1 ELECT. UPGRADE	204,205	91,892	112,313	C.06.02	20% Base/40% MD/40% MH	22,463	44,925	44,925	-	-	-	-
	UPCH ELECTIC COMP. UPGRADE	103,869	46,308	57,560	C.02.01	Base/Max Day	24,071	33,490	-	-	-	-	-
	ICY LAKE ROOF/SIDING REPLACEMENT	41,616	8,323	33,293	C.02.01	Base/Max Day	13,922	19,370	-	-	-	-	-
	NEW WATER TREATMENT PLANT & LT2 UPGRADE	13,487,968	1,343,980	12,143,988	C.02.01	Base/Max Day	5,078,385	7,065,603	-	-	-	-	-
	TOTALS BLDG 5100-16200	14,842,579	2,323,965	12,518,614			5,191,596	7,244,228	82,790	-	-	-	-
IOTB	1978 WATER IMPROVEMENTS	1,997,596	1,997,596	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1979 WATER IMPROVEMENTS	63,380	63,380	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1980 WATER IMPROVEMENTS	79,266	79,266	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1981 WATER IMPROVEMENTS	167,256	167,256	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1982 WATER IMPROVEMENTS	84,482	84,482	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1983 WATER IMPROVEMENTS	660,357	660,357	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1984 WATER IMPROVEMENTS	120,263	120,263	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1985 WATER IMPROVEMENTS	171,521	171,521	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1986 WATER IMPROVEMENTS	308,693	308,693	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1987 WATER IMPROVEMENTS	502,731	502,731	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1988 WATER IMPROVEMENTS	1,113	1,096	17	C.04.01	Piping Dist	-	-	-	-	-	17	-
	1988/89 WATER IMPROVEMENTS	1,171,866	1,118,083	53,783	C.02.01	Base/Max Day	22,491	31,292	-	-	-	-	-
	1989 WATER IMPROVEMENTS	1,652,073	1,576,250	75,823	C.02.01	Base/Max Day	31,708	44,115	-	-	-	-	-
	1990 PYRAMID	109,726	101,342	8,384	C.02.01	Base/Max Day	3,506	4,878	-	-	-	-	-
	1990 WATER IMPROVEMENTS	80,605	74,446	6,159	C.02.01	Base/Max Day	2,576	3,583	-	-	-	-	-
	1991 PYRAMID	4,358,446	3,892,673	465,773	C.02.01	Base/Max Day	194,777	270,995	-	-	-	-	-
	1992 WATER IMPROVEMENTS	2,100	1,812	288	C.04.01	Piping Dist	-	-	-	-	-	288	-
	1992 PRIMARY LINE	50,951	43,957	6,994	C.04.01	Piping Dist	-	-	-	-	-	6,994	-
	1993 PRIMARY LINE	5,856	4,874	982	C.04.01	Piping Dist	-	-	-	-	-	982	-
	LEAR ROAD	103,127	85,838	17,289	C.02.02	Base/Max Day/Max Hr	6,332	8,809	2,148	-	-	-	-
	THOMPSON/SHAISHNIKOFF	19,176	15,961	3,215	C.04.01	Piping Dist	-	-	-	-	-	3,215	-
	HAYSTACK	20,021	16,664	3,356	C.04.01	Piping Dist	-	-	-	-	-	3,356	-
	BOOSTER PUMP	19,985	19,985	-	C.02.02	Base/Max Day/Max Hr	-	-	-	-	-	-	-
	HAYSTACK PIPELINE	160,001	160,001	-	C.00.00	0	-	-	-	-	-	-	-
	ILIULIUK VALLEY	26,168	26,168	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	WATER STORAGE	2,287,316	2,287,316	-	C.02.01	Base/Max Day	-	-	-	-	-	-	-
	IHS SANITATION	10,389	10,389	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	S.C.A.D.A.	138,971	138,971	-	C.00.00	0	-	-	-	-	-	-	-
	WATER LINE HOOK UP JESSE LEE	65,432	52,345	13,086	C.04.01	Piping Dist	-	-	-	-	-	13,086	-
	ICY CREEK LOWER	1,758,247	1,406,598	351,649	C.02.01	Base/Max Day	147,053	204,596	-	-	-	-	-
	PYRAMID WATER CAPITAL	2,830,156	2,264,125	566,031	C.02.01	Base/Max Day	236,704	329,328	-	-	-	-	-
	STWRD.RD.WOODSTAVE RPLCE	42,162	33,730	8,432	C.04.01	Piping Dist	-	-	-	-	-	8,432	-
	FLOW METER VAULT	20,813	15,957	4,856	C.02.02	Base/Max Day/Max Hr	1,779	2,474	603	-	-	-	-
	KING ST/BAYVIEW WA MAIN	103,500	75,900	27,600	C.04.01	Piping Dist	-	-	-	-	-	27,600	-
	ICY LAKE DAM AND ROAD	1,504,545	1,103,333	401,212	C.01.01	Base	401,212	-	-	-	-	-	-
	CHOATE LANE WA LID	90,435	66,319	24,116	C.04.01	Piping Dist	-	-	-	-	-	24,116	-

Classification of Net Plant
Base-Extra Capacity Method

ACCT#	DESCRIPTION	FIXED ASSETS 6/30/2020	END YEAR ACC DEPR	Net Plant	Classification BEC							
					Ref	Type	Base	Excess Max Day	Excess Max Hr	Customer	Customer Equivalents	Piping	Direct 1
	HAYSTACK LINE UPGRADE	377,942	264,559	113,382	C.04.01	Piping Dist	-	-	-	-	-	113,382	-
	ICY LAKE DAM & ROAD FINAL	208,272	145,790	62,482	C.01.01	Base	62,482	-	-	-	-	-	-
	SHAISHNIKOFF WATER EXTENSION	38,688	24,825	13,863	C.04.01	Piping Dist	-	-	-	-	-	13,863	-
	STEWARD ROAD WATER LOOP	69,212	44,411	24,801	C.04.01	Piping Dist	-	-	-	-	-	24,801	-
	STEWARD ROAD LID	87,403	56,084	31,319	C.04.01	Piping Dist	-	-	-	-	-	31,319	-
	SPRINKLER INSTALLATION	20,257	20,257	-	C.01.01	Base	-	-	-	-	-	-	-
	WELL #2A REPLACEMNT	344,391	218,114	126,277	C.06.02	20% Base/40% MD/40% MH	25,255	50,511	50,511	-	-	-	-
	NEWHALL WATER LID	123,200	73,920	49,280	C.04.01	Piping Dist	-	-	-	-	-	49,280	-
	WATER TANK MAINTENANCE	136,391	102,293	34,098	C.02.01	Base/Max Day	14,259	19,839	-	-	-	-	-
	AIRPORT WATER LINE	82,668	41,334	41,334	C.04.01	Piping Dist	-	-	-	-	-	41,334	-
	NIRVANA WATER LID	464,857	216,933	247,924	C.04.01	Piping Dist	-	-	-	-	-	247,924	-
	GENERAL SCADA INTERFACE & UPDATE FY08/09	46,395	23,197	23,198	C.01.01	Base	23,198	-	-	-	-	-	-
	LEAR ROAD TANK MAINTENANCE	486,690	239,289	247,401	C.02.02	Base/Max Day/Max Hr	90,603	126,057	30,740	-	-	-	-
	SOUTH CHANNEL BRIDGE WATER BETTERMENTS	1,592,330	504,238	1,088,092	C.04.01	Piping Dist	-	-	-	-	-	1,088,092	-
	ICY CREEK DAM IMPROVEMENTS	246,660	117,164	129,496	C.01.01	Base	129,496	-	-	-	-	-	-
	LSA WATER EXTENSION	786,672	216,335	570,337	C.04.01	Piping Dist	-	-	-	-	-	570,337	-
	WATER TRANSMISSION DIST FLUSHING	751,791	194,213	557,579	C.04.01	Piping Dist	-	-	-	-	-	557,579	-
	ICY LAKE POWER	85,134	14,425	70,709	C.01.01	Base	70,709	-	-	-	-	-	-
	CT TANK INTERIOR MAINTENANCE	106,167	26,984	79,183	C.02.02	Base/Max Day/Max Hr	28,999	40,346	9,839	-	-	-	-
	NIRVANA PUMP STATION SCADA	58,901	11,780	47,121	C.01.01	Base	47,121	-	-	-	-	-	-
	WATER BACKFLOW PREVENTER INSTALL & DESIGN	191,203	19,651	171,551	C.04.01	Piping Dist	-	-	-	-	-	171,551	-
	WELL HOUSE 1&2 SCADA UPGRADES	93,990	9,791	84,200	C.06.02	20% Base/40% MD/40% MH	16,840	33,680	33,680	-	-	-	-
	TOTALS IOTB 5100-16300	27,187,940	21,335,266	5,852,674			1,557,099	1,170,504	127,521	-	-	2,997,550	-
M & E	1997 FORD F250 P/U TRK XL # W0446	-	-	-	C.00.00	0	-	-	-	-	-	-	-
	2008 FORD F150 4X4 TRUCK	23,381	23,381	-	C.00.00	0	-	-	-	-	-	-	-
	FUJI LC-2500 SUBSURFACE LEAK DETECTOR	24,400	24,400	-	C.00.00	0	-	-	-	-	-	-	-
	BH11 JCB 4CXB BACKHOE	172,495	70,435	102,059	C.10.01	Land/Bldg/IOTB	37,928	46,431	1,160	-	-	16,540	-
	W2312 2017 FORD F250 EXT CAB 4X4 W/UTILITY BED	47,130	29,064	18,067	C.10.01	Land/Bldg/IOTB	6,714	8,219	205	-	-	2,928	-
	W6000 2017 FORD F250 EXT CAB 4X4 W/SERV BOX	47,286	19,703	27,584	C.10.01	Land/Bldg/IOTB	10,251	12,549	314	-	-	4,470	-
	SPECTROPHOTOMETER DR6000	12,184	5,077	7,107	C.10.01	Land/Bldg/IOTB	2,641	3,233	81	-	-	1,152	-
	W9802 FORD F-350 CREW CAB, 8' FLATBED	48,695	10,551	38,144	C.10.01	Land/Bldg/IOTB	14,175	17,353	434	-	-	6,182	-
	DPU7380 FORD EXPLORER (25%) DPU DIRECTOR	8,140	1,764	6,376	C.10.01	Land/Bldg/IOTB	2,370	2,901	73	-	-	1,033	-
	4x4 250 Extended/SuperCab, Stahl Utility bed w/Boxes	45,000	-	45,000	C.10.01	Land/Bldg/IOTB	16,723	20,472	512	-	-	7,293	-
	TOTALS M&E 5100-16400	428,710	184,373	244,337			90,803	111,159	2,778	-	-	39,598	-
CIP													
	FIBER OPTIC INFRASTRUCTURE DEVELOP	6,140	-	6,140	C.01.01	Base	6,140	-	-	-	-	-	-
	PYRAMID WTP MICRO TURBINES	363,284	-	363,284	C.02.02	Base/Max Day/Max Hr	133,042	185,103	45,139	-	-	-	-
	GENERAL HILL WATER BOOSTER PUMP	8,005	-	8,005	C.02.02	Base/Max Day/Max Hr	2,931	4,079	995	-	-	-	-
	WATER SUPPLY DEVELOP PHASE II	512,759	-	512,759	C.06.01	80% Base/20% Max Day	410,207	102,552	-	-	-	-	-
	PYRAMID WATER STORAGE TANK	93,662	-	93,662	C.02.02	Base/Max Day/Max Hr	34,301	47,723	11,638	-	-	-	-
	AUTOMATIC METER READING SYSTEM	33,384	-	33,384	C.03.01	Customers	-	-	-	33,384	-	-	-
	TOTALS CIP 5110-16500	1,017,234	-	1,017,234			586,622	339,457	57,771	33,384	-	-	-
	GRAND TOTALS WITH CIP	43,601,537	23,843,604	19,757,933			7,551,193	8,865,348	270,859	33,384	-	3,037,148	-

Classification of Depreciation Expenses
Base-Extra Capacity Method

ACCT#	DESCRIPTION	DeprExp	Classification BEC								
			Ref	Type	Base	Excess Max Day	Excess Max Hr	Customer	Customer Equivalents	Piping	Direct 1
LAND	LOWER LOOP ROAD	-	C.01.01	Base	-	-	-	-	-	-	-
	ICY CREEK LAND BLM TRACT 41	-	C.01.01	Base	-	-	-	-	-	-	-
	EASEMENTS FROM OC LAND EXCNG	-	C.01.01	Base	-	-	-	-	-	-	-
	TOTALS LAND 5100-16100	-			-	-	-	-	-	-	-
BLDG	1978 FILTER HOUSE	-	C.02.01	Base/Max Day	-	-	-	-	-	-	-
	1989 TREATMENT PLANT	1,591	C.02.01	Base/Max Day	665	926	-	-	-	-	-
	1991 2 WELL HOUSES	5,212	C.06.02	0% Base/40% MD/40% MI	1,042	2,085	2,085	-	-	-	-
	EQUILIBRIUM TANK	19,626	C.02.02	Base/Max Day/Max Hr	7,187	10,000	2,439	-	-	-	-
	WELL HOUSE #2 ELECT. UPGRADE	7,798	C.06.02	0% Base/40% MD/40% MI	1,560	3,119	3,119	-	-	-	-
	WELL HOUSE #1 ELECT. UPGRADE	10,210	C.06.02	0% Base/40% MD/40% MI	2,042	4,084	4,084	-	-	-	-
	UPCH ELECTIC COMP. UPGRADE	5,193	C.02.01	Base/Max Day	2,172	3,022	-	-	-	-	-
	ICY LAKE ROOF/SIDING REPLACEMENT	2,081	C.02.01	Base/Max Day	870	1,211	-	-	-	-	-
	NEW WATER TREATMENT PLANT & LT2 UPGRADE	337,333	C.02.01	Base/Max Day	141,066	196,267	-	-	-	-	-
	TOTALS BLDG 5100-16200	389,044			156,605	220,713	11,727	-	-	-	-
IOTB	1978 WATER IMPROVEMENTS	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1979 WATER IMPROVEMENTS	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1980 WATER IMPROVEMENTS	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1981 WATER IMPROVEMENTS	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1982 WATER IMPROVEMENTS	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1983 WATER IMPROVEMENTS	(0)	C.04.01	Piping Dist	-	-	-	-	-	(0)	-
	1984 WATER IMPROVEMENTS	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1985 WATER IMPROVEMENTS	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1986 WATER IMPROVEMENTS	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1987 WATER IMPROVEMENTS	7,711	C.04.01	Piping Dist	-	-	-	-	-	7,711	-
	1988 WATER IMPROVEMENTS	34	C.04.01	Piping Dist	-	-	-	-	-	34	-
	1988/89 WATER IMPROVEMENTS	35,856	C.02.01	Base/Max Day	14,994	20,861	-	-	-	-	-
	1989 WATER IMPROVEMENTS	50,549	C.02.01	Base/Max Day	21,138	29,410	-	-	-	-	-
	1990 PYRAMID	3,354	C.02.01	Base/Max Day	1,402	1,951	-	-	-	-	-
	1990 WATER IMPROVEMENTS	2,464	C.02.01	Base/Max Day	1,030	1,433	-	-	-	-	-
	1991 PYRAMID	133,078	C.02.01	Base/Max Day	55,651	77,427	-	-	-	-	-
	1992 WATER IMPROVEMENTS	64	C.04.01	Piping Dist	-	-	-	-	-	64	-
	1992 PRIMARY LINE	1,554	C.04.01	Piping Dist	-	-	-	-	-	1,554	-
	1993 PRIMARY LINE	179	C.04.01	Piping Dist	-	-	-	-	-	179	-
	LEAR ROAD	3,143	C.02.02	Base/Max Day/Max Hr	1,151	1,602	391	-	-	-	-
	THOMPSON/SHAISHNIKOFF	585	C.04.01	Piping Dist	-	-	-	-	-	585	-
	HAYSTACK	610	C.04.01	Piping Dist	-	-	-	-	-	610	-

Classification of Depreciation Expenses
Base-Extra Capacity Method

ACCT#	DESCRIPTION	DeprExp	Classification BEC								
			Ref	Type	Base	Excess Max Day	Excess Max Hr	Customer	Customer Equivalents	Piping	Direct 1
	BOOSTER PUMP	-	C.02.02	Base/Max Day/Max Hr	-	-	-	-	-	-	-
	HAYSTACK PIPELINE	-	C.00.00	0	-	-	-	-	-	-	-
	ILIULIUK VALLEY	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	WATER STORAGE	-	C.02.01	Base/Max Day	-	-	-	-	-	-	-
	IHS SANITATION	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	S.C.A.D.A.	-	C.00.00	0	-	-	-	-	-	-	-
	WATER LINE HOOK UP JESSE LEE	2,181	C.04.01	Piping Dist	-	-	-	-	-	2,181	-
	ICY CREEK LOWER	58,608	C.02.01	Base/Max Day	24,509	34,099	-	-	-	-	-
	PYRAMID WATER CAPITAL	94,339	C.02.01	Base/Max Day	39,451	54,888	-	-	-	-	-
	STWRD.RD.WOODSTAVE RPLCE	1,405	C.04.01	Piping Dist	-	-	-	-	-	1,405	-
	FLOW METER VAULT	694	C.02.02	Base/Max Day/Max Hr	254	353	86	-	-	-	-
	KING ST/BAYVIEW WA MAIN	3,450	C.04.01	Piping Dist	-	-	-	-	-	3,450	-
	ICY LAKE DAM AND ROAD	50,152	C.01.01	Base	50,152	-	-	-	-	-	-
	CHOATE LANE WA LID	3,015	C.04.01	Piping Dist	-	-	-	-	-	3,015	-
	HAYSTACK LINE UPGRADE	12,598	C.04.01	Piping Dist	-	-	-	-	-	12,598	-
	ICY LAKE DAM & ROAD FINAL	6,942	C.01.01	Base	6,942	-	-	-	-	-	-
	SHAISHNIKOFF WATER EXTENSION	1,290	C.04.01	Piping Dist	-	-	-	-	-	1,290	-
	STEWARD ROAD WATER LOOP	2,307	C.04.01	Piping Dist	-	-	-	-	-	2,307	-
	STEWARD ROAD LID	2,913	C.04.01	Piping Dist	-	-	-	-	-	2,913	-
	SPRINKLER INSTALLATION	-	C.01.01	Base	-	-	-	-	-	-	-
	WELL #2A REPLACEMNT	11,480	C.06.02	0% Base/40% MD/40% MI	2,296	4,592	4,592	-	-	-	-
	NEWHALL WATER LID	4,107	C.04.01	Piping Dist	-	-	-	-	-	4,107	-
	WATER TANK MAINTENANCE	6,820	C.02.01	Base/Max Day	2,852	3,968	-	-	-	-	-
	AIRPORT WATER LINE	2,756	C.04.01	Piping Dist	-	-	-	-	-	2,756	-
	NIRVANA WATER LID	15,495	C.04.01	Piping Dist	-	-	-	-	-	15,495	-
	GENERAL SCADA INTERFACE & UPDATE FY08/09	2,320	C.01.01	Base	2,320	-	-	-	-	-	-
	LEAR ROAD TANK MAINTENANCE	24,335	C.02.02	Base/Max Day/Max Hr	8,912	12,399	3,024	-	-	-	-
	SOUTH CHANNEL BRIDGE WATER BETTERMENTS	53,078	C.04.01	Piping Dist	-	-	-	-	-	53,078	-
	ICY CREEK DAM IMPROVEMENTS	12,333	C.01.01	Base	12,333	-	-	-	-	-	-
	LSA WATER EXTENSION	26,222	C.04.01	Piping Dist	-	-	-	-	-	26,222	-
	WATER TRANSMISSION DIST FLUSHING	25,060	C.04.01	Piping Dist	-	-	-	-	-	25,060	-
	ICY LAKE POWER	2,838	C.01.01	Base	2,838	-	-	-	-	-	-
	CT TANK INTERIOR MAINTENANCE	5,308	C.02.02	Base/Max Day/Max Hr	1,944	2,705	660	-	-	-	-
	NIRVANA PUMP STATION SCADA	2,945	C.01.01	Base	2,945	-	-	-	-	-	-
	WATER BACKFLOW PREVENTER INSTALL & DESIGN	6,373	C.04.01	Piping Dist	-	-	-	-	-	6,373	-
	WELL HOUSE 1&2 SCADA UPGRADES	4,700	C.06.02	0% Base/40% MD/40% MI	940	1,880	1,880	-	-	-	-
	TOTALS IOTB 5100-16300	685,241			254,054	247,569	10,632	-	-	172,987	-

Classification of Depreciation Expenses
Base-Extra Capacity Method

ACCT#	DESCRIPTION	DeprExp	Classification BEC								
			Ref	Type	Base	Excess Max Day	Excess Max Hr	Customer	Customer Equivalents	Piping	Direct 1
M & E	1997 FORD F250 P/U TRK XL # W0446	-	C.00.00	0	-	-	-	-	-	-	-
	2008 FORD F150 4X4 TRUCK	-	C.00.00	0	-	-	-	-	-	-	-
	FUJI LC-2500 SUBSURFACE LEAK DETECTOR	-	C.00.00	0	-	-	-	-	-	-	-
	BH11 JCB 4CXB BACKHOE	17,249	C.10.01	Land/Bldg/IOTB	6,410	7,847	196	-	-	2,795	-
	W2312 2017 FORD F250 EXT CAB 4X4 W/UTILITY BED	9,426	C.10.01	Land/Bldg/IOTB	3,503	4,288	107	-	-	1,528	-
	W6000 2017 FORD F250 EXT CAB 4X4 W/SERV BOX	9,457	C.10.01	Land/Bldg/IOTB	3,515	4,302	108	-	-	1,533	-
	SPECTROPHOTOMETER DR6000	2,437	C.10.01	Land/Bldg/IOTB	906	1,109	28	-	-	395	-
	W9802 FORD F-350 CREW CAB, 8' FLATBED	9,739	C.10.01	Land/Bldg/IOTB	3,619	4,431	111	-	-	1,578	-
	DPU7380 FORD EXPLORER (25%) DPU DIRECTOR	1,628	C.10.01	Land/Bldg/IOTB	605	741	19	-	-	264	-
	4x4 250 Extended/SuperCab, Stahl Utility bed w/Boxes	9,000	C.10.01	Land/Bldg/IOTB	3,345	4,094	102	-	-	1,459	-
	TOTALS M&E 5100-16400	58,936			21,902	26,813	670	-	-	9,551	-
CIP	FIBER OPTIC INFRASTRUCTURE DEVELOP	-	C.01.01	Base	-	-	-	-	-	-	-
	PYRAMID WTP MICRO TURBINES	-	C.02.02	Base/Max Day/Max Hr	-	-	-	-	-	-	-
	GENERAL HILL WATER BOOSTER PUMP	-	C.02.02	Base/Max Day/Max Hr	-	-	-	-	-	-	-
	WATER SUPPLY DEVELOP PHASE II	-	C.06.01	80% Base/20% Max Day	-	-	-	-	-	-	-
	PYRAMID WATER STORAGE TANK	-	C.02.02	Base/Max Day/Max Hr	-	-	-	-	-	-	-
	AUTOMATIC METER READING SYSTEM	-	C.03.01	Customers	-	-	-	-	-	-	-
	TOTALS CIP 5110-16500	-			-	-	-	-	-	-	-
	GRAND TOTALS WITH CIP	1,133,222			432,561	495,094	23,028	-	-	182,538	-
	Budget:	1,124,222									
	Difference:	9,000									

Allocation Factors
Base-Extra Capacity Method

Base Extra Capacity Method

		Un-Metered	Metered Large	Metered Other	Hydrants	Truck	Total
A.00.00							
	Avg Annual Demand (MGD)	0.069	2.243	0.423	-	-	2.734
A.01.01	Avg Demand/Day	2.5%	82.0%	15.5%	0.0%	0.0%	100%
	Peak Day Demand (MGD)	0.153	6.027	0.777	-	-	
	Extra Capacity - Day (MGD)	0.084	3.785	0.355	-	-	4.223
A.02.01	Excess - Day	2.0%	89.6%	8.4%	0.0%	0.0%	100%
	Peak Hr Demand (MGD)	0.229	9.041	1.166	-	-	
	Extra Capacity - Day (MGD)	0.076	3.014	0.389	-	-	3.479
A.02.02	Excess - Hour	2.2%	86.6%	11.2%	0.0%	0.0%	100%
A.03.01	Piping Dist	26.0%	43.5%	30.5%	0.0%	0.0%	100%
		345	9	287	-	-	642
A.05.01	Customers	53.8%	1.4%	44.8%	0.0%	0.0%	100%
		345	106	581	-	-	1,032
A.05.02	Customer Equivalents	33.5%	10.2%	56.3%	0.0%	0.0%	100%
A.10.01	Direct Un-Metered	100%	0%	0%	0%	0%	100%
UNUSED:							
A.10.02	Nirvana	0%	0%	100%	0%	0%	100%

Classification Factors
Base-Extra Capacity Method

1	2	3	4	5	6	7	8	9	10
		Base	Excess Capacity		Customers		Piping	Direct 1	Total
			Excess Max Day	Excess Max Hr	Number	Equivalents			
C.00.00		0%	0%	0%	0%	0%	0%	0%	0%
		2.749	-	-	-	-	-	-	2.749
C.01.01	Base	100%	0%	0%	0%	0%	0%	0%	100%
		2.749	3.825	-	-	-	-	-	6.574
C.02.01	Base/Max Day	42%	58%	0%	0%	0%	0%	0%	100%
		2.749	3.825	0.933	-	-	-	-	7.507
C.02.02	Base/Max Day/Max Hr	37%	51%	12%	0%	0%	0%	0%	100%
		2.749	-	4.758					7.507
C.02.03	Base/Max Hr	37%	0%	63%	0%	0%	0%	0%	100%
C.02.04	Max Day / Max Hr	0%	50%	50%	0%	0%	0%	0%	100%
C.03.01	Customers	0%	0%	0%	100%	0%	0%	0%	100%
C.03.02	Customer Equivalents	0%	0%	0%	0%	100%	0%	0%	100%
C.04.01	Piping Dist	0%	0%	0%	0%	0%	100%	0%	100%
C.04.02		0%	0%	0%	0%	0%	0%	0%	0%
C.05.01	Direct 1	0%	0%	0%	0%	0%	0%	100%	100%
C.05.02		0%	0%	0%	0%	0%	0%	0%	0%
C.06.01	80% Base/20% Max Day	80%	20%	0%	0%	0%	0%	0%	100%
C.06.02	20% Base/40% MD/40% MH	20%	40%	40%	0%	0%	0%	0%	100%
		6,873,769	8,414,733	210,311	-	-	2,997,550	-	18,496,362
C.10.01	Land/Bldg/IOTB	37%	45%	1%	0%	0%	16%	0%	100%
		7,551,193	8,865,348	270,859	33,384	-	3,037,148	-	19,757,933
C.10.02	Net Plant in Service	38%	45%	1%	0%	0%	15%	0%	100%
		5,191,596	7,244,228	82,790	-	-	-	-	12,518,614
C.10.03	Buildings	41%	58%	1%	0%	0%	0%	0%	100%
		404,622	163,536	36,651	-	-	-	-	604,810
C.10.04	Water Ops - Non Labor	67%	27%	6%	0%	0%	0%	0%	100%
		12,500	-	-	-	-	-	-	12,500
C.10.05	Vehicles/Equip - Non Labor	100%	0%	0%	0%	0%	0%	0%	100%
		15,987	22,308	255	-	-	-	-	38,550
C.10.06	Building R&M - Non Labor	41%	58%	1%	0%	0%	0%	0%	100%
		695,478	279,170	59,915	-	-	-	-	1,034,563
C.10.07	Other Operating Labor	67%	27%	6%	0%	0%	0%	0%	100%
		1,991,256	1,139,021	147,607	203	-	199,511	4,087	3,481,685
C.10.09	Total Exp Before Other Revenues	57%	33%	4%	0%	0%	6%	0%	100%
		432,561	495,094	23,028	-	-	182,538	-	1,133,222
C.10.10	Depr Expense	38%	44%	2%	0%	0%	16%	0%	100%

Appendix D

Cost of Service Model
(Commodity Demand Method)

Allocation of Revenue Requirements
Commodity Demand Method

Commodity-Demand (CD) Method

	Allocation	Description	Total	3 Un-Metered	4 Metered Large	5 Metered Other	6 Other	7 Other
Commodity	A.01.01	Commodity (MGD)	1,075,838	27,113	882,440	166,285	-	-
Demand								
Dem - Max Day	A.02.01	Dem - Max Day (MGD)	1,687,334	36,993	1,461,823	188,519	-	-
Dem - Max Hr	A.02.02	Dem - Max Hr (MGD)	551,051	12,081	477,403	61,567	-	-
Customers								
Number	A.05.01	Customers - Number	368	198	5	165	-	-
Equivalents	A.05.02	Customers - Equivalents	-	-	-	-	-	-
Piping	A.03.01	Piping Dist	211,954	55,106	92,203	64,645	-	-
Direct 1	A.10.01	Direct	4,027	4,027	-	-	-	-
			$ 3,530,573	$ 135,519	$ 2,913,874	$ 481,181	$ -	$ -
Revenues From Existing Rates								
Customer Charges				$ 147,521	$ 3,847	$ 17,023		
Volume Charges				-	2,060,095	388,200		
Total			$ 2,616,686	$ 147,521	$ 2,063,942	$ 405,223	$ -	$ -
Surplus (Deficiency)			$ (913,887)	$ 12,002	$ (849,931)	$ (75,958)	$ -	$ -
Percent of Revenues from Existing Rates			-34.9%	8.1%	-41.2%	-18.7%	#DIV/0!	#DIV/0!

Classification of Expenses
Commodity Demand Method

Commodity-Demand (CD) Method

			Total	3 Commodity	4 Demand		5 Customers		6 Piping	7 Direct 1
					Dem - Max Day	Dem - Max Hr	Number	Equivalents		
Administration										
Labor										
Salaries - Admin	C.10.07	Other Operating Labor	$ 257,931	$ 123,385	$ 74,616	$ 59,930	$ -	$ -	$ -	$ -
Temporary Employees	C.10.07	Other Operating Labor	2,594	1,241	750	603	-	-	-	-
Overtime - Admin	C.10.07	Other Operating Labor	928	444	268	216	-	-	-	-
Benefits and PR Taxes - Admin	C.10.07	Other Operating Labor	170,713	81,663	49,385	39,665	-	-	-	-
Subtotal - Labor and Benefits			$ 432,166	$ 206,733	$ 125,019	$ 100,413	$ -	$ -	$ -	$ -
Operations										
Legal Services	C.01.01	Commodity	$ 1,000	$ 1,000	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Architectural Svs	C.01.01	Commodity	1,100	1,100	-	-	-	-	-	-
Training Services	C.01.01	Commodity	1,000	1,000	-	-	-	-	-	-
Education Reimbursement	C.01.01	Commodity	2,500	2,500	-	-	-	-	-	-
Other Professional Svs	C.01.01	Commodity	6,400	6,400	-	-	-	-	-	-
Software/Hardware Support	C.01.01	Commodity	30,771	30,771	-	-	-	-	-	-
Water/Sewage	C.01.01	Commodity	547	547	-	-	-	-	-	-
Solid Waste	C.01.01	Commodity	1,215	1,215	-	-	-	-	-	-
Custodial Services/Supplies	C.10.03	Buildings	4,509	-	4,443	66	-	-	-	-
Repairs/Maintenance Services	C.01.01	Commodity	525	525	-	-	-	-	-	-
Building/Land Rental	C.00.00		-	-	-	-	-	-	-	-
General Insurance	C.10.02	Net Plant in Service	73,447	471	58,753	2,809	124	-	11,290	-
Telephone / Fax / TV	C.01.01	Commodity	1,321	1,321	-	-	-	-	-	-
Network/Internet	C.01.01	Commodity	18,400	18,400	-	-	-	-	-	-
Advertising	C.01.01	Commodity	332	332	-	-	-	-	-	-
Travel and Related Cost	C.01.01	Commodity	1,500	1,500	-	-	-	-	-	-
Banking/Credit Card Fees	C.05.01	Direct 1	4,087	-	-	-	-	-	-	4,087
Postal Services	C.01.01	Commodity	4,100	4,100	-	-	-	-	-	-
Membership Dues	C.01.01	Commodity	250	250	-	-	-	-	-	-
Employee Moving Cost	C.01.01	Commodity	5,000	5,000	-	-	-	-	-	-
General Supplies	C.01.01	Commodity	660	660	-	-	-	-	-	-
Office Supplies	C.01.01	Commodity	1,200	1,200	-	-	-	-	-	-
Computer Hardware/Software	C.01.01	Commodity	7,576	7,576	-	-	-	-	-	-
Electricity	C.02.04	D-H Demand - 50/50	9,518	-	4,759	4,759	-	-	-	-
Heating Oil	C.10.03	Buildings	8,102	-	7,983	119	-	-	-	-
Gasoline for Vehicles	C.10.05	Vehicle - Non Labor	1,963	1,963	-	-	-	-	-	-
Business Meals	C.01.01	Commodity	200	200	-	-	-	-	-	-
Food/Beverage/Employee Apprecia	C.01.01	Commodity	1,050	1,050	-	-	-	-	-	-
Books/Periodicals	C.01.01	Commodity	200	200	-	-	-	-	-	-
Other	C.00.00		-	-	-	-	-	-	-	-
Subtotal - Administrative Ops			$ 188,473	$ 89,281	$ 75,938	$ 7,753	$ 124	$ -	$ 11,290	$ 4,087
Other										
Depreciation	C.10.10	Depr Expense	1,124,222	395	885,449	57,289	-	-	181,089	-
PILOT	C.10.02	Net Plant in Service	-	-	-	-	-	-	-	-
Bad Debt	C.00.00		-	-	-	-	-	-	-	-
Admin OH	C.10.09	Total Exp Before Other Rev	22,212	6,962	10,407	3,543	1	-	1,273	26
Interest	C.10.02	Net Plant in Service	46,401	298	37,118	1,774	78	-	7,133	-
Subtotal - Administrative Other			$ 1,192,835	$ 7,655	$ 932,974	$ 62,607	$ 80	$ -	$ 189,494	$ 26
Total Administrative			**$ 1,813,474**	**$ 303,669**	**$ 1,133,931**	**$ 170,773**	**$ 204**	**$ -**	**$ 200,784**	**$ 4,113**

Classification of Expenses
Commodity Demand Method

Water Operations																			
Labor																			
Salaries - Operations	C.10.04	Water Ops - Non Labor	$	515,566	$	244,745	$	145,339	$	125,482	$	-	$	-	$	-	$	-	
Temporary Employees	C.10.04	Water Ops - Non Labor		57,428		27,262		16,189		13,977		-		-		-		-	
Overtime - Operations	C.10.04	Water Ops - Non Labor		33,603		15,952		9,473		8,179		-		-		-		-	
Benefits and PR Taxes - Operations	C.10.04	Water Ops - Non Labor		379,746		180,270		107,051		92,425		-		-		-		-	
Subtotal - Labor and Benefits			$	986,343	$	468,228	$	278,052	$	240,063	$	-	$	-	$	-	$	-	
Operations																			
Engineering/Architectural Svs	C.02.04	D-H Demand - 50/50	$	28,000	$	-	$	14,000	$	14,000	$	-	$	-	$	-	$	-	
Training Services	C.01.01	Commodity		6,500		6,500		-		-		-		-		-		-	
Other Professional Svs	C.02.04	D-H Demand - 50/50		104,700		-		52,350		52,350		-		-		-		-	
Software/Hardware Support	C.01.01	Commodity		4,500		4,500		-		-		-		-		-		-	
Sampling/Testing	C.01.01	Commodity		7,960		7,960		-		-		-		-		-		-	
Other Technical Services	C.01.01	Commodity		1,400		1,400		-		-		-		-		-		-	
Solid Waste	C.01.01	Commodity		3,700		3,700		-		-		-		-		-		-	
Repairs/Maintenance Services	C.01.01	Commodity		65,000		65,000		-		-		-		-		-		-	
Construction Services	C.01.01	Commodity		18,000		18,000		-		-		-		-		-		-	
Telephone / Fax / TV	C.01.01	Commodity		5,500		5,500		-		-		-		-		-		-	
Network/Internet	C.01.01	Commodity		500		500		-		-		-		-		-		-	
Radio	C.01.01	Commodity		16,900		16,900		-		-		-		-		-		-	
Advertising	C.01.01	Commodity		-		-		-		-		-		-		-		-	
Travel and Related Cost	C.01.01	Commodity		9,000		9,000		-		-		-		-		-		-	
Postal Services	C.00.00		-	-		-		-		-		-		-		-		-	
Membership Dues	C.01.01	Commodity		900		900		-		-		-		-		-		-	
Permit Fees	C.01.01	Commodity		550		550		-		-		-		-		-		-	
Other	C.00.00		-	-		-		-		-		-		-		-		-	
General Supplies	C.01.01	Commodity		106,100		106,100		-		-		-		-		-		-	
Safety Related Items	C.01.01	Commodity		12,000		12,000		-		-		-		-		-		-	
Lab Supplies	C.01.01	Commodity		11,000		11,000		-		-		-		-		-		-	
Sand/Gravel/Rock	C.01.01	Commodity		3,000		3,000		-		-		-		-		-		-	
Chemicals	C.02.04	D-H Demand - 50/50		13,000		-		6,500		6,500		-		-		-		-	
Office Supplies	C.01.01	Commodity		1,200		1,200		-		-		-		-		-		-	
Facility Maintenance Supplies	C.00.00		-	-		-		-		-		-		-		-		-	
Computer Hardware/Software	C.01.01	Commodity		1,500		1,500		-		-		-		-		-		-	
Electricity	C.02.04	D-H Demand - 50/50		148,000		-		74,000		74,000		-		-		-		-	
Propane	C.01.01	Commodity		2,200		2,200		-		-		-		-		-		-	
Heating Oil	C.10.03	Buildings		24,000		-		23,647		353		-		-		-		-	
Gasoline for Vehicles	C.10.05	Vehicle - Non Labor		6,000		6,000		-		-		-		-		-		-	
Diesel for Equipment	C.10.05	Vehicle - Non Labor		800		800		-		-		-		-		-		-	
Food/Beverage/Employee Apprecia	C.01.01	Commodity		2,000		2,000		-		-		-		-		-		-	
Books/Periodicals	C.01.01	Commodity		900		900		-		-		-		-		-		-	
Other	C.00.00		-	-		-		-		-		-		-		-		-	
Subtotal - Operations Ops			$	604,810	$	287,110	$	170,497	$	147,203	$	-	$	-	$	-	$	-	
Total Water Operations			**$**	**1,591,153**	$	755,338	$	448,549	$	387,266	$	-	$	-	$	-	$	-	
Vehicle and Equipment																			
Labor																			
Salaries - Operations	C.10.05	Vehicle - Non Labor	$	15,601	$	15,601	$	-	$	-	$	-	$	-	$	-	$	-	
Overtime - Operations	C.10.05	Vehicle - Non Labor		465		465		-		-		-		-		-		-	
Benefits and PR Taxes - Operations	C.10.05	Vehicle - Non Labor		10,605		10,605		-		-		-		-		-		-	
Subtotal - Labor and Benefits			$	26,671	$	26,671	$	-	$	-	$	-	$	-	$	-	$	-	
Operations																			
Repairs/Maintenance Services	C.01.01	Commodity	$	-	$	-	$	-	$	-	$	-	$	-	$	-	$	-	
Construction Services	C.01.01	Commodity		-		-		-		-		-		-		-		-	
General Supplies	C.01.01	Commodity		-		-		-		-		-		-		-		-	
Machinery / Vehicle Parts	C.01.01	Commodity		12,500		12,500		-		-		-		-		-		-	
Other	C.01.01	Commodity		-		-		-		-		-		-		-		-	
Subtotal - Vehicles/Equipment Ops			$	12,500	$	12,500	$	-	$	-	$	-	$	-	$	-	$	-	

Classification of Expenses
Commodity Demand Method

Total Vehicle and Equipment			**$ 39,171**	$ 39,171	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Building R & M												
Labor												
Salaries - Operations	C.10.06	Buildings R&M - Non Labor	$ 12,747	$ -	$ 12,560	$ 187	$ -	$ -	$ -	$ -	$ -	
Overtime - Operations	C.10.06	Buildings R&M - Non Labor	133	-	131	2	-	-	-	-	-	
Benefits and PR Taxes - Operations	C.10.06	Buildings R&M - Non Labor	8,669	-	8,542	127	-	-	-	-	-	
Subtotal - Labor and Benefits			$ 21,549	$ -	$ 21,232	$ 317	$ -	$ -	$ -	$ -	$ -	
Operations												
Repairs/Maintenance Services	C.10.03	Buildings	$ 28,550	$ -	$ 28,130	$ 420	$ -	$ -	$ -	$ -	$ -	
Construction Services	C.10.03	Buildings	1,000	-	985	15	-	-	-	-	-	
General Supplies	C.10.03	Buildings	1,500	-	1,478	22	-	-	-	-	-	
Machinery / Vehicle Parts	C.10.03	Buildings	-	-	-	-	-	-	-	-	-	
Facilty Maintenance Supplies	C.10.03	Buildings	7,500	-	7,390	110	-	-	-	-	-	
Other	C.10.03	Buildings	-	-	-	-	-	-	-	-	-	
Subtotal - Vehicles/Equipment Ops			$ 38,550	$ -	$ 37,983	$ 567	$ -	$ -	$ -	$ -	$ -	
Total Building R & M			**$ 60,099**	$ -	$ 59,215	$ 884	$ -	$ -	$ -	$ -	$ -	
Total Expenses			$ 3,503,897	$ 1,098,178	$ 1,641,695	$ 558,923	$ 204	$ -	$ 200,784	$ 4,113		
Net Margin	C.10.02	Net Plant in Service	100,000	641	79,994	3,824	169	-	15,372	-		
Capital Expenditures	C.00.00		-	-	-	-	-	-	-	-	-	
Less Other Revenues												
Debt Reimbursements Grants	C.10.09	Total Exp Before Other Rev	(45,000)	(14,104)	(21,084)	(7,178)	(3)	-	(2,579)	(53)		
PERS Nonemployer Contributions	C.10.09	Total Exp Before Other Rev	-	-	-	-	-	-	-	-		
System Development Chgs	C.10.09	Total Exp Before Other Rev	(3,171)	(994)	(1,486)	(506)	(0)	-	(182)	(4)		
Other Services	C.10.09	Total Exp Before Other Rev	(23,513)	(7,369)	(11,017)	(3,751)	(1)	-	(1,347)	(28)		
Late Fees	C.10.09	Total Exp Before Other Rev	(1,640)	(514)	(768)	(262)	(0)	-	(94)	(2)		
Budgetd Use of Unrestricted Net As	C.10.09	Total Exp Before Other Rev	-	-	-	-	-	-	-	-		
Total Other Revenues			(73,324)	(22,981)	(34,355)	(11,696)	(4)	-	(4,202)	(86)		
Net Revenue Requirements			**$ 3,530,573**	**$ 1,075,838**	**$ 1,687,334**	**$ 551,051**	**$ 368**	**$ -**	**$ 211,954**	**$ 4,027**		

Classification of Net Plant
Commodity Demand Method

ACCT#	DESCRIPTION	FIXED ASSETS 6/30/2020	END YEAR ACC DEPR	Net Plant	3	4	5	6	7	8	9
					Classification CD						
					Ref	Type	Commodity	Dem - Max Day	Dem - Max Hr	Customer	Customer Equivalents	Piping	Direct 1
LAND	LOWER LOOP ROAD	46,500	-	46,500	C.01.01	Commodity	46,500	-	-	-	-	-	-
	ICY CREEK LAND BLM TRACT 41	7,300	-	7,300	C.01.01	Commodity	7,300	-	-	-	-	-	-
	EASEMENTS FROM OC LAND EXCNG	71,274	-	71,274	C.01.01	Commodity	71,274	-	-	-	-	-	-
	TOTALS LAND 5100-16100	125,074	-	125,074	-	-	125,074	-	-	-	-	-	-
BLDG	1978 FILTER HOUSE	21,400	21,400	-	C.02.01	Dem - Max Day	-	-	-	-	-	-	-
	1989 TREATMENT PLANT	52,000	49,613	2,387	C.02.01	Dem - Max Day	-	2,387	-	-	-	-	-
	1991 2 WELL HOUSES	170,700	152,458	18,242	C.02.06	D-H Demand - 25/75	-	4,561	13,682	-	-	-	-
	EQUILIBRIUM TANK	643,850	535,908	107,942	C.02.04	D-H Demand - 50/50	-	53,971	53,971	-	-	-	-
	WELL HOUSE #2 ELECT. UPGRADE	116,972	74,082	42,890	C.02.06	D-H Demand - 25/75	-	10,722	32,167	-	-	-	-
	WELL HOUSE #1 ELECT. UPGRADE	204,205	91,892	112,313	C.02.06	D-H Demand - 25/75	-	28,078	84,235	-	-	-	-
	UPCH ELECTIC COMP. UPGRADE	103,869	46,308	57,560	C.02.01	Dem - Max Day	-	57,560	-	-	-	-	-
	ICY LAKE ROOF/SIDING REPLACEMENT	41,616	8,323	33,293	C.02.01	Dem - Max Day	-	33,293	-	-	-	-	-
	NEW WATER TREATMENT PLANT & LT2 UPGRADE	13,487,968	1,343,980	12,143,988	C.02.01	Dem - Max Day	-	12,143,988	-	-	-	-	-
	TOTALS BLDG 5100-16200	14,842,579	2,323,965	12,518,614	-	-	-	12,334,559	184,054	-	-	-	-
IOTB	1978 WATER IMPROVEMENTS	1,997,596	1,997,596	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1979 WATER IMPROVEMENTS	63,380	63,380	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1980 WATER IMPROVEMENTS	79,266	79,266	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1981 WATER IMPROVEMENTS	167,256	167,256	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1982 WATER IMPROVEMENTS	84,482	84,482	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1983 WATER IMPROVEMENTS	660,357	660,357	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1984 WATER IMPROVEMENTS	120,263	120,263	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1985 WATER IMPROVEMENTS	171,521	171,521	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1986 WATER IMPROVEMENTS	308,693	308,693	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1987 WATER IMPROVEMENTS	502,731	502,731	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1988 WATER IMPROVEMENTS	1,113	1,096	17	C.04.01	Piping Dist	-	-	-	-	-	17	-
	1988/89 WATER IMPROVEMENTS	1,171,866	1,118,083	53,783	C.02.01	Dem - Max Day	-	53,783	-	-	-	-	-
	1989 WATER IMPROVEMENTS	1,652,073	1,576,250	75,823	C.02.01	Dem - Max Day	-	75,823	-	-	-	-	-
	1990 PYRAMID	109,726	101,342	8,384	C.02.01	Dem - Max Day	-	8,384	-	-	-	-	-
	1990 WATER IMPROVEMENTS	80,605	74,446	6,159	C.02.01	Dem - Max Day	-	6,159	-	-	-	-	-
	1991 PYRAMID	4,358,446	3,892,673	465,773	C.02.01	Dem - Max Day	-	465,773	-	-	-	-	-
	1992 WATER IMPROVEMENTS	2,100	1,812	288	C.04.01	Piping Dist	-	-	-	-	-	288	-
	1992 PRIMARY LINE	50,951	43,957	6,994	C.04.01	Piping Dist	-	-	-	-	-	6,994	-
	1993 PRIMARY LINE	5,856	4,874	982	C.04.01	Piping Dist	-	-	-	-	-	982	-
	LEAR ROAD	103,127	85,838	17,289	C.02.04	D-H Demand - 50/50	-	8,645	8,645	-	-	-	-
	THOMPSON/SHAISHNIKOFF	19,176	15,961	3,215	C.04.01	Piping Dist	-	-	-	-	-	3,215	-
	HAYSTACK	20,021	16,664	3,356	C.04.01	Piping Dist	-	-	-	-	-	3,356	-
	BOOSTER PUMP	19,985	19,985	-	C.02.04	D-H Demand - 50/50	-	-	-	-	-	-	-
	HAYSTACK PIPELINE	160,001	160,001	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	ILIULIUK VALLEY	26,168	26,168	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	WATER STORAGE	2,287,316	2,287,316	-	C.02.01	Dem - Max Day	-	-	-	-	-	-	-
	IHS SANITATION	10,389	10,389	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	S.C.A.D.A.	138,971	138,971	-	C.00.00	0	-	-	-	-	-	-	-
	WATER LINE HOOK UP JESSE LEE	65,432	52,345	13,086	C.04.01	Piping Dist	-	-	-	-	-	13,086	-
	ICY CREEK LOWER	1,758,247	1,406,598	351,649	C.02.01	Dem - Max Day	-	351,649	-	-	-	-	-
	PYRAMID WATER CAPITAL	2,830,156	2,264,125	566,031	C.02.01	Dem - Max Day	-	566,031	-	-	-	-	-
	STWRD.RD.WOODSTAVE RPLCE	42,162	33,730	8,432	C.04.01	Piping Dist	-	-	-	-	-	8,432	-
	FLOW METER VAULT	20,813	15,957	4,856	C.02.04	D-H Demand - 50/50	-	2,428	2,428	-	-	-	-
	KING ST/BAYVIEW WA MAIN	103,500	75,900	27,600	C.04.01	Piping Dist	-	-	-	-	-	27,600	-

Classification of Net Plant
Commodity Demand Method

ACCT#	DESCRIPTION	FIXED ASSETS 6/30/2020	END YEAR ACC DEPR	Net Plant	Classification CD							
					Ref	Type	Commodity	Dem - Max Day	Dem - Max Hr	Customer	Customer Equivalents	Piping	Direct 1
	ICY LAKE DAM AND ROAD	1,504,545	1,103,333	401,212	C.02.01	Dem - Max Day	-	401,212	-	-	-	-	-
	CHOATE LANE WA LID	90,435	66,319	24,116	C.04.01	Piping Dist	-	-	-	-	-	24,116	-
	HAYSTACK LINE UPGRADE	377,942	264,559	113,382	C.04.01	Piping Dist	-	-	-	-	-	113,382	-
	ICY LAKE DAM & ROAD FINAL	208,272	145,790	62,482	C.02.01	Dem - Max Day	-	62,482	-	-	-	-	-
	SHAISHNIKOFF WATER EXTENSION	38,688	24,825	13,863	C.04.01	Piping Dist	-	-	-	-	-	13,863	-
	STEWARD ROAD WATER LOOP	69,212	44,411	24,801	C.04.01	Piping Dist	-	-	-	-	-	24,801	-
	STEWARD ROAD LID	87,403	56,084	31,319	C.04.01	Piping Dist	-	-	-	-	-	31,319	-
	SPRINKLER INSTALLATION	20,257	20,257	-	C.01.01	Commodity	-	-	-	-	-	-	-
	WELL #2A REPLACEMNT	344,391	218,114	126,277	C.02.06	D-H Demand - 25/75	-	31,569	94,708	-	-	-	-
	NEWHALL WATER LID	123,200	73,920	49,280	C.04.01	Piping Dist	-	-	-	-	-	49,280	-
	WATER TANK MAINTENANCE	136,391	102,293	34,098	C.02.01	Dem - Max Day	-	34,098	-	-	-	-	-
	AIRPORT WATER LINE	82,668	41,334	41,334	C.04.01	Piping Dist	-	-	-	-	-	41,334	-
	NIRVANA WATER LID	464,857	216,933	247,924	C.04.01	Piping Dist	-	-	-	-	-	247,924	-
	GENERAL SCADA INTERFACE & UPDATE FY08/09	46,395	23,197	23,198	C.02.01	Dem - Max Day	-	23,198	-	-	-	-	-
	LEAR ROAD TANK MAINTENANCE	486,690	239,289	247,401	C.02.04	D-H Demand - 50/50	-	123,700	123,700	-	-	-	-
	SOUTH CHANNEL BRIDGE WATER BETTERMENTS	1,592,330	504,238	1,088,092	C.04.01	Piping Dist	-	-	-	-	-	1,088,092	-
	ICY CREEK DAM IMPROVEMENTS	246,660	117,164	129,496	C.02.01	Dem - Max Day	-	129,496	-	-	-	-	-
	LSA WATER EXTENSION	786,672	216,335	570,337	C.04.01	Piping Dist	-	-	-	-	-	570,337	-
	WATER TRANSMISSION DIST FLUSHING	751,791	194,213	557,579	C.04.01	Piping Dist	-	-	-	-	-	557,579	-
	ICY LAKE POWER	85,134	14,425	70,709	C.02.01	Dem - Max Day	-	70,709	-	-	-	-	-
	CT TANK INTERIOR MAINTENANCE	106,167	26,984	79,183	C.02.04	D-H Demand - 50/50	-	39,592	39,592	-	-	-	-
	NIRVANA PUMP STATION SCADA	58,901	11,780	47,121	C.02.01	Dem - Max Day	-	47,121	-	-	-	-	-
	WATER BACKFLOW PREVENTER INSTALL & DESIGN	191,203	19,651	171,551	C.04.01	Piping Dist	-	-	-	-	-	171,551	-
	WELL HOUSE 1&2 SCADA UPGRADES	93,990	9,791	84,200	C.02.06	D-H Demand - 25/75	-	21,050	63,150	-	-	-	-
	TOTALS IOTB 5100-16300	27,187,940	21,335,266	5,852,674	-	-	-	2,522,902	332,222	-	-	2,997,550	-
M & E	1997 FORD F250 P/U TRK XL # W0446	-	-	-	C.00.00	0	-	-	-	-	-	-	-
	2008 FORD F150 4X4 TRUCK	23,381	23,381	-	C.00.00	0	-	-	-	-	-	-	-
	FUJI LC-2500 SUBSURFACE LEAK DETECTOR	24,400	24,400	-	C.00.00	0	-	-	-	-	-	-	-
	BH11 JCB 4CXB BACKHOE	172,495	70,435	102,059	C.10.01	Land/Bldg/OTE	690	81,981	2,849	-	-	16,540	-
	W2312 2017 FORD F250 EXT CAB 4X4 W/UTILITY BED	47,130	29,064	18,067	C.10.01	Land/Bldg/OTE	122	14,512	504	-	-	2,928	-
	W6000 2017 FORD F250 EXT CAB 4X4 W/SERV BOX	47,286	19,703	27,584	C.10.01	Land/Bldg/OTE	187	22,157	770	-	-	4,470	-
	SPECTROPHOTOMETER DR6000	12,184	5,077	7,107	C.10.01	Land/Bldg/OTE	48	5,709	198	-	-	1,152	-
	W9802 FORD F-350 CREW CAB, 8' FLATBED	48,695	10,551	38,144	C.10.01	Land/Bldg/OTE	258	30,640	1,065	-	-	6,182	-
	DPU7380 FORD EXPLORER (25%) DPU DIRECTOR	8,140	1,764	6,376	C.10.01	Land/Bldg/OTE	43	5,122	178	-	-	1,033	-
	4x4 250 Extended/SuperCab, Stahl Utility bed w/Boxes	45,000	-	45,000	C.10.01	Land/Bldg/OTE	304	36,147	1,256	-	-	7,293	-
	TOTALS M&E 5100-16400	428,710	184,373	244,337	-	-	1,652	196,267	6,820	-	-	39,598	-
CIP													
	FIBER OPTIC INFRASTRUCTURE DEVELOP	6,140	-	6,140	C.02.01	Dem - Max Day	-	6,140	-	-	-	-	-
	PYRAMID WTP MICRO TURBINES	363,284	-	363,284	C.02.04	D-H Demand - 50/50	-	181,642	181,642	-	-	-	-
	GENERAL HILL WATER BOOSTER PUMP	8,005	-	8,005	C.02.04	D-H Demand - 50/50	-	4,002	4,002	-	-	-	-
	WATER SUPPLY DEVELOP PHASE II	512,759	-	512,759	C.02.01	Dem - Max Day	-	512,759	-	-	-	-	-
	PYRAMID WATER STORAGE TANK	93,662	-	93,662	C.02.04	D-H Demand - 50/50	-	46,831	46,831	-	-	-	-
	AUTOMATIC METER READING SYSTEM	33,384	-	33,384	C.03.01	Customers	-	-	-	33,384	-	-	-
	TOTALS CIP 5110-16500	1,017,234	-	1,017,234	-	-	-	751,374	232,475	33,384	-	-	-
	GRAND TOTALS WITH CIP	43,601,537	23,843,604	19,757,933			126,726	15,805,103	755,572	33,384	-	3,037,148	-

Classification of Depreciation Expenses
Base-Extra Capacity Method

ACCT#	DESCRIPTION	DeprExp	Classification CD								
			Ref	Type	Commodity	Dem - Max Day	Dem - Max Hr	Customer	Customer Equivalents	Piping	Direct 1
LAND	LOWER LOOP ROAD	-	C.01.01	Commodity	-	-	-	-	-	-	-
	ICY CREEK LAND BLM TRACT 41	-	C.01.01	Commodity	-	-	-	-	-	-	-
	EASEMENTS FROM OC LAND EXCNG	-	C.01.01	Commodity	-	-	-	-	-	-	-
	TOTALS LAND 5100-16100	-			-	-	-	-	-	-	-
					-	-	-	-	-	-	-
BLDG	1978 FILTER HOUSE	-	C.02.01	Dem - Max Day	-	-	-	-	-	-	-
	1989 TREATMENT PLANT	1,591	C.02.01	Dem - Max Day	-	1,591	-	-	-	-	-
	1991 2 WELL HOUSES	5,212	C.02.06	D-H Demand - 25/75	-	1,303	3,909	-	-	-	-
	EQUILIBRIUM TANK	19,626	C.02.04	D-H Demand - 50/50	-	9,813	9,813	-	-	-	-
	WELL HOUSE #2 ELECT. UPGRADE	7,798	C.02.06	D-H Demand - 25/75	-	1,950	5,849	-	-	-	-
	WELL HOUSE #1 ELECT. UPGRADE	10,210	C.02.06	D-H Demand - 25/75	-	2,553	7,658	-	-	-	-
	UPCH ELECTIC COMP. UPGRADE	5,193	C.02.01	Dem - Max Day	-	5,193	-	-	-	-	-
	ICY LAKE ROOF/SIDING REPLACEMENT	2,081	C.02.01	Dem - Max Day	-	2,081	-	-	-	-	-
	NEW WATER TREATMENT PLANT & LT2 UPGRADE	337,333	C.02.01	Dem - Max Day	-	337,333	-	-	-	-	-
	TOTALS BLDG 5100-16200	389,044			-	361,816	27,228	-	-	-	-
IOTB	1978 WATER IMPROVEMENTS	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1979 WATER IMPROVEMENTS	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1980 WATER IMPROVEMENTS	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1981 WATER IMPROVEMENTS	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1982 WATER IMPROVEMENTS	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1983 WATER IMPROVEMENTS	(0)	C.04.01	Piping Dist	-	-	-	-	-	(0)	-
	1984 WATER IMPROVEMENTS	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1985 WATER IMPROVEMENTS	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1986 WATER IMPROVEMENTS	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1987 WATER IMPROVEMENTS	7,711	C.04.01	Piping Dist	-	-	-	-	-	7,711	-
	1988 WATER IMPROVEMENTS	34	C.04.01	Piping Dist	-	-	-	-	-	34	-
	1988/89 WATER IMPROVEMENTS	35,856	C.02.01	Dem - Max Day	-	35,856	-	-	-	-	-
	1989 WATER IMPROVEMENTS	50,549	C.02.01	Dem - Max Day	-	50,549	-	-	-	-	-
	1990 PYRAMID	3,354	C.02.01	Dem - Max Day	-	3,354	-	-	-	-	-
	1990 WATER IMPROVEMENTS	2,464	C.02.01	Dem - Max Day	-	2,464	-	-	-	-	-
	1991 PYRAMID	133,078	C.02.01	Dem - Max Day	-	133,078	-	-	-	-	-
	1992 WATER IMPROVEMENTS	64	C.04.01	Piping Dist	-	-	-	-	-	64	-
	1992 PRIMARY LINE	1,554	C.04.01	Piping Dist	-	-	-	-	-	1,554	-
	1993 PRIMARY LINE	179	C.04.01	Piping Dist	-	-	-	-	-	179	-
	LEAR ROAD	3,143	C.02.04	D-H Demand - 50/50	-	1,572	1,572	-	-	-	-
	THOMPSON/SHAISHNIKOFF	585	C.04.01	Piping Dist	-	-	-	-	-	585	-
	HAYSTACK	610	C.04.01	Piping Dist	-	-	-	-	-	610	-

Classification of Depreciation Expenses
Base-Extra Capacity Method

ACCT#	DESCRIPTION	DeprExp	Classification CD								
			Ref	Type	Commodity	Dem - Max Day	Dem - Max Hr	Customer	Customer Equivalents	Piping	Direct 1
	BOOSTER PUMP	-	C.02.04	D-H Demand - 50/50	-	-	-	-	-	-	-
	HAYSTACK PIPELINE	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	ILIULIUK VALLEY	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	WATER STORAGE	-	C.02.01	Dem - Max Day	-	-	-	-	-	-	-
	IHS SANITATION	-	C.04.01	Piping Dist	-	-	-	-	-	-	-
	S.C.A.D.A.	-	C.00.00	0	-	-	-	-	-	-	-
	WATER LINE HOOK UP JESSE LEE	2,181	C.04.01	Piping Dist	-	-	-	-	-	2,181	-
	ICY CREEK LOWER	58,608	C.02.01	Dem - Max Day	-	58,608	-	-	-	-	-
	PYRAMID WATER CAPITAL	94,339	C.02.01	Dem - Max Day	-	94,339	-	-	-	-	-
	STWRD.RD.WOODSTAVE RPLCE	1,405	C.04.01	Piping Dist	-	-	-	-	-	1,405	-
	FLOW METER VAULT	694	C.02.04	D-H Demand - 50/50	-	347	347	-	-	-	-
	KING ST/BAYVIEW WA MAIN	3,450	C.04.01	Piping Dist	-	-	-	-	-	3,450	-
	ICY LAKE DAM AND ROAD	50,152	C.02.01	Dem - Max Day	-	50,152	-	-	-	-	-
	CHOATE LANE WA LID	3,015	C.04.01	Piping Dist	-	-	-	-	-	3,015	-
	HAYSTACK LINE UPGRADE	12,598	C.04.01	Piping Dist	-	-	-	-	-	12,598	-
	ICY LAKE DAM & ROAD FINAL	6,942	C.02.01	Dem - Max Day	-	6,942	-	-	-	-	-
	SHAISHNIKOFF WATER EXTENSION	1,290	C.04.01	Piping Dist	-	-	-	-	-	1,290	-
	STEWARD ROAD WATER LOOP	2,307	C.04.01	Piping Dist	-	-	-	-	-	2,307	-
	STEWARD ROAD LID	2,913	C.04.01	Piping Dist	-	-	-	-	-	2,913	-
	SPRINKLER INSTALLATION	-	C.01.01	Commodity	-	-	-	-	-	-	-
	WELL #2A REPLACEMNT	11,480	C.02.06	D-H Demand - 25/75	-	2,870	8,610	-	-	-	-
	NEWHALL WATER LID	4,107	C.04.01	Piping Dist	-	-	-	-	-	4,107	-
	WATER TANK MAINTENANCE	6,820	C.02.01	Dem - Max Day	-	6,820	-	-	-	-	-
	AIRPORT WATER LINE	2,756	C.04.01	Piping Dist	-	-	-	-	-	2,756	-
	NIRVANA WATER LID	15,495	C.04.01	Piping Dist	-	-	-	-	-	15,495	-
	GENERAL SCADA INTERFACE & UPDATE FY08/09	2,320	C.02.01	Dem - Max Day	-	2,320	-	-	-	-	-
	LEAR ROAD TANK MAINTENANCE	24,335	C.02.04	D-H Demand - 50/50	-	12,167	12,167	-	-	-	-
	SOUTH CHANNEL BRIDGE WATER BETTERMENTS	53,078	C.04.01	Piping Dist	-	-	-	-	-	53,078	-
	ICY CREEK DAM IMPROVEMENTS	12,333	C.02.01	Dem - Max Day	-	12,333	-	-	-	-	-
	LSA WATER EXTENSION	26,222	C.04.01	Piping Dist	-	-	-	-	-	26,222	-
	WATER TRANSMISSION DIST FLUSHING	25,060	C.04.01	Piping Dist	-	-	-	-	-	25,060	-
	ICY LAKE POWER	2,838	C.02.01	Dem - Max Day	-	2,838	-	-	-	-	-
	CT TANK INTERIOR MAINTENANCE	5,308	C.02.04	D-H Demand - 50/50	-	2,654	2,654	-	-	-	-
	NIRVANA PUMP STATION SCADA	2,945	C.02.01	Dem - Max Day	-	2,945	-	-	-	-	-
	WATER BACKFLOW PREVENTER INSTALL & DESIGN	6,373	C.04.01	Piping Dist	-	-	-	-	-	6,373	-
	WELL HOUSE 1&2 SCADA UPGRADES	4,700	C.02.06	D-H Demand - 25/75	-	1,175	3,525	-	-	-	-
	TOTALS IOTB 5100-16300	685,241			-	483,380	28,875	-	-	172,987	-

Classification of Depreciation Expenses
Base-Extra Capacity Method

ACCT#	DESCRIPTION	DeprExp	Classification CD								
			Ref	Type	Commodity	Dem - Max Day	Dem - Max Hr	Customer	Customer Equivalents	Piping	Direct 1
M & E	1997 FORD F250 P/U TRK XL # W0446	-	C.00.00	0	-	-	-	-	-	-	-
	2008 FORD F150 4X4 TRUCK	-	C.00.00	0	-	-	-	-	-	-	-
	FUJI LC-2500 SUBSURFACE LEAK DETECTOR	-	C.00.00	0	-	-	-	-	-	-	-
	BH11 JCB 4CXB BACKHOE	17,249	C.10.01	Land/Bldg/OTE	117	13,856	481	-	-	2,795	-
	W2312 2017 FORD F250 EXT CAB 4X4 W/UTILITY BED	9,426	C.10.01	Land/Bldg/OTE	64	7,572	263	-	-	1,528	-
	W6000 2017 FORD F250 EXT CAB 4X4 W/SERV BOX	9,457	C.10.01	Land/Bldg/OTE	64	7,597	264	-	-	1,533	-
	SPECTROPHOTOMETER DR6000	2,437	C.10.01	Land/Bldg/OTE	16	1,957	68	-	-	395	-
	W9802 FORD F-350 CREW CAB, 8' FLATBED	9,739	C.10.01	Land/Bldg/OTE	66	7,823	272	-	-	1,578	-
	DPU7380 FORD EXPLORER (25%) DPU DIRECTOR	1,628	C.10.01	Land/Bldg/OTE	11	1,308	45	-	-	264	-
	4x4 250 Extended/SuperCab, Stahl Utility bed w/Boxes	9,000	C.10.01	Land/Bldg/OTE	61	7,229	251	-	-	1,459	-
	TOTALS M&E 5100-16400	58,936			399	47,342	1,645	-	-	9,551	-
CIP	FIBER OPTIC INFRASTRUCTURE DEVELOP	-	C.02.01	Dem - Max Day	-	-	-	-	-	-	-
	PYRAMID WTP MICRO TURBINES	-	C.02.04	D-H Demand - 50/50	-	-	-	-	-	-	-
	GENERAL HILL WATER BOOSTER PUMP	-	C.02.04	D-H Demand - 50/50	-	-	-	-	-	-	-
	WATER SUPPLY DEVELOP PHASE II	-	C.02.01	Dem - Max Day	-	-	-	-	-	-	-
	PYRAMID WATER STORAGE TANK	-	C.02.04	D-H Demand - 50/50	-	-	-	-	-	-	-
	AUTOMATIC METER READING SYSTEM	-	C.03.01	Customers	-	-	-	-	-	-	-
	TOTALS CIP 5110-16500	-			-	-	-	-	-	-	-
	GRAND TOTALS WITH CIP	1,133,222	-	-	399	892,537	57,748	-	-	182,538	-
	Budget:	1,124,222									
	Difference:	9,000									

Allocation Factors
Commodity Demand Method

1	2	3	4	5	6	7	8
		Un-Metered	Metered Large	Metered Other	Hydrants	Truck	Total
		-	-	-	-	-	-
A.00.00		-	-	-	-	-	0%
		0.069	2.243	0.423	-	-	2.734
A.01.01	Commodity (MGD)	2.5%	82.0%	15.5%	0.0%	0.0%	100%
		0.153	6.027	0.777	-	-	6.957
A.02.01	Dem - Max Day (MGD)	2.2%	86.6%	11.2%	0.0%	0.0%	100%
		0.229	9.041	1.166	-	-	10.436
A.02.02	Dem - Max Hr (MGD)	2.2%	86.6%	11.2%	0.0%	0.0%	100%
A.03.01	Piping Dist	26.0%	43.5%	30.5%			100.0%
		345	9	287			642
A.05.01	Customers - Number	53.8%	1.4%	44.8%	0.0%	0.0%	100%
		345	106	581	-	-	1,032
A.05.02	Customers - Equivalents	33.5%	10.2%	56.3%	0.0%	0.0%	100%
A.10.01	Direct	100%	0%	0%	0%	0%	100%
A.10.02	Not Used	0%	0%	100%	0%	0%	100%

Classification Factors
Commodity Demand Method

1	2	3	4	5	6	7	8	9	10
		Commodity			Customers		Piping	Direct 1	Total
			Dem - Max Day	Dem - Max Hr	Number	Equivalents			
C.00.00		0%	0%	0%	0%	0%	0%	0%	0%
C.01.01	Commodity	100%	0%	0%	0%	0%	0%	0%	100%
C.02.01	Dem - Max Day	0%	100%	0%	0%	0%	0%	0%	100%
C.02.02	Dem - Max Hr	0%	0%	100%	0%	0%	0%	0%	100%
C.02.03	Not Used	0%	0%	0%	0%	0%	0%	0%	0%
C.02.04	D-H Demand - 50/50	0%	50%	50%	0%	0%	0%	0%	100%
C.02.05	D-H Demand - 75/25	0%	75%	25%	0%	0%	0%	0%	100%
C.02.06	D-H Demand - 25/75	0%	25%	75%	0%	0%	0%	0%	100%
C.03.01	Customers	0%	0%	0%	100%	0%	0%	0%	100%
C.03.02	Customer Equivalents	0%	0%	0%	0%	100%	0%	0%	100%
C.04.01	Piping Dist	0%	0%	0%	0%	0%	100%	0%	100%
C.04.02	Not Used	0%	0%	0%	0%	0%	0%	0%	0%
C.05.01	Direct 1	0%	0%	0%	0%	0%	0%	100%	100%
C.05.02	Not Used	0%	0%	0%	0%	0%	0%	0%	0%
		125,074	14,857,461	516,277	-	-	2,997,550	-	18,496,362
C.10.01	Land/Bldg/OTE	1%	80%	3%	0%	0%	16%	0%	100%
		126,726	15,805,103	755,572	33,384	-	3,037,148	-	19,757,933
C.10.02	Net Plant in Service	1%	80%	4%	0%	0%	15%	0%	100%
		-	12,334,559	184,054	-	-	-	-	12,518,614
C.10.03	Buildings	0%	99%	1%	0%	0%	0%	0%	100%
		287,110	170,497	147,203	-	-	-	-	604,810
C.10.04	Water Ops - Non Labor	47%	28%	24%	0%	0%	0%	0%	100%
		12,500	-	-	-	-	-	-	12,500
C.10.05	Vehicle - Non Labor	100%	0%	0%	0%	0%	0%	0%	100%
		-	37,983	567	-	-	-	-	38,550
C.10.06	Buildings R&M - Non Labor	0%	99%	1%	0%	0%	0%	0%	100%
		494,899	299,284	240,380	-	-	-	-	1,034,563
C.10.07	Other Operating Labor	48%	29%	23%	0%	0%	0%	0%	100%
		1,091,216	1,631,288	555,380	203	-	199,511	4,087	3,481,685
C.10.09	Total Exp Before Other Rev	31%	47%	16%	0%	0%	6%	0%	100%
		399	892,537	57,748	-	-	182,538	-	1,133,222
C.10.10	Depr Expense	0%	79%	5%	0%	0%	16%	0%	100%

Appendix E

Peaking Factors

Peaking Factors

	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Use
System (Million Gal/Day - MGD)							
Annual Avg Day	2.865	3.035	2.956	2.723	2.829	2.749	2.749
Maximum Day	6.898	7.465	7.611	6.696	6.248	6.574	6.574
Maximum System Day (Max Hour x 24 hrs)							7.507
Maximum Month Avg Day							
Amount	6.087	6.388	6.175	5.349	5.820	5.197	5.197
Month	Feb	Feb	Feb	Feb	Aug	Mar	
Annual Use (MG)							
Metered Large	811.01	863.19	875.09	795.20	845.76	820.76	820.76
Metered Other	203.96	207.34	173.18	170.01	157.71	154.66	154.66
Unmetered	27.21	27.02	26.82	26.26	25.40	25.22	25.22
Hydrants	1.93	11.21	2.00	1.08	2.36	3.06	3.06
Truck	1.64	1.90	2.00	1.43	1.22	2.49	2.49
Total	1,045.74	1,110.66	1,079.08	993.98	1,032.45	1,006.18	1,006.18

								Month (No.)
Peak Month Usage (MG)								
Metered Large	146.05	165.15	152.69	134.20	162.90	140.68	140.68	3
Metered Other	26.59	26.88	20.64	18.93	17.76	18.14	18.14	3
Unmetered	2.32	2.30	2.30	2.24	2.18	2.15	2.15	8
Hydrants	0.44	5.84	0.47	0.16	0.44	0.56	0.56	11
Truck	0.43	0.58	0.60	0.34	0.33	1.20	1.20	10
Total	170.44	185.24	173.96	153.94	180.42	161.10	161.10	3

Classification Factors
Base/Excess Capacity

Base	**2.749**
Maximum Day	**7**
Maximum Hour	**8**

Allocation Factors

Base/Excess Capacity	Metered - L Large	Metered - O Other	Unmetered	Hydrants	Truck	**Total**	
Base							
Annual Use (MG)	820.76	154.66	25.22	3.06	2.49	**1,006.18**	
Days/Year	366	366	366	366	366	**366**	
Base Use (MG/Day)	**2.243**	**0.423**	**0.069**	**0.008**	**0.007**	**2.749**	
Excess - Day							
Peak Day Demand							
Peak Month	Mar	Mar	Aug	Nov	Oct		
Monthly Usage	140.677	18.142	2.151	0.563	1.200		
Avg Daily Usage - Peak Month	4.538	0.585	0.069	0.019	0.039		
Peak Day / Avg Day	2.024	1.385	1.400	2.246	5.699		
Max Day / Max Month (Avg Day)						**1.265**	
Weekly Usage Adj Fctr (Assumed)	1.050	1.050	1.250	1.250	1.250		
Excess Day Capacity Factor (EDCF)	2.688	1.839	2.214	3.552	9.011		
Excess Day Demand (Base Use x EDCF)	**6.027**	**0.777**	**0.153**	**0.030**	**0.061**	**7.048**	1.072
Excess - Hour							
Peak Hour Demand							
EDCF	2.688	1.839	2.214	3.552	9.011		
MH / MD (Assumed)	1.500	1.500	1.500	1.500	1.500		
Excess Hour Capacity Factor (EHCF)	4.032	2.759	3.321	5.327	13.517		
Excess Hour Demand (Base Use x EHCF)	**9.041**	**1.166**	**0.229**	**0.045**	**0.092**	**10.572**	1.408
Commodity-Demand							
Commodity (Base Use)	2.243	0.423	0.069	0.008	0.007		
Excess Day	6.027	0.777	0.153	0.030	0.061		
Excess Hour	9.041	1.166	0.229	0.045	0.092		

Peaking Factors

Max Day / Max Month Ratio: 1.265
Max Hr / Max Day Ratio: 1.142

Class

	Pk Day	Pk Hr
Unmetered	0.153	0.229
Metered	6.805	10.207

Note: Since unmetered flows based on assumed 200 gpd flow per customer, Pk Mo Day / Avg Day will be 1.00. Therefore, must assume a factor.

Max-Day Capacity (Peaking) Factors & System Diversity Calculations

AWWU - 2.07 for Res (U-06-045)
GHU - 1.61 for Res (U-19-070)

	Annual Use		Peak Month			Pk Mo Day/ Avg Day	Max Day / Max Month (Avg Day)	Weekly Usage Adj	Max Day Capacity Factor (MDCF)	Avg Demand x CF	
	MG	MG/Day	Month	MG	MG/Day						
Residential/Duplex	25.22	**0.069**	Aug	2.15	0.069	1.400	1.265	1.250	2.214	0.153	
Metered	975.42	**2.665**	Mar	158.82	5.123	1.922	1.265	1.050	2.553	6.805	
	1,000.63	2.734		160.97	5.749	2.10				6.957	Noncoincident Peak (NCP) Day (MGD)
										6.574	Max Day (MGD)
										1.06	System Max Day Diversity (>1)

Note: Estimated factors.

AWWU - 3.32 for Res (U-06-045)
GHU - 1.95 for Res (U-19-070)

Peak Hour Factor & System Diversity Calculations

	Max Day Capacity Factor	Assumed MH / MD	Peak Hour Capacity Factor (PHCF)	Avg Dem x PHCF	
Residential/Duplex	2.214	1.500	3.321	0.229	
Metered	2.553	1.500	3.830	10.207	
				10.436	NCP Hour (MGD)
				7.507	Max Hour
				1.39	System Peak Hour Diversity (>1)

City of Unalaska

Wastewater Utility

Cost of Service / Rate Design Study

April 21, 2021

Aldrich SM

Introduction

Background and Purpose of Study

In February 2009, a review of the City of Unalaska's (the "City") Wastewater Utility rates was completed and presented to the City Council. The analysis was based on fiscal year ending June 30, 2009 and focused on two issues. First, were the rates in effect at that time sufficient to provide adequate revenues for the whole system. Second, a cost of service analysis was performed to determine whether each rate class was paying close to its fair share of costs.

The study found that:

1) Rates for the unmetered class were less than cost of service
2) Rates for the commercial class were slightly higher than cost of service
3) Rates for the industrial class were less than cost of service
4) An overall revenue shortfall was projected at current rates

Based on these findings, rates were increased.

In early 2016, a high-level review of the City's Wastewater Utility rates was completed and presented to the City Council. This analysis showed that the Wastewater Utility's rates would need to increase 16 to 26 percent just to meet cash flow requirements and would need to increase even more to provide net positive cash flow and set aside some amounts towards future capital expenditures. Based on these findings, an across-the-board rate increase of about 16 percent was phased in over four years.

Since the time of the last study, the Wastewater Utility has experienced an overall decrease in un-metered customers (residential) and an increase in the number of metered commercial and industrial accounts but a decrease in overall system consumption volume. Although the rate increase has resulted in an overall increase in revenue, increases in expenses have outpaced increases in revenue, resulting in a net deficit in the wastewater fund over the past few years. The 2021 fiscal year budget indicates that this trend is expected to continue. Accordingly, City staff felt it was prudent to review rates of the Wastewater Utility to ensure that it can meet operating expense requirements and capital improvement obligations in the near term while maintaining the utility's financial health.

Wastewater Utility customers are not directly metered. Instead, billing data from the Water Utility is used. However, not all Water Utility customers are metered (Residential), and not all Water Utility accounts are Wastewater Utility accounts. This lack of direct billing data adds a layer of imprecision in developing certain factors used for allocating costs to each rate class. Consequently, the results developed herein regarding whether existing rates for a particular class are above or below cost of service should be used for general guidance only. More precise allocations can be developed, but the cost of obtaining such data for all classes of customer that are metered for water service would far outweigh the benefits.

This report summarizes the analysis performed by Aldrich Advisors and the findings with respect to a cost of service study and review of rates for the City's Wastewater Utility.

Methodology of Analysis

In setting rates for the Wastewater Utility, the City must ensure that 1) rates will recover adequate revenues to maintain the utility's fiscal health and 2) the rates are set in an equitable manner that does not favor one class over another. Given the similarities between water and wastewater utilities and the use of water consumption as a proxy for wastewater discharge, the guidelines developed by the American Water Works Association ("AWWA") for water rate studies are also used in developing rates for wastewater utilities. AWWA has developed two manuals to provide a common framework from which to develop rates that recover cost from customer classes in proportion to the cost of serving those classes. These manuals, the M1 Manual, *Principles of Water Rates, Fees, and Charges*, and the M54 Manual, *Developing Rates for Small Systems*, are now used throughout the industry when performing rate studies for water and wastewater systems. The M1 Manual is used to allocate costs to specific rates classes while the M54 Manual is used to evaluate the overall adequacy of a system's rates with the use of the "across-the-board" adjustments.

The analysis conducted and summarized in this report uses the procedures developed and prescribed in the M1 Manual. The overall methodology of allocating costs to the various rate classes is described in the Process section of the report while the details of the analysis are provided in the Analysis and Adequacy of Rates / Rate Design sections.

The Process

General

The overall objective of a cost of service study is to allocate the utility's cost to each customer class in a fair and equitable manner. Once the costs are allocated to each class, rates are set to recover the allocated costs such that the "cost causer" is also the "cost payer".

The process of allocating cost and designing rates includes four basic steps:

1) Billing Determinants / Allocator Development: Estimating customer usage, peak demands, and number of customers,
2) Revenue Requirement Analysis: Projecting the utility's revenue requirements,
3) Cost of Service Analysis: Allocating the revenue requirements to each rate group, and
4) Rate Design: Designing rates that will recover the revenue requirement while balancing the results of the cost of service study, customer sensitivities, and utility objectives.

This section provides a general overview of each of these steps and a summary is provided in Figure 1 on page 5.

Billing Determinants / Allocator Development

Several cost components of a wastewater utility may depend on total usage or peak usage of the system. The number of customers and usage must first be projected prior to projecting the revenue requirements. The data used in projecting water usage is also used to develop allocation factors (described below). Thus, billing determinants and allocation factors are developed simultaneously.

Billing determinants include the number of customers for each customer class and volume discharge for each class. The number of customers is taken directly from billing records. Since wastewater discharge is not metered for many customers, an estimate of wastewater discharge must be developed. In most cases, metered water consumption is the most accurate means of measurement and, therefore, water consumption is used as a proxy for estimates of wastewater discharge.

Billing determinants are typically based on a utility's billings incurred during the most recent fiscal year, or another recent 12-month period. However, historical trends are also reviewed, and any anticipated system expansions are also considered.

Allocation factors are based on class data which may or may not be readily available. For instance, total water usage/wastewater discharge for a metered class is readily available but total consumption/discharge for an unmetered class must be estimated. Daily peak demands and hourly peak demands must usually be estimated for all classes using sample research performed by the utility or other sources.

Revenue Requirements

Revenue requirements are also based on a utility's most recent 12-month financial results. The historical expenses are reviewed and "normalized" to account for abnormal amounts that occurred during the historical period and known changes that will occur in the future. Total revenue requirements for the utility should include not only normalized expenses but also net operating margins and offsets for other revenues. Net operating margins may be required to satisfy lender covenants or simply to address risks associated with actual sales and expenses differing from projections. Additionally, the utility may wish to build equity in anticipation of large capital additions that will be funded in the near future.

Cost of Service

Once the revenue requirements are projected, these costs must be allocated to each rate class. Customers are separated into rate classes, with each class having different usage characteristics. Since the cost of providing service varies for each class, the utility's costs are allocated among all classes using methods that are designed to be fair and equitable and to not favor one class over another.

The M1 Manual recommends two separate methods to be used in the cost of service process: the Base-Extra Capacity Method and the Commodity Demand Method. Both methods recognize that the cost of serving customers depends on the total volume as well as the rate of use (peaking requirements). The Base-Extra Capacity Method recognizes that there are certain costs associated with meeting base (average) demands and other cost associated with meeting peak demands (excess capacity). The Commodity Demand method takes a more general approach by distinguishing between variable-, fixed-, and customer-related cost. Both methods, if performed properly, will yield similar results, and both approaches are used in this analysis.

Whichever method is used, the M1 Manual prescribes the use of a multi-step process that includes *Functionalization, Classification,* and *Allocation*.

Functionalization

Functionalization of a utility's revenue requirements is usually part of the normal accounting and budgeting process where expenses are tracked by a system of accounts.

Classification

Once the revenue requirements are functionalized, they are then classified. For the Base-Extra Capacity Method, classifications include Base Costs, Extra Capacity Costs, and Customer Costs. For the Commodity Demand method, classifications include Commodity (variable) Costs, Demand (Fixed) Costs, and Customer Costs.

Allocation

The final step in the cost-of service analysis is to allocate the classified revenue requirements to each customer (or rate) class based on each class' respective contribution to the classifications.

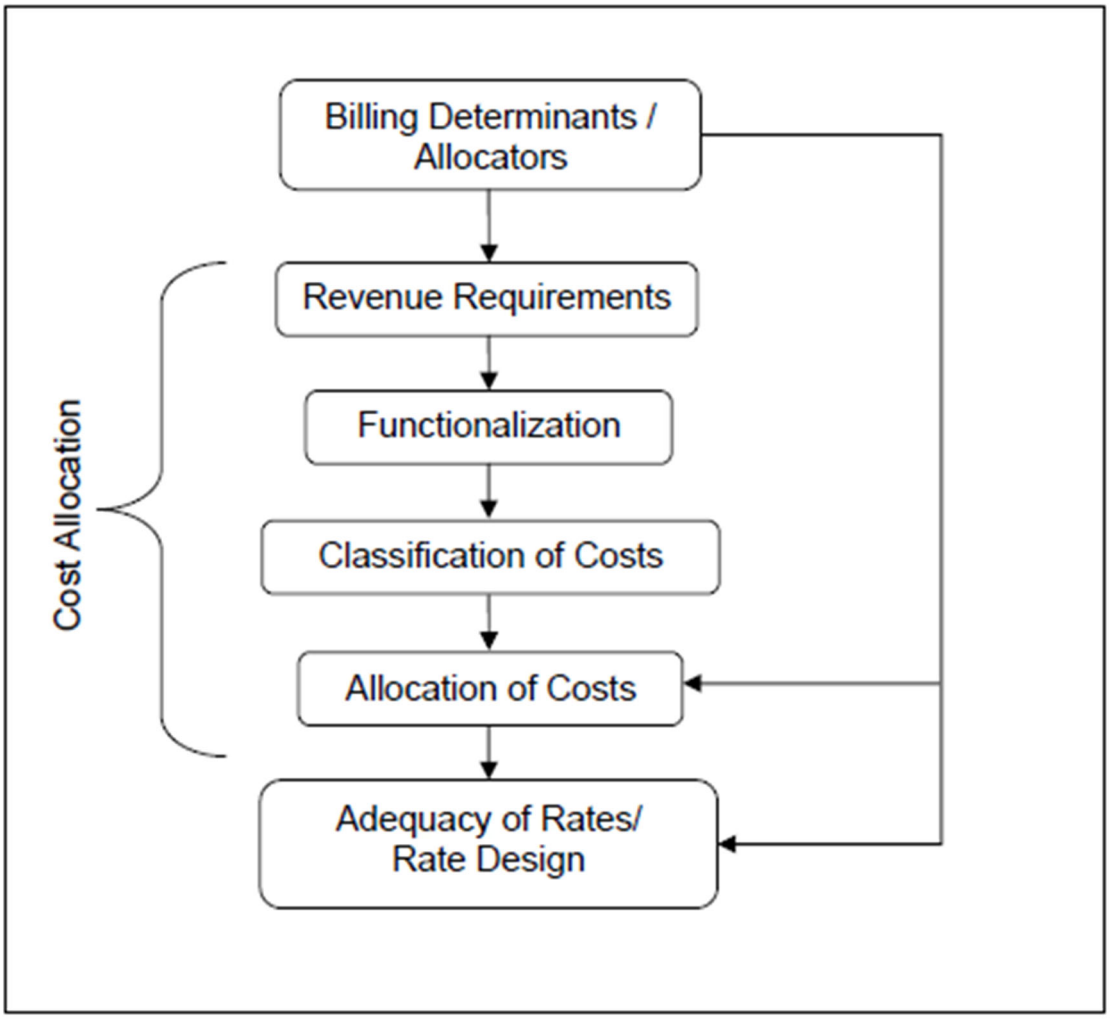
Developing the allocation factors used for expenses classified as customer-related is fairly straightforward as they are based on the number of customers in each rate class or some derivative thereof. Developing the allocation factors for average use and commodity-related expenses is also relatively simple, although estimates of water usage for non-metered customers must be developed. Demand-related factors are more complex as they are based on peak flows of each customer class and this data is not measured on a customer-specific basis. Estimates developed herein are based on a review of peak water consumption flows of the entire system, monthly consumption volumes for each class and individual customers, and industry data. Supporting studies used in sizing the system are also used in support of developing these demand-related allocation factors.

Rate Design

After the revenue requirements have been allocated to each class, the existing rates are applied to the billing determinants to determine if the rates recover less than or more than the allocated cost of service. Rates are then adjusted accordingly.

The overall process just described is summarized in Figure 1 on the following page. The next section discusses the specific analysis conducted for the City.

Figure 1
The Process



Analysis

Billing Determinants and Allocators

The Wastewater Utility's billing determinants form the basis for that of the Wastewater Utility. For the most part, metered and unmetered water volumes are used to calculate wastewater billing volume. However, not all water customers discharge into the City's wastewater system, and several commercial accounts discharge only a small portion of their water usage into the City system. The remaining water, used for processing, is discharged directly into the customer's own outfall system.

The Wastewater Utility's billing determinants for the past four fiscal years are summarized in Table 1 below and provided in more detail in Appendix A. In the past three years, although the number of residential customers has decreased, commercial and industrial customers have increased, and total sales increased by almost 6 percent. Both water and wastewater billing volumes have been relatively stead over the past three years but showing slight upward trends.

Table 1
Historical Billing Determinants

	Fiscal Year Ending June 30,		
	2018	2019	2020
Number of Customers (Annual Average)			
Unmetered			
Single-Family	348	336	334
Multi-Family	5	5	5
Subtotal - Unmetered	353	341	339
Metered			
Commercial	242	255	260
Industrial	4	5	5
Subtotal - Metered	246	260	265
Total	599	602	604
Volume (000 Gallons)			
Unmetered*	26,110	25,265	25,149
Metered			
Commercial**	110,524	103,118	103,669
Industrial	57,832	75,805	77,242
Total	194,466	204,188	206,060
Water Sales (000 Gallons)			
Unmetered	26,257	25,399	25,218
Metered	965,216	1,003,470	975,416
Other	2,508	3,579	5,544
Total	993,981	1,032,448	1,006,178

* Unmetered use is based on 200 gallons per day per customer account
** Commercial volume net of credit for metered volume not discharged into the wastewater system

Based on conversations with City staff, the billing determinants for 2020 were used for the analysis with no adjustments.

The City uses an estimate of 200 gallons per day for unmetered usage. This is consistent with the City's estimate of unmetered water usage and appears to be reasonable.

Peak daily and peak hourly flows used in allocating costs to each customer class are derived from a review of individual billing data for metered customers and the analysis conducted for the Water Rate Study. Details of these allocation factors are presented in Appendix E of this report.

Revenue Requirements

The Wastewater Utility's expenses for the past three years and the budget for the current fiscal year are summarized in Table 2. Details for fiscal year ending June 30, 2020 and the current year budget are provided in Appendix B.

Expenses increased about eight percent from FY 2018 to FY 2019 and another three percent from FY 2019 to FY 2020. Budget expenses for FY 2021 are over 14 percent higher than the previous year. Much of the increase is attributed to increased labor and benefits expense, general supplies expense, and professional services, which can be controlled to some extent by the City. Other expenses that cannot be as readily controlled, such as insurance, electricity and others, do not appear to be adding large increase to the overall revenue requirements. Increases in labor and benefits expense alone accounts for almost 60 percent of the total increase in budget expenses for FY 2021.

Costs that vary with production levels form only a small part of the expense structure with most costs being considered fixed. Accordingly, the budget for FY 2021 forms the basis for the Test Year revenue requirement.

Table 2
Annual Operating Expenses

	Fiscal Year Ending June 30,			
	2018	2019	2020	2021
	Actual	Actual	Actual	Budget
Administrative				
Labor/Benefits	$ 303,255	$ 289,214	$ 292,497	$ 368,540
Administrative Operations	124,638	131,733	152,048	176,105
Depreciation	1,341,928	1,375,845	1,314,265	1,361,872
Administrative Overhead	19,530	21,852	21,852	21,852
Interest/Bad Debt	118,255	112,577	109,950	102,799
Subtotal	1,907,606	1,931,221	1,890,612	2,031,168
Wastewater Operations				
Labor/Benefits	778,124	575,790	772,779	1,005,270
Operations	628,199	978,939	1,011,911	1,191,025
Vehicle				
Labor/Benefits	13,406	115,116	16,714	21,485
Operations	3,333	1,645	5,214	8,475
Facilities				
Labor/Benefits	34,526	41,809	34,811	33,115
Operations	14,544	17,259	48,209	28,080
Total	3,379,738	3,661,779	3,780,250	4,318,618
Target Margin				-
Capital Expenditures				430,000
Less Other Income	(29,720)	(13,868)	(56,612)	(2,199,319)
Net Revenue Requirement	$ 3,350,018	$ 3,647,911	$ 3,723,638	2,549,299

In addition to meeting its expected expenses, the utility should typically set rates that result in positive net margins. Margins serve three purposes for municipal utilities:

1. Debt covenants may require certain levels of net operating margins.
2. A net margin helps provide some security in maintaining a utility's financial health in the event sales or expenses differ significantly from that assumed.
3. The equity built up with net margins can be used to fund capital expenditures and therefore minimize debt.

A target net margin is typically based on a utility's rate base, which is equal to the net plant in service plus an amount for working capital and other miscellaneous items. Other factors are also considered including future cash flows after debt service, capital expenditures, and debt covenants. Based on the Wastewater Utility's net plant in service, a minimal return on rate base of 4 percent yields a target margin of over $1.4 million, which is considered excessive. The Wastewater Utility's revenue requirements includes a $100,000 target margin, which is much more realistic.

Table 3 provides a summary of the adjusted Test Year revenue requirements used in performing the cost of service analysis. Details of these revenue requirements are provided in Appendix B. Two adjustments were made to the budgeted revenue requirements:

1. PERS Nonemployer Contributions were removed from Other Income and used to reduce labor/benefits expenses. Benefits expenses include both employer and employee PERS contributions, but the employee portions are not Utility expenses. Since the PERS Nonemployer Contributions represent the amount of employee contributions that are budgeted to be collected by the Utility, these amounts have been reclassified to reduce the related expense lines.
2. Budgeted capital expenditures of $430,000 were removed. Capital expenditures are not included in the revenue requirements. Instead, these investments are recovered over time through depreciation expense.
3. Budgeted Use of Unrestricted Net Assets and Transfers from the Special Revenue Fund totaling $2,100,206 was removed from Other Income. These are non-recurring revenues that are transferred to the Utility from the General Fund and the Special Revenue Fund to help cover revenue shortfalls.

Table 3
Revenue Requirement Summary

	Fiscal Year Ending June 30,		
	2021 Budget	Adjustments	Adjusted Rev Requirements
Administrative			
Labor/Benefits	$ 368,540	$ (10,884)	$ 357,656
Administrative Operations	176,105		176,105
Depreciation	1,361,872		1,361,872
Administrative Overhead	21,852		21,852
Interest/Bad Debt	102,799		102,799
Subtotal	2,031,168	(10,884)	2,020,284
Water Operations			
Labor/Benefits	1,005,270	(27,960)	977,310
Operations	1,191,025		1,191,025
Vehicle			
Labor/Benefits	21,485	(647)	20,838
Operations	8,475		8,475
Facilities			
Labor/Benefits	33,115	(971)	32,144
Operations	28,080		28,080
Total	4,318,618	(40,462)	4,278,156
Target Margin	-	100,000	100,000
Capital Expenditures	430,000	(430,000)	-
Less Other Income	(2,199,319)	2,140,668	(58,651)
Net Revenue Requirement	$ 2,549,299	$ 1,770,206	$ 4,319,505

Cost Allocation

Functionalization

Revenue requirements are functionalized through the City's account coding process.

Classification (Appendix C and D)

The functionalized revenue requirements were then classified pursuant to the guidelines established in the M1 manual. Specifically, for the Base-Extra Capacity Method, revenue requirements were classified as Base related, Extra Capacity related, and Customer related. For the Commodity Demand Method, revenue requirements were classified as Commodity related, Demand related, and Customer related.

Allocation (Appendix C and D)

The classified revenue requirements were then allocated based on each customer class' respective share of the classification. Allocation factors for commodity related revenue requirements are based on each class' sales volume and allocation factors for customer related revenue requirements are based on customer equivalents. Allocation factors for demand related revenue requirements are based on estimates of each class' respective maximum day demand and maximum hour demand using the analysis and findings of the Water Rate Study.

Based on the process described above, the revenue requirements were allocated to each customer class, and the allocation process is summarized in Table 4. Additional details of the allocation, and the steps leading to it, are provided in Appendix C and D. The highest cost per gallon of discharge is with the unmetered class. The commercial and industrial classes have similar costs per gallon, with the commercial class being slightly lower than the industrial.

Table 4
Allocation of Revenue Requirements

	Total	Residential	Commercial	Industrial
Base Extra Capacity Method				
Base	$ 2,673,561	$ 428,550	$ 1,766,567	$ 478,444
Extra Capacity	1,346,098	258,734	727,904	359,461
Piping	297,863	128,011	161,940	7,912
Direct	1,983	1,983	-	-
Total	$ 4,319,505	$ 817,279	$ 2,656,411	$ 845,816
Annual Volume (Mil Gal)	206	25.15	103.67	77.24
Cost ($/000 Gallon)	$ 20.96	$ 32.50	$ 25.62	$ 10.95
Commodity - Demand Method				
Commodity	$ 1,014,782	$ 162,661	$ 670,522	$ 181,599
Demand	3,004,877	534,524	1,784,669	685,684
Piping	297,863	128,011	161,940	7,912
Direct	1,983	1,983	-	-
Total	$ 4,319,505	$ 827,179	$ 2,617,131	$ 875,195
Annual Volume (Mil Gal)	206	25.15	103.67	77.24
Cost ($/000 Gallon)	$ 20.96	$ 32.89	$ 25.24	$ 11.33

Adequacy of Rates / Rate Design

Existing Rate Structure

The Wastewater Utility's rate structure over the past several years is shown in Table 5. Rates have increased over the past four years to phase in the rate increase that resulted from the last rate study.

Table 5
Existing Rates

Rate Class	FY18	FY19	FY20	FY21
Unmetered Residential (per unit)				
Service Charge ($/month)	105.40	109.61	111.80	114.04
Metered				
Commercial				
Service Charge ($/month)	19.29	20.06	20.46	20.87
Volume Charge ($/1000 Gal)	16.44	17.10	17.44	17.79
Industrial				
Service Charge ($/month)	19.29	20.06	20.46	20.87
Volume Charge ($/1000 Gal)	1.05	1.09	1.11	1.13

Projected Revenues – Existing Rates

Table 6, on the following page, provides a summary of the revenues projected to be collected based on the assumed billing determinants and existing rates. The projections summarized in the table indicate that existing rates must be increased an average of 75 percent to recover all revenue requirements (including the target margin of $100,000). On a class basis, all classes have rates set below their allocated cost of service. The commercial class is the closest to its allocated cost of service while the industrial class is significantly below its cost of service, requiring 1,700-1,800 percent increase to cover cost of service.

One of the challenges of the analysis is that all customer classes do not have a one-to-one correlation between water consumption and wastewater usage. For example, industrial customers use water for both domestic and processing purposes but only the domestic usage flows into the wastewater system, while water used for processing has a separate discharge stream. In order to account for this distinction, an industrial customer equivalent factor was developed to provide a reduction in water consumption that would be used in the development of the wastewater cost of service analysis. The calculations indicated that only approximately 36 percent of the industrial water usage was returned to the wastewater stream. Despite this scaling of estimated industrial usage, the cost of service analysis continued to indicate the industrial customers are significantly under-paying for service.

However, the lack of metering data for the unmetered class and the use of Water Utility metering data leads to imprecision in allocating costs. Furthermore, refined allocations of system components to the larger customers and refinement of the wastewater billing credits would most likely result in a shift of the cost responsibilities from industrial customers to commercial customers. Such refinements would require large amounts of staff and consultant time as well as detailed mapping data. To provide better precision in the future, it is recommended that wastewater meters be installed on the industrial class customers so that their contribution to the wastewater stream can be known and measurable.

Table 6
Test Year Net Revenues – Existing Rates

	Total	Residential	Commercial	Industrial
Revenues				
Customer Charge	$ 536,658	$ 470,187	$ 65,219	$ 1,252
Volume Charge	1,931,555	-	1,844,271	87,283
Total	$ 2,468,212	$ 470,187	$ 1,909,490	$ 88,536
Base Extra Capacity Method				
Revenue Requirements	$ 4,319,505	$ 817,279	$ 2,656,411	$ 845,816
Surplus (Deficiency)	$ (1,851,293)	$ (347,092)	$ (746,921)	$ (757,280)
Percent	-75.0%	-73.8%	-39.1%	-855.3%
Commodity - Demand Method				
Revenue Requirements	$ 4,319,505	$ 827,179	$ 2,617,131	$ 875,195
Surplus (Deficiency)	$ (1,851,293)	$ (356,992)	$ (707,641)	$ (786,659)
Percent	-75.0%	-75.9%	-37.1%	-888.5%

Table 7 compares the revenue requirements developed in this study with those developed in the most recent cost of service study and Table 8, on the following page, compares the customer counts and production data used in these studies. These tables provide some insight into the need for such a significant rate increase to recover all revenue requirements. Table 7 shows that the net revenue requirement increased between the prior study and this study by about $2.3 million and 110 percent. The largest increases were in the following categories: labor and benefits expense (over $520,000), depreciation expense (over $800,000), interest expense (over $100,000), wastewater operations expense (almost $680,000), and an increase in target margin ($100,000). While the revenue requirements have increased over 110 percent, Table 8 shows that customer counts have only increased by three percent and volume has decreased by one percent. Without a significant increase in customers or volume, the Utility must raise rates to cover increases in costs or operate at a deficit.

Table 7
Historical Revenue Requirement Comparison

	Fiscal Year Ending June 30,			
	2016 Adj Rev Requirements	2020 Adj Rev Requirements	Dollar Change	Percentage Change
Administrative				
Labor/Benefits	$ 280,970	$ 357,656	$ 76,686	27.3%
Administrative Operations	166,038	176,105	10,067	6.1%
Depreciation	559,527	1,361,872	802,345	143.4%
Administrative Overhead	16,379	21,852	5,473	33.4%
Interest/Bad Debt	2,676	102,799	100,123	100.0%
Subtotal	1,025,590	2,020,284	994,694	97.0%
Water Operations				
Labor/Benefits	547,212	977,310	430,098	78.6%
Operations	512,300	1,191,025	678,725	132.5%
Vehicle				
Labor/Benefits	17,363	20,838	3,475	20.0%
Operations	5,975	8,475	2,500	41.8%
Facilities				
Labor/Benefits	20,959	32,144	11,185	53.4%
Operations	10,377	28,080	17,703	170.6%
Total	2,139,776	4,278,156	2,138,380	99.9%
Target Margin	-	100,000	100,000	100.0%
Less Other Income	(78,374)	(58,651)	19,723	-25.2%
Net Revenue Requirement	$ 2,061,402	$ 4,319,505	$ 2,258,103	109.5%

Table 8
Historical Customer Count and Production Comparison

	Fiscal Year Ending June 30,			
	2016	2020	Change	Percent Change
Number of Customers (Annual Average)				
Unmetered				
Single-Family	356	334	(22)	-6.3%
Multi-Family	4	5	1	25.0%
Subtotal - Unmetered	360	339	(21)	-5.9%
Metered				
Commercial	223	260	37	16.8%
Industrial	4	5	1	25.0%
Subtotal - Metered	227	265	38	16.9%
Total	587	604	17	2.9%
Volume (000 Gallons)				
Unmetered	26,725	25,149	(1,576)	-5.9%
Metered				
Commercial	116,876	103,669	(13,207)	-11.3%
Industrial	66,798	77,242	10,444	15.6%
Subtotal - Metered	183,674	180,911	(2,763)	-1.5%
Total	367,348	206,060	(4,339)	-1.2%

* Unmetered use is based on 200 gallons per day per customer account

The budget for the fiscal year ending June 30, 2021 shows a budgeted net income of zero but after the adjustments described in the Analysis section above, the deficiency shown in Table 7 is over $1.85 million. The actual net loss in FY 2020 was over $1.3 million. The reason for the difference between the calculated deficiency and the prior year actual results are:

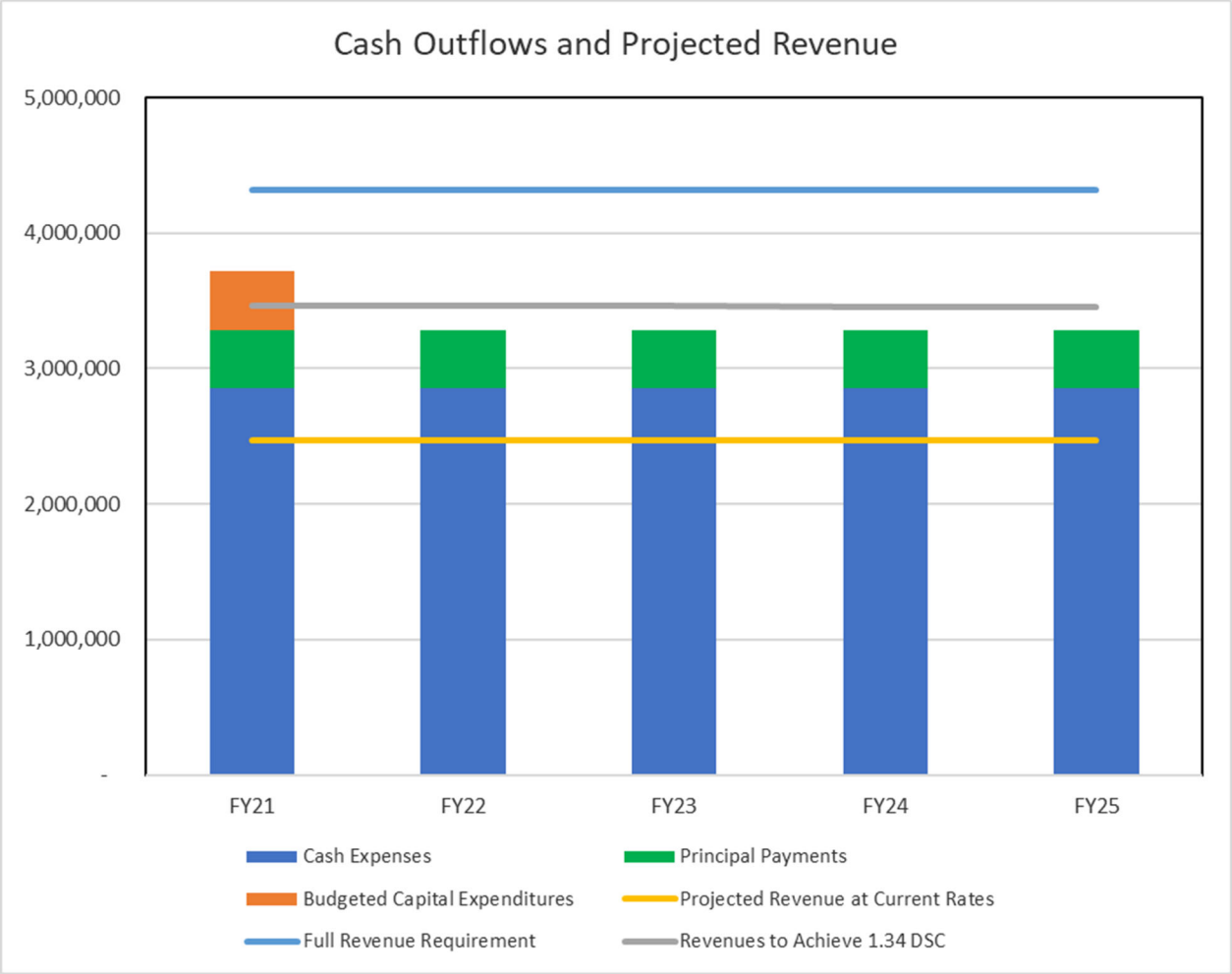
1. The revenue requirements summarized in Table 7 include a target margin of $100,000. No corresponding amount is included in the actual margin.
2. FY 2021 budgeted expenses were approximately $540,000 higher than FY 2020 actual expenses. The primary drivers in this increase were:
    a. Labor/Benefits expense was budgeted approximately $310,000 higher than FY 2020 actual
    b. Depreciation expense was budgeted approximately $45,000 higher than FY 2020 actual
    c. Wastewater Operations expense was budgeted approximately $180,000 higher than FY 2020 actual
3. Revenues at existing rates are about $55,000 higher than FY 2020 actual due to rate increases

Expenses in 2021 and thereafter are expected to increase due to inflationary effects on the utility's expense structure and an increase in depreciation as new assets are included in the system. Revenue deficits with the existing rates are, therefore, also expected to increase in the future absent load growth.

Figure 2, on the next page, shows that if sales volume and operating expenses remain at the level projected for FY 2021, with no rate increase, cash generated will not be sufficient to cover cash expenses (including interest) and debt principle payments. Additionally, no cash will be generated to pay for capital expenditures. The budgeted capital expenditures for FY 2021 are $430,000 and then none are budgeted through FY 2025. The graph also shows that if rates are increased to achieve a 1.34 DSC, enough cash will be generated to cover cash expenses, debt principle payments, and some of the budgeted capital expenditures, but not all of them. If rates are increased and sales equal the revenue requirements, enough cash will be generated to cover all projected cash outflows and allow the utility to set aside funds for additional future projects. The remaining amounts will need to be funded

through either debt, retained earnings, transfers from the general fund or special revenue fund, or a combination of these.

Figure 2
Cash Outflows and Projected Revenues



Alternate Cash Basis Revenue Requirement

Traditional ratemaking typically calculates revenue requirements on an income basis (as described in the Revenue Requirements section above). This method includes all operating expenses, interest on debt, and depreciation (a non-cash expense) in the revenue requirement. However, another way to look at the revenue requirement concept is on a cash basis. This method includes all operating expenses and interest on debt but rather than including non-cash depreciation expense, it includes principal payments instead. When evaluating the revenue requirement using this method, the debt service coverage ratio (DSC) can be used to define the utility's cash requirements. DSC is equal to the utility's earnings before interest, taxes, and depreciation, divided by its required debt service payments (principle and interest). Table 9 shows that the Water Utility's DSC based on projected revenues from current rates and the budgeted debt service payments for FY 2021 is (0.55). To achieve a DSC of 1.34, rates would need to be increased by 40 percent. Figure 2 shows that if sales volume and operating expenses remain at the level projected for FY 2021, with a rate increase to achieve a 1.34 DSC, cash generated should be sufficient to cover cash expenses (including interest) and debt principle payments however there will be little extra cash left to pay for capital expenditures.

Table 9
Alternate Cash Basis Revenue Requirement

	Total	Residential	Commercial	Industrial
Revenues				
Customer Charge	$ 536,658	$ 470,187	$ 65,219	$ 1,252
Volume Charge	1,931,555	-	1,844,271	87,283
Total	$ 2,468,212	$ 470,187	$ 1,909,490	$ 88,536
Minimum Required Cash Flow				
Full Revenue Requirement	$ 4,319,505	$ 827,179	$ 2,617,131	$ 875,195
Less:				
Depreciation	$ 1,361,872	$ 260,797	$ 825,140	$ 275,935
Interest Expense	102,799	19,686	62,284	20,829
Target Margin	100,000	19,150	60,589	20,261
Operating Expenses	$ 2,754,834	$ 527,546	$ 1,669,118	$ 558,170
FY 2021 Principal Payments	428,330	82,025	259,519	86,786
Interest on Long Term Debt	96,374	18,455	58,392	19,527
Minimum Required Cash Flow	$ 3,279,538	628,026	1,987,029	664,483
Achieved DSC	(0.55)			
Cash Basis Revenue Requirement				
Target DSC	1.34			
Target DSC Revenue Requirement	$ 3,455,497	$ 661,723	$ 2,093,640	$ 700,134
Surplus (Deficiency)	$ (987,285)	$ (191,536)	$ (184,150)	$ (611,598)
Percent	-40.0%	-40.7%	-9.6%	-690.8%

Rate Options

As mentioned before, it is noted that cost of service studies are somewhat imprecise in nature, especially for water and wastewater services. Consequently, rate adjustments need not be set precisely at cost of service to be fair and equitable. Several rate options are discussed below for the City's consideration and are summarized on Table 10. The average monthly customer impact is presented on Table 11 and each option's effect on rates is summarized on Table 12. With each option, the Utility could choose to phase the rate increases in over a number of years to ease the transition. During the interim years, the deficiency in the revenue requirements would need to be covered with cash reserves, transfers from the general fund, or some other source of cash.

Rate Option 1
Increase rates to meet a 1.34 target DSC, resulting in revenues approximately equal to the cash basis revenue requirement. This could be accomplished by:

Option 1a
Increase residential unmetered rates by 40.7 percent, commercial metered rates by 9.6 percent, and industrial metered rates by 690.8 percent based on cost of service study results.

Option 1b
Increase rates across-the-board by 40.0 percent.

Option 1c
Increase residential unmetered and commercial metered rates by 38.5 percent and industrial metered rates by 80 percent. This option is a hybrid of Option 1a and 1b and recognizes that the industrial metered class is contributing significantly less revenue than its share of expenses but attempts to balance this with concerns about price sensitivity among this customer class.

Rate Option 2
Adjust rates to meet the full revenue requirement, based on the cost of service study results. Increase unmetered residential rates by 75.9 percent, metered commercial rates by 37.1 percent, and increase metered industrial rates by 888.5 percent, resulting in revenues approximately equal to the full revenue requirement, by class.

Rate Option 3
Implement a one percent sales tax to fund utility infrastructure to help fund capital expenditures. The total estimated revenues from a one percent sales tax would be approximately $2.67 million, based on FY 2021 budget projections for the existing one percent Special Revenue sales tax. This revenue could be split between the City of Unalaska utilities to fund utility infrastructure needs and specific projects at the direction of the City Council.

Combine Rate Option 1 and 3
Options 1 and 3 could be combined with revenues from Option 1 providing cash to fund operating expenses and debt payments and revenues from Option 3 providing cash for capital projects.

Table 10
Rate Options

	Total	Residential	Commercial	Industrial
Revenues at Existing Rates	$ 2,468,212	$ 470,187	$ 1,909,490	$ 88,536
Full Revenue Requirement (Full RR)				
Allocated Costs (Commodity Demand)	$ 4,319,505	$ 827,179	$ 2,617,131	$ 875,195
Surplus (Deficiency)	$ (1,851,293)	$ (356,992)	$ (707,641)	$ (786,659)
Required Increase (Decrease)	75.0%	75.9%	37.1%	888.5%
Percent of Total	100%	19.15%	60.59%	20.26%
Cash Basis Revenue Requirement (Target DSC RR)				
Allocated Costs (Commodity Demand)	$ 3,455,497	$ 661,723	$ 2,093,640	$ 700,134
Surplus (Deficiency)	$ (987,285)	$ (191,536)	$ (184,150)	$ (611,598)
Required Increase (Decrease)	40.0%	40.7%	9.6%	690.8%
Percent of Total	100%	19.15%	60.59%	20.26%
Option 1a: 1.34 DSC; Based on COSS				
Proposed Adjustment		40.7%	9.6%	690.8%
After Proposed Adjustment:				
Revenues at Proposed Rates	$ 3,455,497	$ 661,723	$ 2,093,640	$ 700,134
Surplus (Deficiency)	$ 0	$ 0	$ 0	$ (0)
Percent of Total	0.0%	19.15%	60.59%	20.26%
Option 1b: 1.34 DSC; Across the Board increase				
Proposed Adjustment		40.0%	40.0%	40.0%
After Proposed Adjustment:				
Revenues at Proposed Rates	$ 3,455,497	$ 658,262	$ 2,673,286	$ 123,950
Surplus (Deficiency)	$ 0	$ (3,461)	$ 579,646	$ (576,184)
Percent of Total	0.0%	19.05%	77.36%	3.59%
Option 1c: 1.34 DSC; 80% Industrial increase, Equal increase for Residential and Commercial				
Proposed Adjustment		38.5%	38.5%	80.0%
After Proposed Adjustment:				
Revenues at Proposed Rates	$ 3,455,497	$ 651,264	$ 2,644,869	$ 159,364
Surplus (Deficiency)	$ 0	$ (10,459)	$ 551,229	$ (540,770)
Percent of Total	0.0%	18.85%	76.54%	4.61%
Option 2:No Deficiency; Based on COSS results				
Proposed Adjustment		75.9%	37.1%	888.5%
After Proposed Adjustment:				
Revenues at Proposed Rates	$ 4,319,505	$ 827,179	$ 2,617,131	$ 875,195
Surplus (Deficiency)	$ (0)	$ (0)	$ 0	$ 0
Percent Above (Below) Cost of Service	0.0%	0.0%	0.0%	0.0%

Table 11
Average Monthly Bill Impacts

	Average Monthly Increase in Bill		
	Residential	Commercial	Industrial
Option 1a: 1.34 DSC; Based on COSS			
Proposed Adjustment	$ 46.46	$ 58.93	$ 10,193.31
After Proposed Adjustment:			
Revenues at Proposed Rates			
Surplus (Deficiency)			
Percent of Total			
Option 1b: 1.34 DSC; Across the Board increase			
Proposed Adjustment	$ 45.62	$ 244.41	$ 590.24
After Proposed Adjustment:			
Revenues at Proposed Rates			
Surplus (Deficiency)			
Percent of Total			
Option 1c: 1.34 DSC; 80% Industrial increase, Equal increase for Residential and Commercial			
Proposed Adjustment	$ 43.92	$ 235.32	$ 1,180.48
After Proposed Adjustment:			
Revenues at Proposed Rates			
Surplus (Deficiency)			
Percent of Total			
Option 2:No Deficiency; Based on COSS results			
Proposed Adjustment	$ 86.59	$ 226.45	$ 13,110.99
After Proposed Adjustment:			
Revenues at Proposed Rates			
Surplus (Deficiency)			
Percent Above (Below) Cost of Service			

Table 12
Rate Effects

	Customer Charge ($/month)					Volume ($/thousand gallons)				
Rate Class	Current	Option 1a	Option 1b	Option 1c	Option 2	Current	Option 1a	Option 1b	Option 1c	Option 2
Unmetered Residential	114.04	160.50	159.66	157.96	200.63	-	-	-	-	-
Metered:										
Commercial	20.87	22.88	29.22	28.91	28.60	17.79	19.51	24.91	24.64	24.38
Industrial - Method 1	20.87	165.04	29.22	37.57	206.30	1.13	8.94	1.58	2.03	11.17
		Change to Customer Charge					Change to Volume Charge			
		Option 1a	Option 1b	Option 1b	Option 2		Option 1a	Option 1b	Option 1a	Option 2
Unmetered Residential		46.46	45.62	43.92	86.59		-	-	-	-
Metered:										
Commercial		2.01	8.35	8.04	7.73		1.72	7.12	6.85	6.59
Industrial - Method 1		144.17	8.35	16.70	185.43		7.81	0.45	0.90	10.04

Recommendations

The findings of the analysis herein are:

1. Although expenses have increased by almost 100 percent since the last cost of service study was performed, the number of customers hasn't changed significantly, and the volume of sales has decreased slightly.
2. Due to the significant increase in expenses without significant changes in sales, rates for all customer classes are set less than cost of service.
3. Revenues from commercial sales account for 77 percent of total revenues. Since rates for that class are less than cost of service, an overall revenue shortfall is projected.
4. The minimum cash flow required by the utility, prior to capital expenditures, is estimated to be approximately $3.8 million per year and the projected sales revenues are $2.5 million per year.

Based on the outcome of this study, it is recommended that wastewater rates be increased at this time. Cash flow cannot be supported at existing rates at this point and both near-term and long-term operations call for a rate increase. Capital improvements necessary to maintain the integrity of the system must be funded. Those that are smaller are probably best funded from cash generated through revenues, and while larger additions might be funded from debt or grants, the City's willingness to set appropriate rates will facilitate the ability to secure external funding.

It is also recommended the City install wastewater flow meters on industrial class customers so that their contribution to the wastewater stream can be known and measurable. Indications are that the industrial class is significantly undercharged and greater precision in data can allow for a better decision regarding rates in future studies.

Appendix A

Historical Billing Determinants

Billing Determinant Summary

Assumed Use per Unmetered (GPD)	
Residental	200
Duplex	200 /unit

	Customers			Volume		
	FY 2018	FY 2019	FY 2020	FY 2018	FY 2019	FY 2020
Average Number of Customers						
Residential						
Single Family	348	336	334	25,380,200	24,535,400	24,419,000
Duplex	5	5	5	730,000	730,000	730,000
Subtotal - Residential	353	341	339	26,110,200	25,265,400	25,149,000
Commercial (Volume net of Credit)	242	255	260	110,524,018	103,118,237	103,668,975
Industrial	4	5	5	57,832,000	75,805,000	77,242,000
Total	599	602	604	194,466,218	204,188,637	206,059,975

	Existing Rates				Revenue		
	Customer	Volume	Cust - Months	Volume	Customer	Demand	Total
Residential							
Single Family	114.04		4,003	24,419,000	$ 456,502	$ -	$ 456,502
Duplex	114.04		60	730,000	13,685	-	13,685
Subtotal - Res							
Commercial	20.87	17.79	3,125	103,668,975	65,219	1,844,271	1,909,490
Industrial	20.87	1.13	60	77,242,000	1,252	87,283	88,536
					$ 536,658	$ 1,931,555	$ 2,468,212

Commercial/Industrial Customer Equivalents

					Commercial		Industrial	
Meter (in)	Meter / 5/8 (relative to 5/8)	Water Customers	WW Industrial	Remove Customers	Customers	Equiv x Cust	Customers	Equiv x Cust
0.625	1.000	7			7	7.0	-	-
0.750	1.200	132			132	158.4	-	-
1.000	1.600	63			63	100.8	-	-
1.500	2.400	10			10	24.0	-	-
2.000	3.200	52			52	166.4	-	-
3.000	4.800	14			14	67.2	-	-
4.000	6.400	9			9	57.6	-	-
6.000	9.600	5			5	48.0	-	-
8.000	12.800	2			2	25.6	-	-
10.000	16.000	2	2		-	-	2	32.0
12.000	19.200	-			-	-	-	-
		296				655.0		32.0

Appendix B

Historical and Projected Revenue Requirements

Historic and Projected Revenue Requirements

	FY 2018 (Actual)	FY 2019 (Actual)	FY 2020 (Actual)	FY 2021 (Budget)	Normalized Budget
Administration					
Labor					
Salaries and Wages - Admin	$ 181,701	$ 194,794	$ 179,268	$ 214,003	$ 214,003
Temporary Employees	2,479	1,023	539	2,594	2,594
Overtime - Admin	929	258	424	749	749
Benefits and PR Taxes - Admin	118,146	93,137	128,881	151,194	140,310
Subtotal - Labor and Benefits	303,255	289,212	309,112	368,540	357,656
Operations					
Legal Services	9,698	653	28,281	10,000	10,000
Engineering/Architectural Svs	2,035	2,596	4,382	6,200	6,200
Training Services	954	350	-	1,000	1,000
Education Reimbursement	2,796	-	-	5,656	5,656
Other Professional Svs	1,934	936	3,195	3,600	3,600
Software/Hardware Support	15,281	19,939	15,413	26,905	26,905
Water/Sewage	481	470	472	455	455
Solid Waste	2,572	730	879	1,215	1,215
Custodial Services/Supplies	2,326	2,426	2,524	4,509	4,509
Repairs/Maintenance Services	309	460	344	1,000	1,000
Building/Land Rental	-	-	-	-	-
General Insurance	34,375	39,995	46,496	62,336	62,336
Telephone / Fax / TV	1,951	3,089	3,486	1,321	1,321
Network/Internet	8,468	8,444	8,442	16,100	16,100
Travel and Related Costs	2,562	2,976	603	1,500	1,500
Banking / Credit Card Fees	4,420	5,322	4,700	2,000	2,000
Postal Services	1,668	(2,043)	950	1,710	1,710
Employee Moving Costs	-	4,766	-	-	-
General Supplies	850	250	251	500	500
Safety Related Items	-	785	611	-	-
Office Supplies	1,212	1,255	747	2,186	2,186
Computer Hardware / Software	8,655	16,751	12,756	6,629	6,629
Electricity	7,476	8,389	5,961	9,518	9,518
Heating Oil	11,936	10,688	9,455	8,102	8,102
Gasoline for Vehicles	668	674	409	1,963	1,963
Business Meals	-	48	-	200	200
Food/Beverage/Employee Appreciat	1,490	1,513	1,441	1,000	1,000
Books/Periodicals	522	272	247	500	500
Other	(1)	-	2	-	-
Subtotal - Administrative Ops	124,638	131,734	152,047	176,105	176,105
Other					
Depreciation	1,341,928	1,375,845	1,314,265	1,361,872	1,361,872
PILOT	-	-	-	-	-
Bad Debt	-	907	18	-	-
Admin OH	19,530	21,852	21,852	21,852	21,852
Interest	118,255	111,670	109,932	102,799	102,799
Subtotal - Administrative Other	1,479,713	1,510,274	1,446,067	1,486,523	1,486,523
Total Administrative	1,907,606	1,931,220	1,907,226	2,031,168	2,020,284

Historic and Projected Revenue Requirements

	FY 2018 (Actual)	FY 2019 (Actual)	FY 2020 (Actual)	FY 2021 (Budget)	Normalized Budget
Wastewater Operations					
Labor					
Salaries - Operations	435,462	342,749	436,951	505,140	505,140
Temporary Employees	30,336	26,714	16,021	57,428	57,428
Overtime - Operations	6,444	24,923	22,704	40,000	40,000
Benefits - Operations	305,882	181,103	124,916	402,702	374,742
Subtotal - Labor and Benefits	778,124	575,489	600,592	1,005,270	977,310
Operations					
Engineering	-	-	-	2,000	2,000
Training	5,239	3,624	4,976	5,500	5,500
Other Professional	52,238	135,917	178,832	213,500	213,500
Computer	9,704	1,790	1,930	12,000	12,000
Sampling	13,653	13,760	6,173	14,400	14,400
Other Technical Services	229	125	-	250	250
Water/Sewage	11,548	11,787	15,413	13,000	13,000
Solid Waste	96,647	138,255	166,034	130,000	130,000
Repairs/Maintenance	1,585	28,255	6,939	65,000	65,000
Construction Services	-	-	-	6,500	6,500
Telephone / Fax	6,865	6,799	7,923	8,000	8,000
Network/Internet	-	-	-	-	-
Radio	-	7,731	-	1,500	1,500
Advertising	-	75	-	250	250
Travel	2,003	8,667	-	7,200	7,200
Postage	-	-	-	-	-
Dues	100	-	-	600	600
Permit Fees	5,420	9,606	8,763	9,000	9,000
Employee Moving Costs	-	1,513	-	-	-
Other	-	-	-	-	-
General Supplies	71,440	64,775	76,631	111,225	111,225
Safety Related Items	666	7,366	32,886	9,500	9,500
Lab Supplies	17,297	7,654	16,914	14,200	14,200
Sand/Gravel/Rock	-	-	-	-	-
Chemicals	120,056	245,583	272,551	330,000	330,000
Office Supplies	-	342	233	450	450
Facility Maintenance Supplies	-	-	-	-	-
Computer	552	283	2,053	1,000	1,000
Electricity	111,357	134,581	100,675	122,500	122,500
Propane	985	991	735	4,500	4,500
Heating Fuel	97,320	96,658	75,010	103,000	103,000
Fuel - Vehicles	2,211	1,837	1,372	3,500	3,500
Fuel - Equipment	961	883	1,367	1,400	1,400
Food/Beverage/Employee Appreciat	-	-	96	800	800
Books/Periodicals	121	414	-	250	250
Other	2	(1)	(1)	-	-
Subtotal - Operations Ops	628,199	929,270	977,505	1,191,025	1,191,025
Total Wastewater Operations	1,406,323	1,504,759	1,578,097	2,196,295	2,168,335

Historic and Projected Revenue Requirements

	FY 2018 (Actual)	FY 2019 (Actual)	FY 2020 (Actual)	FY 2021 (Budget)	Normalized Budget
Vehicle and Equipment					
Labor					
Salaries - Operations	8,119	10,023	10,451	12,255	12,255
Overtime - Operations	11	-	34	365	365
Benefits - Operations	5,276	5,093	7,179	8,865	8,218
Subtotal - Labor and Benefits	13,406	15,116	17,664	21,485	20,838
Operations					
Repairs/Maintenance	-	112	190	300	300
Construction Services	-	-	-	-	-
General Supplies	-	-	30	675	675
Machinery / Vehicle Parts	3,333	1,533	4,993	7,500	7,500
Other	-	(1)	1	-	-
Subtotal - Vehicles/Equipment Ops	3,333	1,644	5,214	8,475	8,475
Total Vehicle and Equipment	16,739	16,760	22,878	29,960	29,313
Building R & M					
Labor					
Salaries - Operations	16,002	22,799	18,543	13,913	13,913
Temporary Employees - Operations	571	368	77	-	-
Overtime - Operations	3,545	3,547	2,850	5,264	5,264
Benefits - Operations	14,408	15,095	15,249	13,938	12,967
Subtotal - Labor and Benefits	34,526	41,809	36,719	33,115	32,144
Operations					
Other Professional	-	610	11,290	-	-
Repairs/Maintenance	8,755	5,788	14,455	15,780	15,780
Construction Services	-	-	16,050	5,000	5,000
General Supplies	579	166	138	2,500	2,500
Safety Related Items	-	1,041	22	-	-
Facility Maint Supplies	5,209	9,654	6,255	4,800	4,800
Other	-	-	-	-	-
Subtotal - Building R&M Ops	14,543	17,259	48,210	28,080	28,080
Total Building R & M	$ 49,069	$ 59,068	$ 84,929	$ 61,195	$ 60,224
Total Expenses	3,379,737	3,511,807	3,593,130	4,318,618	4,278,156
Net Margin	388,061	669,477	-	-	100,000
Capital Expenditures	2,959	6,097	-	430,000	-
Less Other Revenues					
PERS Nonemployer Contributions	(33,012)	(12,080)	(53,818)	(40,462)	-
Vactor Services	(43,126)	(8,113)	(17,208)	(49,053)	(49,053)
Other Services	(35,500)	(57,563)	(28,761)	(7,935)	(7,935)
Late Fees	(1,364)	(1,225)	(2,104)	(1,663)	(1,663)
Special Assess Pen & Int	(246)	(63)	-	-	-
Transfers from Spec Rev Fund	(1,072,156)	(1,032,021)	(998,248)	(1,009,265)	-
Budgeted Use of Unrestricted Net A	-	-	-	(1,090,941)	-
Less Total Other Revenues	(1,185,404)	(1,111,065)	(1,100,139)	(2,199,319)	(58,651)
Net Revenue Requirements	**$ 2,585,353**	**$ 3,076,316**	**$ 2,492,991**	**$ 2,549,299**	**$ 4,319,505**

Appendix C

Cost of Service Model
(Base-Extra Capacity Method)

Allocation of Revenue Requirement
Base-Extra Capacity Method

Base-Extra Capacity (BEC) Method

	Allocation	Description	Total	3 Un-Metered	4 Metered Large	5 Metered Other	6 Other	7 Other
Base	A.01.01	Avg Demand/Day	2,673,561	428,550	1,766,567	478,444	-	-
Excess Capacity								
Excess Max Day	A.02.01	Excess - Day	1,156,888	208,629	611,981	336,278	-	-
Excess Max Hr	A.02.02	Excess - Hour	189,210	50,105	115,922	23,183	-	-
Customers								
Number	A.05.01	Customers	-	-	-	-	-	-
Equivalents	A.05.02	Customer Equivalents	-	-	-	-	-	-
Piping	A.03.01	Piping Dist	297,863	128,011	161,940	7,912	-	-
Direct 1	A.10.01	Direct Un-Metered	1,983	1,983	-	-	-	-
			$ 4,319,505	$ 817,279	$ 2,656,411	$ 845,816	$ -	$ -
Revenues From Existing Rates								
Customer Charges				$ 470,187	$ 65,219	$ 1,252		
Volume Charges				-	1,844,271	87,283		
Total			$ 2,468,212	$ 470,187	$ 1,909,490	$ 88,536	$ -	$ -
Surplus (Deficiency)			$ (1,851,293)	$ (347,092)	$ (746,921)	$ (757,280)	$ -	$ -
Percent of Revenues from Existing Rates			-75.0%	-73.8%	-39.1%	-855.3%	N/A	N/A
Volume (million gallons/year)				25.1	103.7	28.1		
				0.0325	0.0256	0.0301		

Classification of Revenue Requirement
Base-Extra Capacity Method

Base-Extra Capacity (BEC) Method			BY 2021 Adopted Budget	Adjustment	Revenue Requirement	3 Base	4 Demand	5 Demand	6 Customers	7 Customers	8 Piping	9 Direct 1
							Excess Max Day	Excess Max Hr	Number	Equivalents		
Administration												
Labor												
Salaries and Wages - Admin	C.10.07	Other Operating Labor	$ 214,003		$ 214,003	148,945	50,912	14,146	-	-	-	-
Temporary Employees	C.10.07	Other Operating Labor	2,594		2,594	1,805	617	171	-	-	-	-
Overtime - Admin	C.10.07	Other Operating Labor	749		749	521	178	50	-	-	-	-
Benefits and PR Taxes - Admin	C.10.07	Other Operating Labor	151,194	(10,884)	140,310	97,655	33,380	9,275	-	-	-	-
Subtotal - Labor and Benefits			368,540	(10,884)	357,656	248,926	85,087	23,643	-	-	-	-
Operations												
Legal Services	C.01.01	Base	10,000		10,000	10,000	-	-	-	-	-	-
Engineering/Architectural Svs	C.01.01	Base	6,200		6,200	6,200	-	-	-	-	-	-
Training Services	C.01.01	Base	1,000		1,000	1,000	-	-	-	-	-	-
Education Reimbursement	C.01.01	Base	5,656		5,656	5,656	-	-	-	-	-	-
Other Professional Svs	C.01.01	Base	3,600		3,600	3,600	-	-	-	-	-	-
Software/Hardware Support	C.01.01	Base	26,905		26,905	26,905	-	-	-	-	-	-
Water/Sewage	C.01.01	Base	455		455	455	-	-	-	-	-	-
Solid Waste	C.01.01	Base	1,215		1,215	1,215	-	-	-	-	-	-
Custodial Services/Supplies	C.10.03	Buildings	4,509		4,509	2,657	1,852	-	-	-	-	-
Repairs/Maintenance Services	C.10.03	Buildings	1,000		1,000	589	411	-	-	-	-	-
Building/Land Rental	C.00.00	-	-		-	-	-	-	-	-	-	-
General Insurance	C.10.02	Net Plant in Service	62,336		62,336	32,627	22,554	475	-	-	6,680	-
Telephone / Fax / TV	C.01.01	Base	1,321		1,321	1,321	-	-	-	-	-	-
Network/Internet	C.01.01	Base	16,100		16,100	16,100	-	-	-	-	-	-
Travel and Related Costs	C.01.01	Base	1,500		1,500	1,500	-	-	-	-	-	-
Banking / Credit Card Fees	C.05.01	Direct 1	2,000		2,000	-	-	-	-	-	-	2,000
Postal Services	C.01.01	Base	1,710		1,710	1,710	-	-	-	-	-	-
General Supplies	C.01.01	Base	500		500	500	-	-	-	-	-	-
Office Supplies	C.01.01	Base	2,186		2,186	2,186	-	-	-	-	-	-
Computer Hardware / Software	C.01.01	Base	6,629		6,629	6,629	-	-	-	-	-	-
Electricity	C.02.02	Base/Max Day/Max Hr	9,518		9,518	4,911	3,424	1,183	-	-	-	-
Heating Oil	C.10.03	Buildings	8,102		8,102	4,774	3,328	-	-	-	-	-
Gasoline for Vehicles	C.10.05	Vehicles Equip - Non Labor	1,963		1,963	1,963	-	-	-	-	-	-
Business Meals	C.01.01	Base	200		200	200	-	-	-	-	-	-
Food/Beverage/Employee Appreciat	C.01.01	Base	1,000		1,000	1,000	-	-	-	-	-	-
Books/Periodicals	C.01.01	Base	500		500	500	-	-	-	-	-	-
Other	C.00.00	-	-		-	-	-	-	-	-	-	-
Subtotal - Administrative Ops			176,105	-	176,105	134,198	31,570	1,657	-	-	6,680	2,000
Other												
Depreciation	C.10.10	Depr Expense	1,361,872		1,361,872	639,647	437,367	12,903	-	-	271,955	-
PILOT	C.10.02	Net Plant in Service	-		-	-	-	-	-	-	-	-
Bad Debt	C.00.00	-	-		-	-	-	-	-	-	-	-
Admin OH	C.10.09	Total Exp Before Other Revenues	21,852		21,852	13,575	5,804	976	-	-	1,487	10
Interest	C.10.02	Net Plant in Service	102,799		102,799	53,805	37,195	783	-	-	11,016	-
Subtotal - Administrative Other			1,486,523	-	1,486,523	707,027	480,366	14,662	-	-	284,458	10
Total Administrative			2,031,168	(10,884)	2,020,284	1,090,151	597,023	39,962	-	-	291,138	2,010

Classification of Revenue Requirement
Base-Extra Capacity Method

Base-Extra Capacity (BEC) Method				BY 2021 Adopted Budget	Adjustment	Revenue Requirement	3 Base	4 Demand	5 Demand	6 Customers	7 Customers	8 Piping	9 Direct 1
								Excess Max Day	Excess Max Hr	Number	Equivalents		
Wastewater Operations													
Labor													
Salaries - Operations	C.10.04	WW Ops - Non Labor		505,140		505,140	350,074	119,864	35,202	-	-	-	-
Temporary Employees	C.10.04	WW Ops - Non Labor		57,428		57,428	39,799	13,627	4,002	-	-	-	-
Overtime - Operations	C.10.04	WW Ops - Non Labor		40,000		40,000	27,721	9,492	2,788	-	-	-	-
Benefits - Operations	C.10.04	WW Ops - Non Labor		402,702	(27,960)	374,742	259,705	88,922	26,115	-	-	-	-
Subtotal - Labor and Benefits				1,005,270	(27,960)	977,310	677,298	231,905	68,107	-	-	-	-
Operations													
Engineering	C.02.02	Base/Max Day/Max Hr		2,000		2,000	1,032	719	249	-	-	-	-
Training	C.01.01	Base		5,500		5,500	5,500	-	-	-	-	-	-
Other Professional	C.02.02	Base/Max Day/Max Hr		213,500		213,500	110,168	76,805	26,528	-	-	-	-
Computer	C.01.01	Base		12,000		12,000	12,000	-	-	-	-	-	-
Sampling	C.01.01	Base		14,400		14,400	14,400	-	-	-	-	-	-
Other Technical Services	C.01.01	Base		250		250	250	-	-	-	-	-	-
Water/Sewage	C.01.01	Base		13,000		13,000	13,000	-	-	-	-	-	-
Solid Waste	C.01.01	Base		130,000		130,000	130,000	-	-	-	-	-	-
Repairs/Maintenance	C.01.01	Base		65,000		65,000	65,000	-	-	-	-	-	-
Construction Services	C.01.01	Base		6,500		6,500	6,500	-	-	-	-	-	-
Telephone / Fax	C.01.01	Base		8,000		8,000	8,000	-	-	-	-	-	-
Network/Internet	C.01.01	Base		-		-	-	-	-	-	-	-	-
Radio	C.01.01	Base		1,500		1,500	1,500	-	-	-	-	-	-
Advertising	C.01.01	Base		250		250	250	-	-	-	-	-	-
Travel	C.01.01	Base		7,200		7,200	7,200	-	-	-	-	-	-
Postage	C.01.01	Base		-		-	-	-	-	-	-	-	-
Dues	C.01.01	Base		600		600	600	-	-	-	-	-	-
Permit Fees	C.01.01	Base		9,000		9,000	9,000	-	-	-	-	-	-
Other	C.00.00		-	-		-	-	-	-	-	-	-	-
General Supplies	C.01.01	Base		111,225		111,225	111,225	-	-	-	-	-	-
Safety Related Items	C.01.01	Base		9,500		9,500	9,500	-	-	-	-	-	-
Lab Supplies	C.01.01	Base		14,200		14,200	14,200	-	-	-	-	-	-
Sand/Gravel/Rock	C.01.01	Base		-		-	-	-	-	-	-	-	-
Chemicals	C.02.02	Base/Max Day/Max Hr		330,000		330,000	170,283	118,715	41,003	-	-	-	-
Office Supplies	C.01.01	Base		450		450	450	-	-	-	-	-	-
Facility Maintenance Supplies	C.00.00		-	-		-	-	-	-	-	-	-	-
Computer	C.01.01	Base		1,000		1,000	1,000	-	-	-	-	-	-
Electricity	C.02.02	Base/Max Day/Max Hr		122,500		122,500	63,211	44,068	15,221	-	-	-	-
Propane	C.01.01	Base		4,500		4,500	4,500	-	-	-	-	-	-
Heating Fuel	C.10.03	Buildings		103,000		103,000	60,690	42,310	-	-	-	-	-
Fuel - Vehicles	C.10.05	Vehicles Equip - Non Labor		3,500		3,500	3,500	-	-	-	-	-	-
Fuel - Equipment	C.10.05	Vehicles Equip - Non Labor		1,400		1,400	1,400	-	-	-	-	-	-
Food/Beverage/Employee Appreciat	C.01.01	Base		800		800	800	-	-	-	-	-	-
Books/Periodicals	C.01.01	Base		250		250	250	-	-	-	-	-	-
Other	C.00.00		-	-		-	-	-	-	-	-	-	-
Subtotal - Operations Ops				1,191,025	-	1,191,025	825,408	282,617	83,000	-	-	-	-
Total Wastewater Operations				2,196,295	(27,960)	2,168,335	1,502,706	514,523	151,106	-	-	-	-

Classification of Revenue Requirement
Base-Extra Capacity Method

Base-Extra Capacity (BEC) Method			BY 2021 Adopted Budget	Adjustment	Revenue Requirement	3 Base	4 Demand Excess Max Day	5 Demand Excess Max Hr	6 Customers Number	7 Customers Equivalents	8 Piping	9 Direct 1
Vehicle and Equipment												
Labor												
Salaries - Operations	C.10.05	Vehicles Equip - Non Labor	12,255		12,255	12,255	-	-	-	-	-	-
Overtime - Operations	C.10.05	Vehicles Equip - Non Labor	365		365	365	-	-	-	-	-	-
Benefits - Operations	C.10.05	Vehicles Equip - Non Labor	8,865	(647)	8,218	8,218	-	-	-	-	-	-
Subtotal - Labor and Benefits			21,485	(647)	20,838	20,838	-	-	-	-	-	-
Operations												
Repairs/Maintenance	C.01.01	Base	300		300	300	-	-	-	-	-	-
Construction Services	C.01.01	Base	-		-	-	-	-	-	-	-	-
General Supplies	C.01.01	Base	675		675	675	-	-	-	-	-	-
Machinery / Vehicle Parts	C.01.01	Base	7,500		7,500	7,500	-	-	-	-	-	-
Other	C.01.01	Base			-	-	-	-	-	-	-	-
Subtotal - Vehicles/Equipment Ops			8,475	-	8,475	8,475	-	-	-	-	-	-
Total Vehicle and Equipment			29,960	(647)	29,313	29,313	-	-	-	-	-	-
Building R & M												
Labor												
Salaries - Operations	C.10.06	Bldg R&M - Non Labor	13,913		13,913	8,198	5,715	-	-	-	-	-
Overtime - Operations	C.10.06	Bldg R&M - Non Labor	5,264		5,264	3,102	2,162	-	-	-	-	-
Benefits - Operations	C.10.06	Bldg R&M - Non Labor	13,938	(971)	12,967	7,640	5,327	-	-	-	-	-
Subtotal - Labor and Benefits			33,115	(971)	32,144	18,940	13,204	-	-	-	-	-
Operations												
Repairs/Maintenance	C.10.03	Buildings	15,780		15,780	9,298	6,482	-	-	-	-	-
Construction Services	C.10.03	Buildings	5,000		5,000	2,946	2,054	-	-	-	-	-
General Supplies	C.10.03	Buildings	2,500		2,500	1,473	1,027	-	-	-	-	-
Facility Maint Supplies	C.10.03	Buildings	4,800		4,800	2,828	1,972	-	-	-	-	-
Other	C.00.00	-	-		-	-	-	-	-	-	-	-
Subtotal - Building R&M Ops			28,080	-	28,080	16,545	11,535	-	-	-	-	-
Total Building R & M			$ 61,195	$ (971)	$ 60,224	$ 35,485	$ 24,739	$ -	$ -	$ -	$ -	$ -
Total Expenses			4,318,618		4,278,156	2,657,655	1,136,284	191,068	-	-	291,138	2,010
Net Margin	C.10.02	Net Plant in Service	-	100,000	100,000	52,340	36,182	761	-	-	10,716	-
Capital Expenditures	C.00.00	-	430,000	(430,000)	-	-	-	-	-	-	-	-
Less Other Revenues												
PERS Nonemployer Contributions	C.10.09	Total Exp Before Other Revenues	(40,462)	40,462	-	-	-	-	-	-	-	-
Vactor Services	C.10.09	Total Exp Before Other Revenues	(49,053)		(49,053)	(30,472)	(13,029)	(2,191)	-	-	(3,338)	(23)
Other Services	C.10.09	Total Exp Before Other Revenues	(7,935)		(7,935)	(4,929)	(2,108)	(354)	-	-	(540)	(4)
Late Fees	C.10.09	Total Exp Before Other Revenues	(1,663)		(1,663)	(1,033)	(442)	(74)	-	-	(113)	(1)
Transfers from Spec Rev Fund	C.10.09	Total Exp Before Other Revenues	(1,009,265)	1,009,265	-	-	-	-	-	-	-	-
Budgeted Use of Unrestricted Net A	C.10.09	Total Exp Before Other Revenues	(1,090,941)	1,090,941	-	-	-	-	-	-	-	-
Less Total Other Revenues			(2,199,319)	2,140,668	(58,651)	(36,435)	(15,578)	(2,619)	-	-	(3,991)	(28)
Net Revenue Requirements			**$ 2,549,299**	**$ 1,810,668**	**$ 4,319,505**	**$ 2,673,561**	**$ 1,156,888**	**$ 189,210**	**$ -**	**$ -**	**$ 297,863**	**$ 1,983**

Classification of Net Plant
Base-Extra Capacity Method

ACCT#	DESCRIPTION	FIXED ASSETS 6/30/2020	END YEAR ACC DEPR	Net Plant	Classification BEC							
					Ref	Type	Base	Excess Max Day	Excess Max Hr	Customer	Customer Equivalents	Piping	Direct 1
WASTEWATER													
LAND	EASEMENTS FROM OC LAND EXCNG	12,883.00	0.00	12,883.00	C.01.01	Base	12,883	-	-	-	-	-	-
	TOTALS LAND 5200-16100	12,883.00	0.00	12,883.00			12,883	-	-	-	-	-	-
BLDG	WASTEWATER TREATMENT PLANT	2,991,887.87	1,894,862.40	1,097,025.47	C.02.01	Base/Max Day	646,388	450,637	-	-	-	-	-
	WASTEWATER T.P. UPGRADE FINAL	86,170.69	51,702.13	34,468.56	C.02.01	Base/Max Day	20,310	14,159	-	-	-	-	-
	WASTEWATER T.P. UPGRADE	187,279.70	74,412.14	112,867.56	C.02.01	Base/Max Day	66,504	46,364	-	-	-	-	-
	NEW WASTEWATER TREATMENT PLANT	24,099,118.43	2,167,104.83	21,932,013.60	C.02.01	Base/Max Day	12,922,758	9,009,256	-	-	-	-	-
	EXISTING WWTP UPGRADE & LAB ADDITION	6,267,246.67	626,724.48	5,640,522.19	C.02.01	Base/Max Day	3,323,502	2,317,020	-	-	-	-	-
	TOTALS BLDG 5200-16200	33,631,703.36	4,814,805.98	28,816,897.38			16,979,462	11,837,436	-	-	-	-	-
IOTB	1987 SEWER COLLECT/TREAT	6,371,534.00	6,371,534.00	0.00	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1988 SEWER COLLECT/TREAT	225,923.00	222,462.47	3,460.53	C.04.01	Piping Dist	-	-	-	-	-	3,461	-
	1989 SEWER COLLECT/TREAT	116,903.25	111,537.90	5,365.35	C.04.01	Piping Dist	-	-	-	-	-	5,365	-
	1990 SEWER COLLECT/TREAT	640,467.68	591,530.63	48,937.05	C.04.01	Piping Dist	-	-	-	-	-	48,937	-
	1991 SEWER COLLECT/TREAT	1,127,419.02	1,006,935.51	120,483.51	C.04.01	Piping Dist	-	-	-	-	-	120,484	-
	LEAR ROAD	116,851.45	97,261.00	19,590.45	C.01.01	Base	19,590	-	-	-	-	-	-
	THOMPSON/SHAISHNIKOFF	19,176.27	15,961.24	3,215.03	C.02.03	Base/Max Hr	1,659	-	1,556	-	-	-	-
	I.H.S. SANITATION	10,388.60	10,388.60	0.00	C.04.01	Piping Dist	-	-	-	-	-	-	-
	ILIULAK VALLEY	186,778.14	186,778.14	0.00	C.01.01	Base	-	-	-	-	-	-	-
	JESSE LEE SUBDIVISION LINE HOOKUP	56,794.94	45,435.86	11,359.08	C.04.01	Piping Dist	-	-	-	-	-	11,359	-
	CHOATE LANE SEWER	77,185.49	61,748.33	15,437.16	C.04.01	Piping Dist	-	-	-	-	-	15,437	-
	UPPER HAYSTACK SWR LID	778,951.04	545,265.50	233,685.54	C.04.01	Piping Dist	-	-	-	-	-	233,686	-
	SHAISHNIKOFF SEWER EXT	43,840.00	28,131.03	15,708.97	C.04.01	Piping Dist	-	-	-	-	-	15,709	-
	NEWHALL SEWR MAIN	109,504.00	65,702.80	43,801.20	C.04.01	Piping Dist	-	-	-	-	-	43,801	-
	EASTBROADWAY SEWER	423,289.61	253,973.69	169,315.92	C.04.01	Piping Dist	-	-	-	-	-	169,316	-
	WETWELL CORRISION REPAIR	11,213.25	11,213.25	0.00	C.04.01	Piping Dist	-	-	-	-	-	-	-
	NIRVANA WASTEWATER LID	365,050.58	170,357.04	194,693.54	C.04.01	Piping Dist	-	-	-	-	-	194,694	-
	LIFT STATION #4 IMPROVEMENTS	403,402.00	100,850.40	302,551.60	C.02.02	Base/Max Day/Max Hr	156,119	108,840	37,592	-	-	-	-
	SCB WASTEWATER BETTERMENTS	436,145.93	130,844.15	305,301.78	C.04.01	Piping Dist	-	-	-	-	-	305,302	-
	LIFT STATION 6 PANEL/CONTROL REPLACE	94,668.82	42,600.76	52,068.06	C.02.02	Base/Max Day/Max Hr	26,868	18,731	6,470	-	-	-	-
	LIFT STATION 7 PANEL/CONTROL REPLACE	94,668.83	42,600.77	52,068.06	C.02.02	Base/Max Day/Max Hr	26,868	18,731	6,470	-	-	-	-
	LSA WASTEWATER EXTENSION	891,829.29	245,252.71	646,576.58	C.04.01	Piping Dist	-	-	-	-	-	646,577	-
	WWTP SCADA COMPUTER-RADIO SURVEY	37,690.00	37,690.00	0.00	C.01.01	Base	-	-	-	-	-	-	-
	SEWER LIFT STAION PANEL REPLACE 2&3	188,247.68	31,897.51	156,350.17	C.02.02	Base/Max Day/Max Hr	80,678	56,246	19,427	-	-	-	-
	PUMP STATION #3 FORCE MAIN UPGRADE	441,149.15	74,750.07	366,399.08	C.02.02	Base/Max Day/Max Hr	189,065	131,809	45,526	-	-	-	-
	CONNECT LIFT STATION #4 TO SCADA	68,021.59	17,288.62	50,732.97	C.01.01	Base	50,733	-	-	-	-	-	-
	WWTP LIFT STATION IMPROVEMENTS	507,657.51	67,687.68	439,969.83	C.02.02	Base/Max Day/Max Hr	227,028	158,275	54,667	-	-	-	-
	WWTP SLUDGE TANK & PUMPS	867,195.86	115,626.24	751,569.62	C.02.02	Base/Max Day/Max Hr	387,816	270,370	93,384	-	-	-	-
	WWTP STORM DRAINAGE IMPROVEMENTS	892,052.30	118,940.16	773,112.14	C.04.01	Piping Dist	-	-	-	-	-	773,112	-
	WW BACKFLOW PREVENTER INSTALL	22,787.09	2,342.10	20,444.99	C.04.01	Piping Dist	-	-	-	-	-	20,445	-
	WWTP SCADA & PUMP CONTROL UPGRADES	70,091.32	7,301.25	62,790.07	C.01.01	Base	62,790	-	-	-	-	-	-
	DELTA WAY EMERGENCY SEWER LINE REPAI	388,061.26	26,948.75	361,112.51	C.04.01	Piping Dist	-	-	-	-	-	361,113	-
	LIFT STATIONS 2&5 DISCHARGE PIPE	352,359.60	12,724.14	339,635.46	C.04.01	Piping Dist	-	-	-	-	-	339,635	-
	EAST POINT SEWER REPAIR	439,367.50	15,866.11	423,501.39	C.04.01	Piping Dist	-	-	-	-	-	423,501	-
	TOTALS IOTB 5200-16300	16,876,666.05	10,887,428.41	5,989,237.64			1,229,213	763,002	265,090	-	-	3,731,933	-

Classification of Net Plant
Base-Extra Capacity Method

ACCT#	DESCRIPTION	FIXED ASSETS 6/30/2020	END YEAR ACC DEPR	Net Plant	Classification BEC							
					Ref	Type	Base	Excess Max Day	Excess Max Hr	Customer	Customer Equivalents	Piping	Direct 1
WASTEWATER													
M & E	1996 BACKHOE/LOADER BH9	78,850.00	78,850.00	0.00	C.10.01	Land/Bldg/IOTB	-	-	-	-	-	-	-
	CYCLOPS INSPECTION TV SYSTEM	32,646.52	32,646.52	0.00	C.10.01	Land/Bldg/IOTB	-	-	-	-	-	-	-
	FLATBED TRUCK, F350 W/ CRANE	40,366.10	40,366.10	0.00	C.10.01	Land/Bldg/IOTB	-	-	-	-	-	-	-
	DRI-PRIME PUMP SP-1	24,999.85	24,999.85	0.00	C.10.01	Land/Bldg/IOTB	-	-	-	-	-	-	-
	PU 4X4 F150 TRUCK SD5542	21,462.60	21,462.60	0.00	C.10.01	Land/Bldg/IOTB	-	-	-	-	-	-	-
	FL9 TOYOTA 8BNCU18 FORKLIFT SN 55294	39,085.00	39,085.00	0.00	C.10.01	Land/Bldg/IOTB	-	-	-	-	-	-	-
	TOYOTA 7FBEU20 FORKLIFT	37,564.05	37,564.05	0.00	C.10.01	Land/Bldg/IOTB	-	-	-	-	-	-	-
	MANI MH254T RT FORKLIFT S/N 942552	73,500.00	73,500.00	0.00	C.10.01	Land/Bldg/IOTB	-	-	-	-	-	-	-
	SD2920 FORD F150 4X4 PICKUP	25,628.00	20,929.52	4,698.48	C.10.01	Land/Bldg/IOTB	2,459	1,700	36	-	-	504	-
	SD4363 2016 FORD F450 FLATBED	44,387.00	36,249.37	8,137.63	C.10.01	Land/Bldg/IOTB	4,259	2,945	62	-	-	872	-
	IRIS CRAWLER MAINLINE CAMERA	32,533.81	7,048.99	25,484.82	C.10.01	Land/Bldg/IOTB	13,337	9,223	194	-	-	2,731	-
	LIFTMORE HOIST CRANE	11,038.58	2,391.74	8,646.84	C.10.01	Land/Bldg/IOTB	4,525	3,129	66	-	-	927	-
	DPU7380 FORD EXPLORER (25%) DPU DIRECTC	8,140.00	1,763.71	6,376.29	C.10.01	Land/Bldg/IOTB	3,337	2,307	49	-	-	683	-
	SD6223 FORD EXPLORER '20	34,407.00	573.45	33,833.55	C.10.01	Land/Bldg/IOTB	17,706	12,244	258	-	-	3,626	-
	Volvo Vactor Tractor	380,000.00	0.00	380,000.00	C.10.01	Land/Bldg/IOTB	198,862	137,516	2,893	-	-	40,729	-
	Flatbed F-350	50,000.00	0.00	50,000.00	C.10.01	Land/Bldg/IOTB	26,166	18,094	381	-	-	5,359	-
	TOTALS M&E 5200-16400	934,608.51	417,430.90	517,177.61			270,650	187,158	3,937	-	-	55,432	-
CWIP	FIBER OPTIC INFRASTRUCTURE DEVLOP	6,139.88	0.00	6,139.88	C.01.01	Base	6,140	-	-	-	-	-	-
	TOTALS CIP 5210-16500	6,139.88	0.00	6,139.88			6,140	-	-	-	-	-	-
	Total	51,462,001	16,119,665	35,342,336			18,498,348	12,787,596	269,028	-	-	3,787,364	-

Classification of Depreciation Expenses
Base-Extra Capacity Method

ACCT#	DESCRIPTION	Depr Exp	Classification BEC								
			Ref	Type	Base	Excess Max Day	Excess Max Hr	Customer	Customer Equivalents	Piping	Direct 1
WASTEWATER											
LAND	EASEMENTS FROM OC LAND EXCNG	0.00	C.01.01	Base	-	-	-	-	-	-	-
	TOTALS LAND 5200-16100	0.00			-	-	-	-	-	-	-
BLDG	WASTEWATER TREATMENT PLANT	99,729.60	C.02.01	Base/Max Day	58,763	40,967	-	-	-	-	-
	WASTEWATER T.P. UPGRADE FINAL	2,872.36	C.02.01	Base/Max Day	1,692	1,180	-	-	-	-	-
	WASTEWATER T.P. UPGRADE	6,242.66	C.02.01	Base/Max Day	3,678	2,564	-	-	-	-	-
	NEW WASTEWATER TREATMENT PLANT	548,768.28	C.02.01	Base/Max Day	323,345	225,424	-	-	-	-	-
	EXISTING WWTP UPGRADE & LAB ADDITION	156,681.17	C.02.01	Base/Max Day	92,320	64,362	-	-	-	-	-
	TOTALS BLDG 5200-16200	814,294.06			479,797	334,497	-	-	-	-	-
IOTB	1987 SEWER COLLECT/TREAT	(0.00)	C.04.01	Piping Dist	-	-	-	-	-	(0)	-
	1988 SEWER COLLECT/TREAT	3,460.53	C.04.01	Piping Dist	-	-	-	-	-	3,461	-
	1989 SEWER COLLECT/TREAT	3,507.45	C.04.01	Piping Dist	-	-	-	-	-	3,507	-
	1990 SEWER COLLECT/TREAT	19,215.95	C.04.01	Piping Dist	-	-	-	-	-	19,216	-
	1991 SEWER COLLECT/TREAT	33,825.95	C.04.01	Piping Dist	-	-	-	-	-	33,826	-
	LEAR ROAD	3,505.89	C.01.01	Base	3,506	-	-	-	-	-	-
	THOMPSON/SHAISHNIKOFF	575.35	C.02.03	Base/Max Hr	297	-	278	-	-	-	-
	I.H.S. SANITATION	0.00	C.04.01	Piping Dist	-	-	-	-	-	-	-
	ILIULAK VALLEY	0.00	C.01.01	Base	-	-	-	-	-	-	-
	JESSE LEE SUBDIVISION LINE HOOKUP	1,893.16	C.04.01	Piping Dist	-	-	-	-	-	1,893	-
	CHOATE LANE SEWER	2,572.85	C.04.01	Piping Dist	-	-	-	-	-	2,573	-
	UPPER HAYSTACK SWR LID	25,965.03	C.04.01	Piping Dist	-	-	-	-	-	25,965	-
	SHAISHNIKOFF SEWER EXT	1,461.33	C.04.01	Piping Dist	-	-	-	-	-	1,461	-
	NEWHALL SEWR MAIN	3,650.13	C.04.01	Piping Dist	-	-	-	-	-	3,650	-
	EASTBROADWAY SEWER	14,109.65	C.04.01	Piping Dist	-	-	-	-	-	14,110	-
	WETWELL CORRISION REPAIR	0.00	C.04.01	Piping Dist	-	-	-	-	-	-	-
	NIRVANA WASTEWATER LID	12,168.35	C.04.01	Piping Dist	-	-	-	-	-	12,168	-
	LIFT STATION #4 IMPROVEMENTS	10,085.05	C.02.02	Base/Max Day/Max Hr	5,204	3,628	1,253	-	-	-	-
	SCB WASTEWATER BETTERMENTS	14,538.20	C.04.01	Piping Dist	-	-	-	-	-	14,538	-
	LIFT STATION 6 PANEL/CONTROL REPLACE	4,733.44	C.02.02	Base/Max Day/Max Hr	2,442	1,703	588	-	-	-	-
	LIFT STATION 7 PANEL/CONTROL REPLACE	4,733.44	C.02.02	Base/Max Day/Max Hr	2,442	1,703	588	-	-	-	-
	LSA WASTEWATER EXTENSION	29,727.64	C.04.01	Piping Dist	-	-	-	-	-	29,728	-
	WWTP SCADA COMPUTER-RADIO SURVEY	0.00	C.01.01	Base	-	-	-	-	-	-	-
	SEWER LIFT STAION PANEL REPLACE 2&3	6,274.92	C.02.02	Base/Max Day/Max Hr	3,238	2,257	780	-	-	-	-
	PUMP STATION #3 FORCE MAIN UPGRADE	14,704.97	C.02.02	Base/Max Day/Max Hr	7,588	5,290	1,827	-	-	-	-
	CONNECT LIFT STATION #4 TO SCADA	3,401.08	C.01.01	Base	3,401	-	-	-	-	-	-
	WWTP LIFT STATION IMPROVEMENTS	16,921.92	C.02.02	Base/Max Day/Max Hr	8,732	6,088	2,103	-	-	-	-
	WWTP SLUDGE TANK & PUMPS	28,906.53	C.02.02	Base/Max Day/Max Hr	14,916	10,399	3,592	-	-	-	-
	WWTP STORM DRAINAGE IMPROVEMENTS	29,735.08	C.04.01	Piping Dist	-	-	-	-	-	29,735	-
	WW BACKFLOW PREVENTER INSTALL	759.57	C.04.01	Piping Dist	-	-	-	-	-	760	-
	WWTP SCADA & PUMP CONTROL UPGRADES	3,504.57	C.01.01	Base	3,505	-	-	-	-	-	-
	DELTA WAY EMERGENCY SEWER LINE REPAII	12,935.38	C.04.01	Piping Dist	-	-	-	-	-	12,935	-
	LIFT STATIONS 2&5 DISCHARGE PIPE	11,745.32	C.04.01	Piping Dist	-	-	-	-	-	11,745	-
	EAST POINT SEWER REPAIR	14,645.58	C.04.01	Piping Dist	-	-	-	-	-	14,646	-
	TOTALS IOTB 5200-16300	333,264.32			55,271	31,067	11,009	-	-	235,917	-

Classification of Depreciation Expenses
Base-Extra Capacity Method

ACCT#	DESCRIPTION	Depr Exp	Classification BEC								
			Ref	Type	Base	Excess Max Day	Excess Max Hr	Customer	Customer Equivalents	Piping	Direct 1
WASTEWATER											
M & E	1996 BACKHOE/LOADER BH9	0.00	C.10.01	Land/Bldg/IOTB	-	-	-	-	-	-	-
	CYCLOPS INSPECTION TV SYSTEM	0.00	C.10.01	Land/Bldg/IOTB	-	-	-	-	-	-	-
	FLATBED TRUCK, F350 W/ CRANE	(0.00)	C.10.01	Land/Bldg/IOTB	(0)	(0)	(0)	-	-	(0)	-
	DRI-PRIME PUMP SP-1	(0.00)	C.10.01	Land/Bldg/IOTB	(0)	(0)	(0)	-	-	(0)	-
	PU 4X4 F150 TRUCK SD5542	0.00	C.10.01	Land/Bldg/IOTB	-	-	-	-	-	-	-
	FL9 TOYOTA 8BNCU18 FORKLIFT SN 55294	0.00	C.10.01	Land/Bldg/IOTB	-	-	-	-	-	-	-
	TOYOTA 7FBEU20 FORKLIFT	0.00	C.10.01	Land/Bldg/IOTB	-	-	-	-	-	-	-
	MANI MH254T RT FORKLIFT S/N 942552	0.00	C.10.01	Land/Bldg/IOTB	-	-	-	-	-	-	-
	SD2920 FORD F150 4X4 PICKUP	4,698.48	C.10.01	Land/Bldg/IOTB	2,459	1,700	36	-	-	504	-
	SD4363 2016 FORD F450 FLATBED	8,137.63	C.10.01	Land/Bldg/IOTB	4,259	2,945	62	-	-	872	-
	IRIS CRAWLER MAINLINE CAMERA	6,506.76	C.10.01	Land/Bldg/IOTB	3,405	2,355	50	-	-	697	-
	LIFTMORE HOIST CRANE	2,207.72	C.10.01	Land/Bldg/IOTB	1,155	799	17	-	-	237	-
	DPU7380 FORD EXPLORER (25%) DPU DIRECTO	1,628.00	C.10.01	Land/Bldg/IOTB	852	589	12	-	-	174	-
	SD6223 FORD EXPLORER '20	6,881.40	C.10.01	Land/Bldg/IOTB	3,601	2,490	52	-	-	738	-
	Volvo Vactor Tractor	38,000.00	C.10.01	Land/Bldg/IOTB	19,886	13,752	289	-	-	4,073	-
	Flatbed F-350	5,000.00	C.10.01	Land/Bldg/IOTB	2,617	1,809	38	-	-	536	-
	TOTALS M&E 5200-16400	73,059.99			38,234	26,439	556	-	-	7,831	-
	FIBER OPTIC INFRASTRUCTURE DEVLOP	0.00	C.01.01	Base	-	-	-	-	-	-	-
	TOTALS CIP 5210-16500	0.00			-	-	-	-	-	-	-
	Total	1,220,618			573,302	392,003	11,565	-	-	243,748	-

Allocation Factors
Base-Extra Capacity Method

Base Extra Capacity Method

		Un-Metered	Commercial	Industrial	Other	Other	Total
		-	-	-	-	-	-
A.00.00		-	-	-	-	-	0%
	Avg Annual Demand (MGD)	0.069	0.284	0.077	-	-	0.430
A.01.01	Avg Demand/Day	16.0%	66.1%	17.9%	0.0%	0.0%	100%
	Peak Day Demand (MGD)	0.153	0.529	0.212	-	-	
	Extra Capacity - Day (MGD)	0.084	0.245	0.135	-	-	0.464
A.02.01	Excess - Day	18.0%	52.9%	29.1%	0.0%	0.0%	100%
	Peak Hr Demand (MGD)	0.244	0.741	0.254			
	Extra Capacity - Day (MGD)	0.092	0.212	0.042	-	-	0.346
A.02.02	Excess - Hour	26.5%	61.3%	12.3%	0.0%	0.0%	100%
A.03.01	Piping Dist	43.0%	54.4%	2.7%	0.0%	0.0%	100%
		344	260	5	-	-	609
A.05.01	Customers	56.4%	42.8%	0.8%	0.0%	0.0%	100%
		344	655	32	-	-	1,031
A.05.02	Customer Equivalents	33.3%	63.6%	3.1%	0.0%	0.0%	100%
A.10.01	Direct Un-Metered	100%	0%	0%	0%	0%	100%

Classification Factors
Base-Extra Capacity Method

		Base	Excess Capacity		Customers		Piping	Direct 1	Total
			Excess Max Day	Excess Max Hr	Number	Equivalents			
C.00.00		0%	0%	0%	0%	0%	0%	0%	0%
		0.430	-	-	-	-	-	-	0.430
C.01.01	Base	100%	0%	0%	0%	0%	0%	0%	100%
		0.430	0.300	-	-	-	-	-	0.730
C.02.01	Base/Max Day	59%	41%	0%	0%	0%	0%	0%	100%
		0.430	0.300	0.104	-	-	-	-	0.833
C.02.02	Base/Max Day/Max Hr	52%	36%	12%	0%	0%	0%	0%	100%
		0.430	-	0.403					0.833
C.02.03	Base/Max Hr	52%	0%	48%	0%	0%	0%	0%	100%
C.02.04	Max Day / Max Hr	0%	50%	50%	0%	0%	0%	0%	100%
C.03.01	Customers	0%	0%	0%	100%	0%	0%	0%	100%
C.03.02	Customer Equivalents	0%	0%	0%	0%	100%	0%	0%	100%
C.04.01	Piping Dist	0%	0%	0%	0%	0%	100%	0%	100%
C.04.02		0%	0%	0%	0%	0%	0%	0%	0%
C.05.01	Direct 1	0%	0%	0%	0%	0%	0%	100%	100%
C.05.02		0%	0%	0%	0%	0%	0%	0%	0%
		18,221,557	12,600,438	265,090	-	-	3,731,933	-	34,819,018
C.10.01	Land/Bldg/IOTB	52%	36%	1%	0%	0%	11%	0%	100%
		18,498,348	12,787,596	269,028	-	-	3,787,364	-	35,342,336
C.10.02	Net Plant in Service	52%	36%	1%	0%	0%	11%	0%	100%
		16,979,462	11,837,436	-	-	-	-	-	28,816,897
C.10.03	Buildings	59%	41%	0%	0%	0%	0%	0%	100%
		825,408	282,617	83,000	-	-	-	-	1,191,025
C.10.04	WW Ops - Non Labor	69%	24%	7%	0%	0%	0%	0%	100%
		8,475	-	-	-	-	-	-	8,475
C.10.05	Vehicles Equip - Non Labor	100%	0%	0%	0%	0%	0%	0%	100%
		16,545	11,535	-	-	-	-	-	28,080
C.10.06	Bldg R&M - Non Labor	59%	41%	0%	0%	0%	0%	0%	100%
		717,076	245,109	68,107	-	-	-	-	1,030,292
C.10.07	Other Operating Labor	70%	24%	7%	0%	0%	0%	0%	100%
C.10.08									
		2,644,081	1,130,480	190,092	-	-	289,651	2,000	4,256,304
C.10.09	Total Exp Before Other Revenues	62%	27%	4%	0%	0%	7%	0%	100%
		573,302	392,003	11,565	-	-	243,748	-	1,220,618
C.10.10	Depr Expense	47%	32%	1%	0%	0%	20%	0%	100%

Appendix D

Cost of Service Model
(Commodity Demand Method)

Allocation of Revenue Requirements
Commodity Demand Method

Commodity-Demand (CD) Method

	Allocation	Description	Total	3 Un-Metered	4 Metered Large	5 Metered Other	6 Other	7 Other
Commodity	A.01.01	Commodity (MGD)	1,014,782	162,661	670,522	181,599	-	-
Demand								
Dem - Max Day	A.02.01	Dem - Max Day (MGD)	2,181,642	372,394	1,292,348	516,901	-	-
Dem - Max Hr	A.02.02	Dem - Max Hr (MGD)	823,235	162,130	492,322	168,783	-	-
Customers								
Number	A.05.01	Customers - Number	-	-	-	-	-	-
Equivalents	A.05.02	Customers - Equivalents	-	-	-	-	-	-
Piping	A.03.01	Piping Dist	297,863	128,011	161,940	7,912	-	-
Direct 1	A.10.01	Unmetered	1,983	1,983	-	-	-	-
			$ 4,319,505	$ 827,179	$ 2,617,131	$ 875,195	$ -	$ -
Revenues From Existing Rates								
Customer Charges				$ 470,187	$ 65,219	$ 1,252		
Volume Charges				-	1,844,271	87,283		
Total			$ 2,468,212	$ 470,187	$ 1,909,490	$ 88,536	$ -	$ -
Surplus (Deficiency)			$ (1,851,293)	$ (356,992)	$ (707,641)	$ (786,659)	$ -	$ -
Percent of Revenues from Existing Rates			-75.0%	-75.9%	-37.1%	-888.5%	N/A	N/A

Classification of Expenses
Commodity Demand Method

Commodity Demand (CD) Method			Revenue Requirement	Commodity	Demand		Customers		Piping	Direct 1
					Dem - Max Day	Dem - Max Hr	Number	Equivalents		
Administration										
Labor										
Salaries and Wages - Admin	C.10.07	Other Operating Labor	$ 214,003	$ 75,917	$ 81,159	$ 56,927	$ -	$ -	$ -	$ -
Temporary Employees	C.10.07	Other Operating Labor	2,594	920	984	690	-	-	-	-
Overtime - Admin	C.10.07	Other Operating Labor	749	266	284	199	-	-	-	-
Benefits and PR Taxes - Admin	C.10.07	Other Operating Labor	140,310	49,775	53,211	37,324	-	-	-	-
Subtotal - Labor and Benefits			357,656	126,878	135,638	95,140	-	-	-	-
Operations										
Legal Services	C.01.01	Commodity	$ 10,000	10,000	-	-	-	-	-	-
Engineering	C.01.01	Commodity	6,200	6,200	-	-	-	-	-	-
Training Services	C.01.01	Commodity	1,000	1,000	-	-	-	-	-	-
Education Reimbursement	C.01.01	Commodity	5,656	5,656	-	-	-	-	-	-
Other Professional Svs	C.01.01	Commodity	3,600	3,600	-	-	-	-	-	-
Software/Hardware Support	C.01.01	Commodity	26,905	26,905	-	-	-	-	-	-
Water/Sewage	C.01.01	Commodity	455	455	-	-	-	-	-	-
Solid Waste	C.01.01	Commodity	1,215	1,215	-	-	-	-	-	-
Custodial Services/Supplies	C.10.03	Buildings	4,509	-	4,509	-	-	-	-	-
Repairs/Maintenance Services	C.01.01	Commodity	1,000	1,000	-	-	-	-	-	-
Building/Land Rental	C.00.00	-	-	-	-	-	-	-	-	-
General Insurance	C.10.02	Net Plant in Service	62,336	272	51,586	3,798	-	-	6,680	-
Telephone / Fax / TV	C.01.01	Commodity	1,321	1,321	-	-	-	-	-	-
Network/Internet	C.01.01	Commodity	16,100	16,100	-	-	-	-	-	-
Travel and Related Costs	C.01.01	Commodity	1,500	1,500	-	-	-	-	-	-
Banking / Credit Card Fees	C.05.01	Direct 1	2,000	-	-	-	-	-	-	2,000
Postal Services	C.01.01	Commodity	1,710	1,710	-	-	-	-	-	-
General Supplies	C.01.01	Commodity	500	500	-	-	-	-	-	-
Office Supplies	C.01.01	Commodity	2,186	2,186	-	-	-	-	-	-
Computer Hardware / Software	C.01.01	Commodity	6,629	6,629	-	-	-	-	-	-
Electricity	C.02.02	Dem - Max Hr	9,518	-	-	9,518	-	-	-	-
Heating Oil	C.10.03	Buildings	8,102	-	8,102	-	-	-	-	-
Gasoline for Vehicles	C.10.05	Vehicles - Non Labor	1,963	1,963	-	-	-	-	-	-
Business Meals	C.01.01	Commodity	200	200	-	-	-	-	-	-
Food/Beverage/Employee Appreciat	C.01.01	Commodity	1,000	1,000	-	-	-	-	-	-
Books/Periodicals	C.01.01	Commodity	500	500	-	-	-	-	-	-
Other	C.00.00	-	-	-	-	-	-	-	-	-
Subtotal - Administrative Ops			176,105	89,912	64,197	13,316	-	-	6,680	2,000
Other										
Depreciation	C.10.10	Depr Expense	1,361,872	11,958	976,477	101,482	-	-	271,955	-
PILOT	C.10.02	Net Plant in Service	-	-	-	-	-	-	-	-
Bad Debt	C.00.00	-	-	-	-	-	-	-	-	-
Admin OH	C.10.09	Total Exp Before Other Revenues	21,852	5,253	10,870	4,232	-	-	1,487	10
Interest	C.10.02	Net Plant in Service	102,799	449	85,071	6,263	-	-	11,016	-
Subtotal - Administrative Other			1,486,523	17,660	1,072,417	111,977	-	-	284,458	10
Total Administrative			2,020,284	234,450	1,272,252	220,433	-	-	291,138	2,010

Classification of Expenses
Commodity Demand Method

Commodity Demand (CD) Method			Revenue Requirement	Commodity	Demand		Customers		Piping	Direct 1
					Dem - Max Day	Dem - Max Hr	Number	Equivalents		
Water Operations										
Labor										
Salaries - Operations	C.10.04	Ops - Non Labor	505,140	178,142	185,341	141,657	-	-	-	-
Temporary Employees	C.10.04	Ops - Non Labor	57,428	20,252	21,071	16,105	-	-	-	-
Overtime - Operations	C.10.04	Ops - Non Labor	40,000	14,106	14,676	11,217	-	-	-	-
Benefits - Operations	C.10.04	Ops - Non Labor	374,742	132,156	137,497	105,089	-	-	-	-
Subtotal - Labor and Benefits			977,310	344,657	358,586	274,068	-	-	-	-
Operations										
Engineering	C.02.04	Demand - 50/50	2,000	-	1,000	1,000	-	-	-	-
Training	C.01.01	Commodity	5,500	5,500	-	-	-	-	-	-
Other Professional	C.02.04	Demand - 50/50	213,500	-	106,750	106,750	-	-	-	-
Computer	C.01.01	Commodity	12,000	12,000	-	-	-	-	-	-
Sampling	C.01.01	Commodity	14,400	14,400	-	-	-	-	-	-
Other Technical Services	C.01.01	Commodity	250	250	-	-	-	-	-	-
Water/Sewage	C.01.01	Commodity	13,000	13,000	-	-	-	-	-	-
Solid Waste	C.01.01	Commodity	130,000	130,000	-	-	-	-	-	-
Repairs/Maintenance	C.01.01	Commodity	65,000	65,000	-	-	-	-	-	-
Construction Services	C.01.01	Commodity	6,500	6,500	-	-	-	-	-	-
Telephone / Fax	C.01.01	Commodity	8,000	8,000	-	-	-	-	-	-
Network/Internet	C.01.01	Commodity	-	-	-	-	-	-	-	-
Radio	C.01.01	Commodity	1,500	1,500	-	-	-	-	-	-
Advertising	C.01.01	Commodity	250	250	-	-	-	-	-	-
Travel	C.01.01	Commodity	7,200	7,200	-	-	-	-	-	-
Postage	C.01.01	Commodity	-	-	-	-	-	-	-	-
Dues	C.01.01	Commodity	600	600	-	-	-	-	-	-
Permit Fees	C.01.01	Commodity	9,000	9,000	-	-	-	-	-	-
Other	C.00.00		-	-	-	-	-	-	-	-
General Supplies	C.01.01	Commodity	111,225	111,225	-	-	-	-	-	-
Safety Related Items	C.01.01	Commodity	9,500	9,500	-	-	-	-	-	-
Lab Supplies	C.01.01	Commodity	14,200	14,200	-	-	-	-	-	-
Sand/Gravel/Rock	C.01.01	Commodity	-	-	-	-	-	-	-	-
Chemicals	C.02.04	Demand - 50/50	330,000	-	165,000	165,000	-	-	-	-
Office Supplies	C.01.01	Commodity	450	450	-	-	-	-	-	-
Facility Maintenance Supplies	C.00.00		-	-	-	-	-	-	-	-
Computer	C.01.01	Commodity	1,000	1,000	-	-	-	-	-	-
Electricity	C.02.04	Demand - 50/50	122,500	-	61,250	61,250	-	-	-	-
Propane	C.01.01	Commodity	4,500	4,500	-	-	-	-	-	-
Heating Fuel	C.10.03	Buildings	103,000	-	103,000	-	-	-	-	-
Fuel - Vehicles	C.10.05	Vehicles - Non Labor	3,500	3,500	-	-	-	-	-	-
Fuel - Equipment	C.10.05	Vehicles - Non Labor	1,400	1,400	-	-	-	-	-	-
Food/Beverage/Employee Appreciat	C.01.01	Commodity	800	800	-	-	-	-	-	-
Books/Periodicals	C.01.01	Commodity	250	250	-	-	-	-	-	-
Other	C.00.00		-	-	-	-	-	-	-	-
Subtotal - Operations Ops			1,191,025	420,025	437,000	334,000	-	-	-	-
Total Water Operations			2,168,335	764,682	795,586	608,068	-	-	-	-

Classification of Expenses
Commodity Demand Method

Commodity Demand (CD) Method			Revenue Requirement	Commodity	Demand		Customers		Piping	Direct 1
					Dem - Max Day	Dem - Max Hr	Number	Equivalents		
Vehicle and Equipment										
Labor										
Salaries - Operations	C.10.05	Vehicles - Non Labor	12,255	12,255	-	-	-	-	-	-
Overtime - Operations	C.10.05	Vehicles - Non Labor	365	365	-	-	-	-	-	-
Benefits - Operations	C.10.05	Vehicles - Non Labor	8,218	8,218	-	-	-	-	-	-
Subtotal - Labor and Benefits			20,838	20,838	-	-	-	-	-	-
Operations										
Repairs/Maintenance	C.01.01	Commodity	$ 300	300	-	-	-	-	-	-
Construction Services	C.01.01	Commodity	-	-	-	-	-	-	-	-
General Supplies	C.01.01	Commodity	675	675	-	-	-	-	-	-
Machinery / Vehicle Parts	C.01.01	Commodity	7,500	7,500	-	-	-	-	-	-
Other	C.01.01	Commodity	-	-	-	-	-	-	-	-
Subtotal - Vehicles/Equipment Ops			8,475	8,475	-	-	-	-	-	-
Total Vehicle and Equipment			29,313	29,313	-	-	-	-	-	-
Building R & M										
Labor										
Salaries - Operations	C.10.06	Buildings - Non Labor	13,913	-	13,913	-	-	-	-	-
Overtime - Operations	C.10.06	Buildings - Non Labor	5,264	-	5,264	-	-	-	-	-
Benefits - Operations	C.10.06	Buildings - Non Labor	12,967	-	12,967	-	-	-	-	-
Subtotal - Labor and Benefits			32,144	-	32,144	-	-	-	-	-
Operations										
Repairs/Maintenance	C.10.03	Buildings	15,780	-	15,780	-	-	-	-	-
Construction Services	C.10.03	Buildings	5,000	-	5,000	-	-	-	-	-
General Supplies	C.10.03	Buildings	2,500	-	2,500	-	-	-	-	-
Facility Maint Supplies	C.10.03	Buildings	4,800	-	4,800	-	-	-	-	-
Other	C.00.00	-	-	-	-	-	-	-	-	-
Subtotal - Building R&M Ops			28,080	-	28,080	-	-	-	-	-
Total Building R & M			$ 60,224	$ -	$ 60,224	$ -	$ -	$ -	$ -	$ -
Total Expensses			4,278,156	1,028,445	2,128,062	828,501	-	-	291,138	2,010
Net Margin	C.10.02	Net Plant in Service	100,000	437	82,754	6,093	-	-	10,716	-
Capital Expenditures	C.10.02	Net Plant in Service	-	-	-	-	-	-	-	-
Less Other Revenues										
PERS Nonemployer Contributions	C.10.09	Total Exp Before Other Revenues	-	-	-	-	-	-	-	-
Vactor Services	C.10.09	Total Exp Before Other Revenues	(49,053)	(11,792)	(24,400)	(9,500)	-	-	(3,338)	(23)
Other Services	C.10.09	Total Exp Before Other Revenues	(7,935)	(1,908)	(3,947)	(1,537)	-	-	(540)	(4)
Late Fees	C.10.09	Total Exp Before Other Revenues	(1,663)	(400)	(827)	(322)	-	-	(113)	(1)
Transfers from Spec Rev Fund	C.10.09	Total Exp Before Other Revenues	-	-	-	-	-	-	-	-
Budgeted Use of Unrestricted Net A	C.10.09	Total Exp Before Other Revenues	-	-	-	-	-	-	-	-
Less Total Other Revenues			(58,651)	(14,099)	(29,174)	(11,358)	-	-	(3,991)	(28)
Net Revenue Requirements			**$ 4,319,505**	**$ 1,014,782**	**$ 2,181,642**	**$ 823,235**	**$ -**	**$ -**	**$ 297,863**	**$ 1,983**

Classification of Net Plant
Commodity Demand Method

ACCT#	DESCRIPTION	FIXED ASSETS 6/30/2020	END YEAR ACC DEPR	Net Plant	Classification CD								
					Ref	Type	Commodity	Dem - Max Day	Dem - Max Hr	Customer	Customer Equivalents	Piping	Direct 1
WASTEWATER													
LAND	EASEMENTS FROM OC LAND EXCNG	12,883.00	0.00	12,883.00	C.01.01	Commodity	12,883	-	-	-	-	-	-
	TOTALS LAND 5200-16100	12,883.00	0.00	12,883.00	-	-	12,883	-	-	-	-	-	-
BLDG	WASTEWATER TREATMENT PLANT	2,991,887.87	1,894,862.40	1,097,025.47	C.02.01	Dem - Max Day	-	1,097,025	-	-	-	-	-
	WASTEWATER T.P. UPGRADE FINAL	86,170.69	51,702.13	34,468.56	C.02.01	Dem - Max Day	-	34,469	-	-	-	-	-
	WASTEWATER T.P. UPGRADE	187,279.70	74,412.14	112,867.56	C.02.01	Dem - Max Day	-	112,868	-	-	-	-	-
	NEW WASTEWATER TREATMENT PLANT	24,099,118.43	2,167,104.83	21,932,013.60	C.02.01	Dem - Max Day	-	21,932,014	-	-	-	-	-
	EXISTING WWTP UPGRADE & LAB ADDITION	6,267,246.67	626,724.48	5,640,522.19	C.02.01	Dem - Max Day	-	5,640,522	-	-	-	-	-
	TOTALS BLDG 5200-16200	33,631,703.36	4,814,805.98	28,816,897.38	-	-	-	28,816,897	-	-	-	-	-
IOTB	1987 SEWER COLLECT/TREAT	6,371,534.00	6,371,534.00	0.00	C.04.01	Piping Dist	-	-	-	-	-	-	-
	1988 SEWER COLLECT/TREAT	225,923.00	222,462.47	3,460.53	C.04.01	Piping Dist	-	-	-	-	-	3,461	-
	1989 SEWER COLLECT/TREAT	116,903.25	111,537.90	5,365.35	C.04.01	Piping Dist	-	-	-	-	-	5,365	-
	1990 SEWER COLLECT/TREAT	640,467.68	591,530.63	48,937.05	C.04.01	Piping Dist	-	-	-	-	-	48,937	-
	1991 SEWER COLLECT/TREAT	1,127,419.02	1,006,935.51	120,483.51	C.04.01	Piping Dist	-	-	-	-	-	120,484	-
	LEAR ROAD	116,851.45	97,261.00	19,590.45	C.02.01	Dem - Max Day	19,590	-	-	-	-	-	-
	THOMPSON/SHAISHNIKOFF	19,176.27	15,961.24	3,215.03	C.02.02	Dem - Max Hr	-	2,411	804	-	-	-	-
	I.H.S. SANITATION	10,388.60	10,388.60	0.00	C.04.01	Piping Dist	-	-	-	-	-	-	-
	ILIULAK VALLEY	186,778.14	186,778.14	0.00	C.02.01	Dem - Max Day	-	-	-	-	-	-	-
	JESSE LEE SUBDIVISION LINE HOOKUP	56,794.94	45,435.86	11,359.08	C.04.01	Piping Dist	-	-	-	-	-	11,359	-
	CHOATE LANE SEWER	77,185.49	61,748.33	15,437.16	C.04.01	Piping Dist	-	-	-	-	-	15,437	-
	UPPER HAYSTACK SWR LID	778,951.04	545,265.50	233,685.54	C.04.01	Piping Dist	-	-	-	-	-	233,686	-
	SHAISHNIKOFF SEWER EXT	43,840.00	28,131.03	15,708.97	C.04.01	Piping Dist	-	-	-	-	-	15,709	-
	NEWHALL SEWR MAIN	109,504.00	65,702.80	43,801.20	C.04.01	Piping Dist	-	-	-	-	-	43,801	-
	EASTBROADWAY SEWER	423,289.61	253,973.69	169,315.92	C.04.01	Piping Dist	-	-	-	-	-	169,316	-
	WETWELL CORRISION REPAIR	11,213.25	11,213.25	0.00	C.04.01	Piping Dist	-	-	-	-	-	-	-
	NIRVANA WASTEWATER LID	365,050.58	170,357.04	194,693.54	C.04.01	Piping Dist	-	-	-	-	-	194,694	-
	LIFT STATION #4 IMPROVEMENTS	403,402.00	100,850.40	302,551.60	C.02.02	Dem - Max Hr	-	-	302,552	-	-	-	-
	SCB WASTEWATER BETTERMENTS	436,145.93	130,844.15	305,301.78	C.04.01	Piping Dist	-	-	-	-	-	305,302	-
	LIFT STATION 6 PANEL/CONTROL REPLACE	94,668.82	42,600.76	52,068.06	C.02.02	Dem - Max Hr	-	-	52,068	-	-	-	-
	LIFT STATION 7 PANEL/CONTROL REPLACE	94,668.83	42,600.77	52,068.06	C.02.02	Dem - Max Hr	-	-	52,068	-	-	-	-
	LSA WASTEWATER EXTENSION	891,829.29	245,252.71	646,576.58	C.04.01	Piping Dist	-	-	-	-	-	646,577	-
	WWTP SCADA COMPUTER-RADIO SURVEY	37,690.00	37,690.00	0.00	C.02.01	Dem - Max Day	-	-	-	-	-	-	-
	SEWER LIFT STAION PANEL REPLACE 2&3	188,247.68	31,897.51	156,350.17	C.02.02	Dem - Max Hr	-	-	156,350	-	-	-	-
	PUMP STATION #3 FORCE MAIN UPGRADE	441,149.15	74,750.07	366,399.08	C.02.02	Dem - Max Hr	-	-	366,399	-	-	-	-
	CONNECT LIFT STATION #4 TO SCADA	68,021.59	17,288.62	50,732.97	C.02.01	Dem - Max Day	50,733	-	-	-	-	-	-
	WWTP LIFT STATION IMPROVEMENTS	507,657.51	67,687.68	439,969.83	C.02.02	Dem - Max Hr	-	-	439,970	-	-	-	-
	WWTP SLUDGE TANK & PUMPS	867,195.86	115,626.24	751,569.62	C.02.02	Dem - Max Hr	-	-	751,570	-	-	-	-
	WWTP STORM DRAINAGE IMPROVEMENTS	892,052.30	118,940.16	773,112.14	C.04.01	Piping Dist	-	-	-	-	-	773,112	-
	WW BACKFLOW PREVENTER INSTALL	22,787.09	2,342.10	20,444.99	C.04.01	Piping Dist	-	-	-	-	-	20,445	-
	WWTP SCADA & PUMP CONTROL UPGRADES	70,091.32	7,301.25	62,790.07	C.02.01	Dem - Max Day	62,790	-	-	-	-	-	-
	DELTA WAY EMERGENCY SEWER LINE REPAI	388,061.26	26,948.75	361,112.51	C.04.01	Piping Dist	-	-	-	-	-	361,113	-
	LIFT STATIONS 2&5 DISCHARGE PIPE	352,359.60	12,724.14	339,635.46	C.04.01	Piping Dist	-	-	-	-	-	339,635	-
	EAST POINT SEWER REPAIR	439,367.50	15,866.11	423,501.39	C.04.01	Piping Dist	-	-	-	-	-	423,501	-
	TOTALS IOTB 5200-16300	16,876,666.05	10,887,428.41	5,989,237.64	-	-	133,113	2,411	2,121,780	-	-	3,731,933	-

Classification of Net Plant
Commodity Demand Method

ACCT#	DESCRIPTION	FIXED ASSETS 6/30/2020	END YEAR ACC DEPR	Net Plant	Classification CD								
					Ref	Type	Commodity	Dem - Max Day	Dem - Max Hr	Customer	Customer Equivalents	Piping	Direct 1
WASTEWATER													
M & E	1996 BACKHOE/LOADER BH9	78,850.00	78,850.00	0.00	C.10.01	Land/Bldg/OTE	-	-	-	-	-	-	-
	CYCLOPS INSPECTION TV SYSTEM	32,646.52	32,646.52	0.00	C.10.01	Land/Bldg/OTE	-	-	-	-	-	-	-
	FLATBED TRUCK, F350 W/ CRANE	40,366.10	40,366.10	0.00	C.10.01	Land/Bldg/OTE	-	-	-	-	-	-	-
	DRI-PRIME PUMP SP-1	24,999.85	24,999.85	0.00	C.10.01	Land/Bldg/OTE	-	-	-	-	-	-	-
	PU 4X4 F150 TRUCK SD5542	21,462.60	21,462.60	0.00	C.10.01	Land/Bldg/OTE	-	-	-	-	-	-	-
	FL9 TOYOTA 8BNCU18 FORKLIFT SN 55294	39,085.00	39,085.00	0.00	C.10.01	Land/Bldg/OTE	-	-	-	-	-	-	-
	TOYOTA 7FBEU20 FORKLIFT	37,564.05	37,564.05	0.00	C.10.01	Land/Bldg/OTE	-	-	-	-	-	-	-
	MANI MH254T RT FORKLIFT S/N 942552	73,500.00	73,500.00	0.00	C.10.01	Land/Bldg/OTE	-	-	-	-	-	-	-
	SD2920 FORD F150 4X4 PICKUP	25,628.00	20,929.52	4,698.48	C.10.01	Land/Bldg/OTE	20	3,889	286	-	-	504	-
	SD4363 2016 FORD F450 FLATBED	44,387.00	36,249.37	8,137.63	C.10.01	Land/Bldg/OTE	34	6,735	496	-	-	872	-
	IRIS CRAWLER MAINLINE CAMERA	32,533.81	7,048.99	25,484.82	C.10.01	Land/Bldg/OTE	107	21,093	1,553	-	-	2,731	-
	LIFTMORE HOIST CRANE	11,038.58	2,391.74	8,646.84	C.10.01	Land/Bldg/OTE	36	7,157	527	-	-	927	-
	DPU7380 FORD EXPLORER (25%) DPU DIRECTC	8,140.00	1,763.71	6,376.29	C.10.01	Land/Bldg/OTE	27	5,278	389	-	-	683	-
	SD6223 FORD EXPLORER '20	34,407.00	573.45	33,833.55	C.10.01	Land/Bldg/OTE	142	28,004	2,062	-	-	3,626	-
	Volvo Vactor Tractor	380,000.00	0.00	380,000.00	C.10.01	Land/Bldg/OTE	1,593	314,522	23,156	-	-	40,729	-
	Flatbed F-350	50,000.00	0.00	50,000.00	C.10.01	Land/Bldg/OTE	210	41,384	3,047	-	-	5,359	-
	TOTALS M&E 5200-16400	934,608.51	417,430.90	517,177.61	-	-	2,169	428,062	31,515	-	-	55,432	-
CWIP	FIBER OPTIC INFRASTRUCTURE DEVLOP	6,139.88	0.00	6,139.88	C.10.01	Land/Bldg/OTE	6,140	-	-	-	-	-	-
	TOTALS CIP 5210-16500	6,139.88	0.00	6,139.88	-	-	6,140	-	-	-	-	-	-
	Total	51,462,001	16,119,665	35,342,336	-	-	154,305	29,247,371	2,153,296	-	-	3,787,364	-

Classification of Depreciation Expenses
Base-Extra Capacity Method

ACCT#	DESCRIPTION	Depr Exp	Classification CD								
			Ref	Type	Commodity	Dem - Max Day	Dem - Max Hr	Customer	Customer Equivalents	Piping	Direct 1
WASTEWATER											
LAND	EASEMENTS FROM OC LAND EXCNG	0.00	C.01.01	Commodity	-	-	-	-	-	-	-
	TOTALS LAND 5200-16100	0.00	-	-	-	-	-	-	-	-	-
BLDG	WASTEWATER TREATMENT PLANT	99,729.60	C.02.01	Dem - Max Day	-	99,730	-	-	-	-	-
	WASTEWATER T.P. UPGRADE FINAL	2,872.36	C.02.01	Dem - Max Day	-	2,872	-	-	-	-	-
	WASTEWATER T.P. UPGRADE	6,242.66	C.02.01	Dem - Max Day	-	6,243	-	-	-	-	-
	NEW WASTEWATER TREATMENT PLANT	548,768.28	C.02.01	Dem - Max Day	-	548,768	-	-	-	-	-
	EXISTING WWTP UPGRADE & LAB ADDITION	156,681.17	C.02.01	Dem - Max Day	-	156,681	-	-	-	-	-
	TOTALS BLDG 5200-16200	814,294.06	-	-	-	814,294	-	-	-	-	-
IOTB	1987 SEWER COLLECT/TREAT	(0.00)	C.04.01	Piping Dist	-	-	-	-	-	(0)	-
	1988 SEWER COLLECT/TREAT	3,460.53	C.04.01	Piping Dist	-	-	-	-	-	3,461	-
	1989 SEWER COLLECT/TREAT	3,507.45	C.04.01	Piping Dist	-	-	-	-	-	3,507	-
	1990 SEWER COLLECT/TREAT	19,215.95	C.04.01	Piping Dist	-	-	-	-	-	19,216	-
	1991 SEWER COLLECT/TREAT	33,825.95	C.04.01	Piping Dist	-	-	-	-	-	33,826	-
	LEAR ROAD	3,505.89	C.02.01	Dem - Max Day	3,506	-	-	-	-	-	-
	THOMPSON/SHAISHNIKOFF	575.35	C.02.02	Dem - Max Hr	-	432	144	-	-	-	-
	I.H.S. SANITATION	0.00	C.04.01	Piping Dist	-	-	-	-	-	-	-
	ILIULAK VALLEY	0.00	C.02.01	Dem - Max Day	-	-	-	-	-	-	-
	JESSE LEE SUBDIVISION LINE HOOKUP	1,893.16	C.04.01	Piping Dist	-	-	-	-	-	1,893	-
	CHOATE LANE SEWER	2,572.85	C.04.01	Piping Dist	-	-	-	-	-	2,573	-
	UPPER HAYSTACK SWR LID	25,965.03	C.04.01	Piping Dist	-	-	-	-	-	25,965	-
	SHAISHNIKOFF SEWER EXT	1,461.33	C.04.01	Piping Dist	-	-	-	-	-	1,461	-
	NEWHALL SEWR MAIN	3,650.13	C.04.01	Piping Dist	-	-	-	-	-	3,650	-
	EASTBROADWAY SEWER	14,109.65	C.04.01	Piping Dist	-	-	-	-	-	14,110	-
	WETWELL CORRISION REPAIR	0.00	C.04.01	Piping Dist	-	-	-	-	-	-	-
	NIRVANA WASTEWATER LID	12,168.35	C.04.01	Piping Dist	-	-	-	-	-	12,168	-
	LIFT STATION #4 IMPROVEMENTS	10,085.05	C.02.02	Dem - Max Hr	-	-	10,085	-	-	-	-
	SCB WASTEWATER BETTERMENTS	14,538.20	C.04.01	Piping Dist	-	-	-	-	-	14,538	-
	LIFT STATION 6 PANEL/CONTROL REPLACE	4,733.44	C.02.02	Dem - Max Hr	-	-	4,733	-	-	-	-
	LIFT STATION 7 PANEL/CONTROL REPLACE	4,733.44	C.02.02	Dem - Max Hr	-	-	4,733	-	-	-	-
	LSA WASTEWATER EXTENSION	29,727.64	C.04.01	Piping Dist	-	-	-	-	-	29,728	-
	WWTP SCADA COMPUTER-RADIO SURVEY	0.00	C.02.01	Dem - Max Day	-	-	-	-	-	-	-
	SEWER LIFT STAION PANEL REPLACE 2&3	6,274.92	C.02.02	Dem - Max Hr	-	-	6,275	-	-	-	-
	PUMP STATION #3 FORCE MAIN UPGRADE	14,704.97	C.02.02	Dem - Max Hr	-	-	14,705	-	-	-	-
	CONNECT LIFT STATION #4 TO SCADA	3,401.08	C.02.01	Dem - Max Day	3,401	-	-	-	-	-	-
	WWTP LIFT STATION IMPROVEMENTS	16,921.92	C.02.02	Dem - Max Hr	-	-	16,922	-	-	-	-
	WWTP SLUDGE TANK & PUMPS	28,906.53	C.02.02	Dem - Max Hr	-	-	28,907	-	-	-	-
	WWTP STORM DRAINAGE IMPROVEMENTS	29,735.08	C.04.01	Piping Dist	-	-	-	-	-	29,735	-
	WW BACKFLOW PREVENTER INSTALL	759.57	C.04.01	Piping Dist	-	-	-	-	-	760	-
	WWTP SCADA & PUMP CONTROL UPGRADES	3,504.57	C.02.01	Dem - Max Day	3,505	-	-	-	-	-	-
	DELTA WAY EMERGENCY SEWER LINE REPAII	12,935.38	C.04.01	Piping Dist	-	-	-	-	-	12,935	-
	LIFT STATIONS 2&5 DISCHARGE PIPE	11,745.32	C.04.01	Piping Dist	-	-	-	-	-	11,745	-
	EAST POINT SEWER REPAIR	14,645.58	C.04.01	Piping Dist	-	-	-	-	-	14,646	-
	TOTALS IOTB 5200-16300	333,264.32	-	-	10,412	432	86,504	-	-	235,917	-

Classification of Depreciation Expenses
Base-Extra Capacity Method

ACCT#	DESCRIPTION	Depr Exp	Classification CD							
			Ref	Type	Commodity	Dem - Max Day	Dem - Max Hr	Customer	Customer Equivalents	Piping	Direct 1
WASTEWATER											
M & E	1996 BACKHOE/LOADER BH9	0.00	C.10.01	Land/Bldg/OTE	-	-	-	-	-	-	-
	CYCLOPS INSPECTION TV SYSTEM	0.00	C.10.01	Land/Bldg/OTE	-	-	-	-	-	-	-
	FLATBED TRUCK, F350 W/ CRANE	(0.00)	C.10.01	Land/Bldg/OTE	(0)	(0)	(0)	-	-	(0)	-
	DRI-PRIME PUMP SP-1	(0.00)	C.10.01	Land/Bldg/OTE	(0)	(0)	(0)	-	-	(0)	-
	PU 4X4 F150 TRUCK SD5542	0.00	C.10.01	Land/Bldg/OTE	-	-	-	-	-	-	-
	FL9 TOYOTA 8BNCU18 FORKLIFT SN 55294	0.00	C.10.01	Land/Bldg/OTE	-	-	-	-	-	-	-
	TOYOTA 7FBEU20 FORKLIFT	0.00	C.10.01	Land/Bldg/OTE	-	-	-	-	-	-	-
	MANI MH254T RT FORKLIFT S/N 942552	0.00	C.10.01	Land/Bldg/OTE	-	-	-	-	-	-	-
	SD2920 FORD F150 4X4 PICKUP	4,698.48	C.10.01	Land/Bldg/OTE	20	3,889	286	-	-	504	-
	SD4363 2016 FORD F450 FLATBED	8,137.63	C.10.01	Land/Bldg/OTE	34	6,735	496	-	-	872	-
	IRIS CRAWLER MAINLINE CAMERA	6,506.76	C.10.01	Land/Bldg/OTE	27	5,386	397	-	-	697	-
	LIFTMORE HOIST CRANE	2,207.72	C.10.01	Land/Bldg/OTE	9	1,827	135	-	-	237	-
	DPU7380 FORD EXPLORER (25%) DPU DIRECTO	1,628.00	C.10.01	Land/Bldg/OTE	7	1,347	99	-	-	174	-
	SD6223 FORD EXPLORER '20	6,881.40	C.10.01	Land/Bldg/OTE	29	5,696	419	-	-	738	-
	Volvo Vactor Tractor	38,000.00	C.10.01	Land/Bldg/OTE	159	31,452	2,316	-	-	4,073	-
	Flatbed F-350	5,000.00	C.10.01	Land/Bldg/OTE	21	4,138	305	-	-	536	-
	TOTALS M&E 5200-16400	73,059.99	-	-	306	60,471	4,452	-	-	7,831	-
	FIBER OPTIC INFRASTRUCTURE DEVLOP	0.00	C.10.01	Land/Bldg/OTE	-	-	-	-	-	-	-
	TOTALS CIP 5210-16500	0.00	-	-	-	-	-	-	-	-	-
	Total	1,220,618	-	-	10,718	875,196	90,956	-	-	243,748	-

Allocation Factors
Commodity Demand Method

Commodity - Demand Method

		Un-Metered	Commercial	Industrial	Other	Other	Total
		-	-	-	-	-	-
A.00.00		-	-	-	-	-	0%
		0.0689	0.2840	0.0769			0.4298
A.01.01	Commodity (MGD)	16.0%	66.1%	17.9%	0.0%	0.0%	100%
		0.153	0.529	0.212			0.894
A.02.01	Dem - Max Day (MGD)	17.1%	59.2%	23.7%	0.0%	0.0%	100%
		0.244	0.741	0.254			1.239
A.02.02	Dem - Max Hr (MGD)	19.7%	59.8%	20.5%	0.0%	0.0%	100%
A.03.01	Piping Dist	43.0%	54.4%	2.7%			100.0%
		344	260	5			609
A.05.01	Customers - Number	56.4%	42.8%	0.8%	0.0%	0.0%	100%
		344	655	32	-	-	1,031
A.05.02	Customers - Equivalents	33.3%	63.6%	3.1%	0.0%	0.0%	100%
	Direct						
A.10.01	Unmetered	100%	0%	0%	0%	0%	100%
A.10.02	Commercial	0%	100%	0%	0%	0%	100%
A.10.03	Industrial	0%	0%	100%	0%	0%	100%

Classification Factors
Commodity Demand Method

1	2	3	4	5	6	7	8	9	10
		Commodity	Dem - Max Day	Dem - Max Hr	Customers Number	Customers Equivalents	Piping	Direct 1	Total
C.00.00		0%	0%	0%	0%	0%	0%	0%	0%
C.01.01	Commodity	100%	0%	0%	0%	0%	0%	0%	100%
C.02.01	Dem - Max Day	0%	100%	0%	0%	0%	0%	0%	100%
C.02.02	Dem - Max Hr	0%	0%	100%	0%	0%	0%	0%	100%
C.02.03	Dem - Max Day/Max Hr	0%	75%	25%	0%	0%	0%	0%	100%
C.02.04	Demand - 50/50	0%	50%	50%	0%	0%	0%	0%	100%
C.02.05	Demand - 75/25	0%	75%	25%	0%	0%	0%	0%	100%
C.02.06	Demand - 25/75	0%	25%	75%	0%	0%	0%	0%	100%
C.03.01	Customers	0%	0%	0%	100%	0%	0%	0%	100%
C.03.02	Customer Equivalents	0%	0%	0%	0%	100%	0%	0%	100%
C.04.01	Piping Dist	0%	0%	0%	0%	0%	100%	0%	100%
C.04.02	Not Used	0%	0%	0%	0%	0%	0%	0%	0%
C.05.01	Direct 1	0%	0%	0%	0%	0%	0%	100%	100%
C.05.02	Not Used	0%	0%	0%	0%	0%	0%	0%	0%
		145,996	28,819,309	2,121,780	-	-	3,731,933	-	34,819,018
C.10.01	Land/Bldg/OTE	0%	83%	6%	0%	0%	11%	0%	100%
		154,305	29,247,371	2,153,296	-	-	3,787,364	-	35,342,336
C.10.02	Net Plant in Service	0%	83%	6%	0%	0%	11%	0%	100%
		-	28,816,897	-	-	-	-	-	28,816,897
C.10.03	Buildings	0%	100%	0%	0%	0%	0%	0%	100%
		420,025	437,000	334,000	-	-	-	-	1,191,025
C.10.04	Ops - Non Labor	35%	37%	28%	0%	0%	0%	0%	100%
		8,475	-	-	-	-	-	-	8,475
C.10.05	Vehicles - Non Labor	100%	0%	0%	0%	0%	0%	0%	100%
		-	28,080	-	-	-	-	-	28,080
C.10.06	Buildings - Non Labor	0%	100%	0%	0%	0%	0%	0%	100%
		365,495	390,730	274,068	-	-	-	-	1,030,292
C.10.07	Other Operating Labor	35%	38%	27%	0%	0%	0%	0%	100%
C.10.08									
		1,023,192	2,117,192	824,269	-	-	289,651	2,000	4,256,304
C.10.09	Total Exp Before Other Revenues	24%	50%	19%	0%	0%	7%	0%	100%
		10,718	875,196	90,956	-	-	243,748	-	1,220,618
C.10.10	Depr Expense	1%	72%	7%	0%	0%	20%	0%	100%

Appendix E

Peaking Factors

Peaking Factors

System

Annual Avg Day	0.430
Maximum Day	
Water Max Day/Max Month	1.26
WW Max Day	0.730
Maximum Hour	
Water Max Hour/Max Day	1.14
WW Max Hour	0.833
Maximum Month Avg Day - Mar	0.577

Class

	Pk Day	Pk Hr
Unmetered	0.153	0.244
Commerical	0.529	0.741
Industrial	0.212	0.254

Max Day / Max Mon	1.265
Max Hr / Max Day	1.142

Water Statistics	
Annual Avg Day	2.749
Max Day	6.574
Max Hour	7.507
Max Month	5.197

Note: Since unmetered flows based on assumed 200 gpd flow per customer, Pk Mo Day / Avg Day will be 1.00. Therefore, must assume a factor.

AWWU - 2.07 for Res (U-06-045)
GHU - 1.61 for Res (U-19-070)

Peak Day Factor

	Annual Use		Peak Month			Pk Mo Day/ Avg Day	Max Day / Max Month (Avg Day)	Weekly Usage Adj	Max Day Capacity Factor (MDCF)	Avg Demand x CF	
	MG	MG/Day	Month	MG	MG/Day						
Residential/Duplex	25.15	**0.069**	Jul	2.15	0.069	1.40	1.265	1.250	2.214	0.153	
Commercial	103.67	**0.284**	Mar	10.81	0.349	1.23	1.265	1.200	1.864	0.529	
Industrial	28.08	**0.077**	Mar	4.94	0.159	2.07	1.265	1.050	2.752	0.212	
	156.89	0.430			0.577	1.34				0.894	NCP Day
										0.730	Max Day
										1.22	System Diversity (>1)

Note: Estimated factors.

AWWU - 3.32 for Res (U-06-045)
GHU - 1.95 for Res (U-19-070)

Peak Hour Factor

	Max Day Capacity Factor	Assumed MH / MD	Peak Hour Capacity Factor (PHCF)	Avg Dem x PHCF	
Residential/Duplex	2.214	1.600	3.542	0.244	
Commercial	1.864	1.400	2.609	0.741	
Industrial	2.752	1.200	3.303	0.254	
				1.239	NCP Hour (MGD)
				0.833	Max Hour
				1.49	System Peak Hour Diversity (>1)

Industrial Customer Equivalent Factor

	Unit			Calculation	Source
Water Use	(gal)	77,242,000	(A)	Data	Metering Data
Average Pc	(#)	1,500	(B)	Data	
Per Househ	(#)	3.90	(C)	Data	Censusreporter.org
Equiv. Hou	(#)	385	(D)	=(B)/(D)	Calculation
Equiv. Hou	(gal/day)	200	(E)	Data	Model Assumption
Days/Year	(#)	365	(F)	Data	Known
Est. Water	(gal)	28,076,923	(G)	=(D)x(E)x(F)	Calculation
Estimated % of Meterec		36.35%	(H)	=(G)/(A)	Calculation

City of Unalaska

Solid Waste Utility

Cost of Service / Rate Design Study

April 21, 2021

Aldrich SM

List of Tables, Figures, and Appendices

Tables

Figures

Appendixes

1. INTRODUCTION

Background and Purpose of Study

In 2012, a review of the City of Unalaska's (the City) Solid Waste Utility rates was completed and presented to the City Council. This analysis showed that a rate increase of 75% for the Solid Waste Utility was needed by 2016. Rates were increased consecutively for three years starting in FY2013. The sum of the rate increases was 32.1%.

In early 2016, a high-level review of the City's Solid Waste Utility's cash flows was prepared and presented to the City Council. The analysis indicated that the Solid Waste Utility's revenues would need to increase 9 to 16% just to meet cash flow requirements. Revenues would need to increase even more to provide net positive cash flow in order to set aside funds to be used towards future capital expenditures. Based on these findings, rates were increased. Between 2017 and 2019 rates were increased annually on an across the board basis by 4.5%. The exceptions to the increase were labor and equipment hourly rates which have not increased since 2017. Other exceptions were appliances with refrigerant which increased between 2017 and 2018 by 4.04% and in 2019 by 4.97%. Mud Gear rates were added to the Fiscal Year 2021 Fee Schedule.

It is not clear when the last cost of service study to determine cost causation by rate class was prepared for the City. Since the 2016 review, the Solid Waste Utility has experienced an overall 5% increase in customers, with a decrease in LF52 Nets of about 33%. Although the rate increases have resulted in an overall increase in revenue, increases in expenses have outpaced increases in revenue, resulting in a net deficit in the solid waste fund over the past few years. The 2021 fiscal year budget indicates that this trend is expected to continue. Accordingly, City staff felt it was prudent to review rates of the Solid Waste Utility to ensure that it can meet operating expense requirements and capital improvement obligations in the near term while maintaining the utility's financial health.

This report summarizes the analysis performed by Aldrich CPAs and Advisors, LLP (Aldrich) and the findings with respect to a cost of service study and review of rates for the City's Solid Waste Utility.

Methodology of Analysis

In setting rates for the Solid Waste Utility, the City must ensure that 1) rates will recover adequate revenues to maintain the utility's fiscal health, and 2) the rates are set in an equitable manner that does not favor one class over another.

Based on the assumed sales and revenue requirements, costs are allocated to each rate class. This ensures that the allocation process is performed in a fair and equitable manner. Although the City's rates are not subject to review by the Regulatory Commission of Alaska (RCA), the methodologies used herein are the same as that prescribed by the RCA for regulated utilities.

The overall methodology of allocating costs to the various rate classes is described below in the Process section of the report while the details of the analysis are provided in the Analysis and Adequacy of Rates / Rate Design sections.

Recommendations

Aldrich provides the following recommendations that will assist with cost causation analysis in future studies. During the next Study year that will be analyzed:

1. If possible, on a monthly basis, track and record the number of times the Landfill Maintenance Fee customers bring refuse to the Landfill.

2. If possible, on a monthly basis, track and record the tons of refuse the Landfill Maintenance Fee customers deliver to the Landfill.

3. For hourly labor charges, separate the number of hours spent sorting refuse brought to the Landfill versus the number of hours spent on a special project or job site.

4. Track and record the number of customers that are charged the Minimum Fee for bringing refuse to the Landfill.

5. If there are instances where costs could be assigned directly to a customer class or rate, track and record those costs.

The Process

General

The overall objective of a cost of service study is to allocate the utility's cost to each customer class in a fair and equitable manner. Once the costs are allocated to each class, rates are set to recover the allocated costs such that the "cost causer" is also the "cost payer".

The process of allocating cost and designing rates includes four basic steps:

1) Billing Determinants/Allocator Development: Estimating number of customers and usage;
2) Revenue Requirement Analysis: Projecting the utility's revenue requirement;

3) Cost of Service Analysis: Allocating the revenue requirements to each rate class; and
4) Rate Design: Designing rates that will recover the rate class allocated cost of service.

Billing Determinants / Allocator Development

The number of customers and usage must first be projected prior to projecting the revenue requirements. The estimated tons or cubic yards of solid waste delivered to the landfill is used to develop allocation factors (described below). In addition, revenues by customer class were used to develop an allocation factor. Thus, billing determinants and allocation factors are developed simultaneously.

Billing determinants include the number of customers for each customer class and the volume of waste delivered to the Landfill. The number of customers and volume of waste delivered to the Landfill is taken directly from billing records. Billing determinants are typically based on a utility's billings incurred during the most recent fiscal year, or another recent 12-month period. However, historical trends are also reviewed, and any anticipated system expansions are also considered.

Allocation factors are based on class data which may or may not be readily available. Assumptions were made to allocate a share of the Landfill operating costs to the Maintenance customer class.

Revenue Requirements

Revenue requirements are also based on a utility's most recent 12-month financial results. The historical expenses are reviewed and "normalized" to account for abnormal amounts that occurred during the historical period and known changes that will occur in the future. Total revenue requirements for the utility should include not only normalized expenses but also net operating margins and offsets for other revenues. Net operating margins may be required to satisfy lender covenants or simply to address risks associated with actual sales and expenses differing from projections. Additionally, the utility may wish to build equity in anticipation of large capital additions that will be funded in the near future.

Cost of Service

Once the revenue requirements are projected, these costs must be allocated to each rate class. Customers are separated into rate classes, with each class having different usage characteristics. Since the cost of providing service varies for each class, the utility's costs are allocated among classes that contribute revenue for the Utility. There are approximately 22 classes of service that are described in the City's Fee Schedule. Only eight of the 22

rate classes have revenue associated with them. This cost of service study focuses only on the eight revenue-generating rate classes. It is recommended that the other 14 existing rates be maintained at the current levels. If revenue is realized for the other rate classes in the future, it is not expected to be enough to shift the revenue requirement significantly. The cost of service study allocation methods applied to the eight classes of service are designed to be fair and equitable and to not favor one class over another.

Allocation

In the case of the Solid Waste Utility, the cost-of service analysis allocates the revenue requirement to each customer (or rate) class based on each classes' respective contribution to the expense groupings.

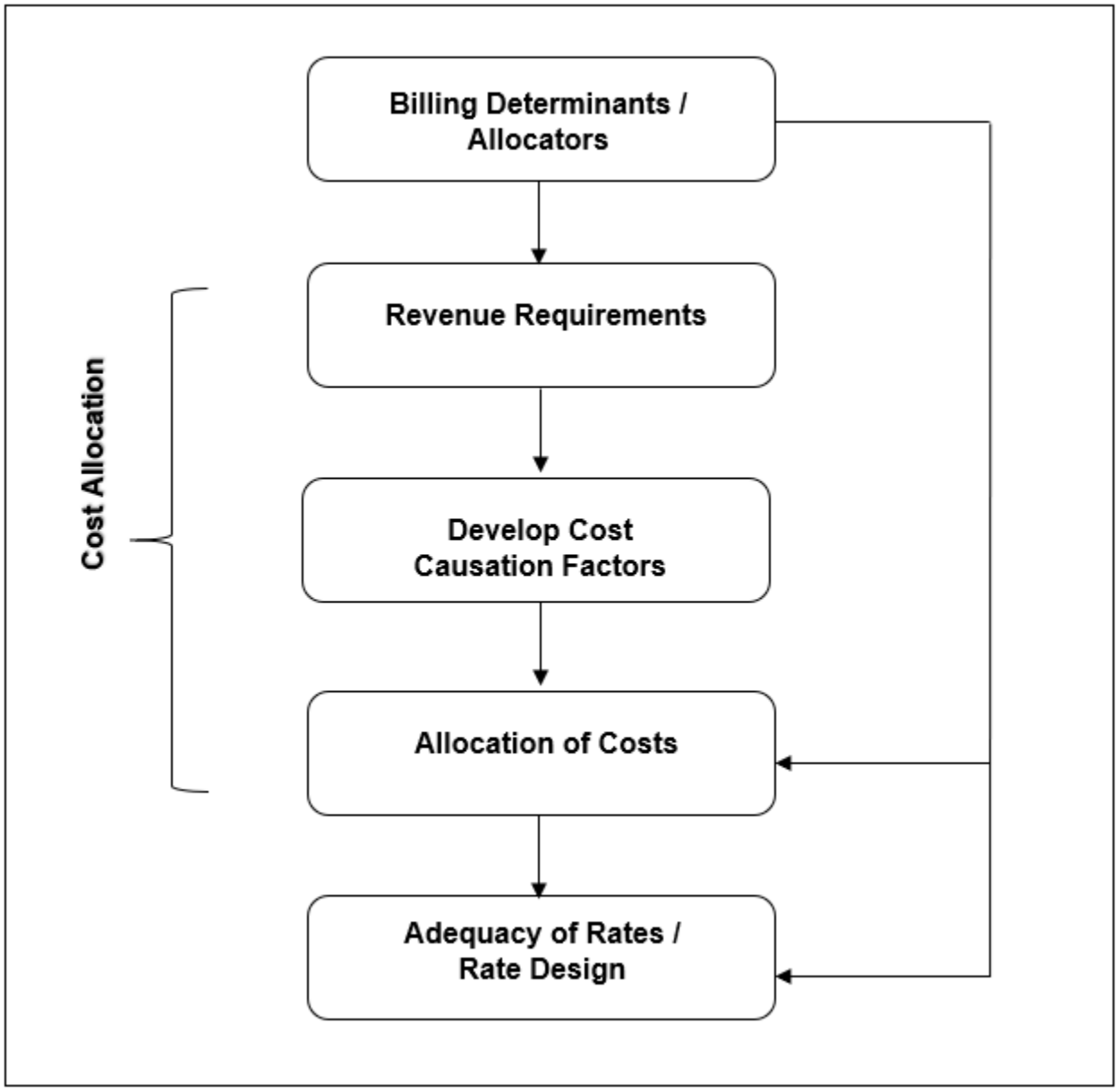
Developing the allocation factors used for expenses is fairly straightforward. Direct cost causation, if any, is recognized. Cost drivers are determined for other categories of expenses and a factor based on the cost driver is calculated. Assumptions are made to allocate a fair share of expense for categories of costs without known direct cost causation. In this way, the allocation factors distribute a fair share of expenses to the all the rate classes.

Rate Design

After the revenue requirements have been allocated to each class, the existing revenues received for each rate class are compared to determine if the rates recover less than or more than the allocated cost of service. Rates are then adjusted accordingly.

The overall process just described is summarized in Figure 1 on the following page. The next section discusses the specific analysis conducted for the City.

Figure 1
The Process



2. ANALYSIS

Billing Determinants and Allocations

The Solid Waste Utility billing determinants for the past three fiscal years are summarized in Table 1 below and provided in more detail in Appendix A. The number of customers in the rate classes shown below have been relatively steady over the past three years but show slight upward trends.

Table 1
Historical Billing Determinants

	Fiscal Year Ending June 30,		
	2018	2019	2020
Number of Customers (Annual Average)			
LF20 Gen Waste	43	41	44
LF23 Equipment	10	13	16
LF24 Scrap Metal HM	14	15	17
LF51 Misc STL (Labor)	9	11	14
LF52 Nets	7	6	6
LF53 Fish Waste	3	4	3
LF54 Refrigerant	3	4	5
LF01 Maintenance	1,035	1,036	1,047
Total	1,124	1,129	1,151

Revenue Requirements

The Solid Waste Utility's expenses for the past three years and the budget for the current fiscal year are summarized in Table 2. Financial details for the fiscal year ending June 30,2020, and the current year budget are provided in Appendix B.

Expenses increased approximately 14% from FY 2018 to FY 2019 and another 12% from FY 2019 to FY 2020. Budget expenses for FY 2021 are over 14% higher than the previous year. Much of the increase is attributed to increased labor and benefits expense, general supplies expense, and professional services, which can be controlled to some extent by the City. Other expenses that cannot be as readily controlled, such as insurance, electricity and others, do not appear to be adding large increases to the overall revenue requirements. Increases in labor and benefits expense alone accounts for almost 78% of the total increase in budget expenses for FY 2021.

Costs that vary with production levels form only a small part of the expense structure with most costs being considered fixed. Accordingly, the budget for FY 2021 forms the basis for the Test Year revenue requirement.

Table 2
Annual Operating Expenses

	Fiscal Year Ending June 30,			
	2018	2019	2020	2021
	Actual	Actual	Actual	Budget
Administrative				
Labor/Benefits	$ 244,094	$ 222,516	$ 233,615	$ 295,967
Administrative Operations	87,181	79,074	80,166	110,615
Depreciation plus Closure	845,288	1,162,270	1,525,228	1,217,996
Administrative Overhead	20,267	21,456	21,456	21,456
Interest/Bad Debt	72,456	67,686	65,110	61,016
Subtotal	1,269,286	1,553,002	1,925,575	1,707,050
Solid Waste Operations				
Labor/Benefits	663,995	653,114	718,593	943,980
Operations	708,610	805,304	805,304	1,159,000
Vehicle				
Labor/Benefits	42,693	41,028	29,968	86,935
Operations	19,507	13,860	21,819	56,000
Facilities				
Labor/Benefits	62,217	62,148	33,927	74,324
Operations	12,523	28,353	11,010	13,500
Total	2,778,831	3,156,809	3,546,196	4,040,789
Target Margin				100,000
Capital Expenditures				-
Less Other Income	(46,509)	(13,272)	(32,592)	(1,578,257)
Net Revenue Requirement	$ 2,732,322	$ 3,143,537	$ 3,513,604	2,562,532

In addition to meeting its expected expenses, the utility should typically set rates that result in positive net margins. Margins serve three purposes for municipal utilities:

1. Debt covenants may require certain levels of net operating margins.
2. A net margin helps provide some security in maintaining a utility's financial health in the event sales or expenses differ significantly from that assumed.
3. The equity built up with net margins can be used to fund capital expenditures and therefore minimize debt.

A target net margin is typically based on a utility's rate base, which is equal to the net plant in service plus an amount for working capital and other miscellaneous items. Other factors are also considered including future cash flows after debt service, capital expenditures, and debt covenants. Based on the Solid Waste Utility's net plant in service, a minimal return on rate base of 4% yields a target margin of approximately $669,000. The Solid Waste Utility's revenue requirements includes a more conservative $100,000 target margin.

Table 3 provides a summary of the adjusted Test Year revenue requirements used in performing the cost of service analysis. Details of these revenue requirements are provided in Appendix B. Two adjustments were made to the budgeted revenue requirements:

1. PERS Nonemployer Contributions were removed from Other Income and used to reduce labor/benefits expenses. Benefits expenses include both employer and employee PERS contributions, but the employee portions are not Utility expenses. Since the PERS Nonemployer Contributions represent the amount of employee contributions that are budgeted to be collected by the Utility, these amounts have been reclassified to reduce the related expense lines.
2. Budgeted Use of Unrestricted Net Assets and Transfers from the Special Revenue Fund totaling $1,578,257 was removed from Other Income. These are non-recurring revenues that are transferred to the Utility from Retained Earnings or other sources to help cover revenue shortfalls.

Table 3
Revenue Requirement Summary

	Fiscal Year Ending June 30,		
	2021 Budget	Adjustments	Adjusted Rev Requirement
Administrative			
Labor/Benefits	$ 295,967	$ (37,969)	$ 257,998
Administrative Operations	110,615		110,615
Depreciation plus Closure	1,217,996		1,217,996
Administrative Overhead	21,456		21,456
Interest/Bad Debt	61,016		61,016
Subtotal	1,707,050	(37,969)	1,669,081
Solid Waste Operations			
Labor/Benefits	943,980		943,980
Operations	1,159,000		1,159,000
Vehicle			
Labor/Benefits	86,935		86,935
Operations	56,000		56,000
Facilities			
Labor/Benefits	74,324		74,324
Operations	13,500		13,500
Total	4,040,789	(37,969)	4,002,820
Target Margin	100,000	-	100,000
Capital Expenditures	-		-
Less Other Income	(1,578,257)	1,578,257	-
Net Revenue Requirement	$ 2,562,532	$ 1,540,288	$ 4,102,820

Cost Allocation

Allocation (Appendix C)

The revenue requirements were allocated based on each customer class' respective share of certain factors. For instance, total tons or cubic yards of solid waste delivered to the Landfill by General Waste, Scrap Metal, Nets and Fish Waste customer classes is readily available. The total tons delivered to the Landfill is not available for the Maintenance Fee rate class which represents residential and commercial customer classes that receive a monthly utility bill for other City services. In addition, it is unclear what the frequency of delivery of waste to the Landfill may be for the Maintenance Fee rate class. The Landfill Factor is based on the known number of tons or cubic yards of waste delivered to the Landfill in each rate class. The Revenue Factor is based on the known total revenues received for each rate class. Each category of expense was analyzed to determine the best way to distribute the cost to each rate class. Assumptions are made to allocate a fair share of expense for categories of costs without known direct cost causation. In this way, the allocation factors distribute a fair share of expenses to the all the rate classes.

Based on the process described above, the revenue requirements were allocated to each customer class, and the allocation process results are shown below in Table 4. Additional details of the allocation are provided in Appendix C.

Table 4
Allocation of Revenue Requirements

	Total	LF20 Gen Waste	LF23 Equipment	LF24 Scrap Metal HM	LF51 Misc STL (Labor)	LF52 Nets	LF53 Fish Waste	LF54 Refrigerant	LF01 Maintenance
Total Revenue Requirement by Rate Class	$ 4,102,820	$ 3,015,319	$ 107,783	$ 194,723	$ 53,142	$ 71,382	$ 238,022	$ 8,881	$ 413,568
Percent	100.00%	73.49%	2.63%	4.75%	1.30%	1.74%	5.80%	0.22%	10.08%

3. ADEQUACY OF RATES/RATE DESIGN

Existing Rate Structure

The Solid Waste Utility's rate structure over the past several years is shown in Table 5. The last time rates were increased was FY 2019. Since then, the rates have remained unchanged.

Table 5
Existing Rates

Rate Class	FY18	FY19	FY20	FY21
LF20 Gen Waste				
Volume Charge ($/Tons)	$ 240.38	$ 251.20	$ 251.20	$ 251.20
LF23 Equipment				
Volume Charge ($/Tons)	$ 166.43	$ 166.43	$ 166.43	$ 166.43
LF24 Scrap Metal HM				
Volume Charge ($/Tons)	$ 1,027.31	$ 1,073.54	$ 1,073.54	$ 1,073.54
LF 51 Misc STL (Labor)				
Volume Charge ($/Tons)	$ 87.40	$ 87.40	$ 87.40	$ 87.40
LF 52 Nets				
Volume Charge ($/Cubic Yard)	$ 1,027.31	$ 1,073.54	$ 1,073.54	$ 1,073.54
LF53 Fish Waste				
Volume Charge ($/Tons)	$ 513.66	$ 536.77	$ 536.77	$ 536.77
LF54 Refrigerant				
Volume Charge ($/Pieces)	$ 102.27	$ 107.35	$ 107.35	$ 107.35
LF01 Maintenance				
Service Charge ($/Month)	$ 26.76	$ 27.97	$ 27.97	$ 27.97

Projected Revenues – Existing Rates

Table 6 provides a summary of the revenues projected to be collected based on the assumed billing determinants and existing rates. The projections summarized in the table indicate that existing rates must be increased an average of 60% to recover all revenue requirements (including the target margin of $100,000). On a class basis, most classes have rates set below their allocated cost of service except for LF24 Sharp Metal and LF52 Nets. The LF54 Refrigerant class is the closest to its allocated cost of service while the LF23 Equipment is significantly below its cost of service, requiring a 154% increase to cover the cost of service. The LF20 General Waste class of service is responsible for the largest portion of the revenue deficiency.

Table 6
Test Year Net Revenues – Existing Rates

	Total	LF20 Gen Waste	LF23 Equipment	LF24 Scrap Metal HM	LF51 Misc STL (Labor)	LF52 Nets	LF53 Fish Waste	LF54 Refrigerant	LF01 Maintenance
Revenues at Existing Rates	$ 2,562,531	$ 1,641,558	$ 42,484	$ 274,041	$ 22,310	$ 109,616	$ 109,616	$ 8,769	$ 354,137
Full Revenue Requirement									
Allocated Costs	$ 4,102,820	$ 3,015,319	$ 107,783	$ 194,723	$ 53,142	$ 71,382	$ 238,022	$ 8,881	$ 413,568
Surplus (Deficiency)	$ (1,540,289)	$ (1,373,762)	$ (65,299)	$ 79,318	$ (30,832)	$ 38,234	$ (128,405)	$ (112)	$ (59,432)
Required Increase (Decrease)	60.11%	83.69%	153.70%	-28.94%	138.19%	-34.88%	117.14%	1.27%	16.78%

Table 7 compares the revenue requirements developed in this study with the current rates and Table 8 compares the customer counts and production data used in these studies. These tables provide some insight into the need for such a significant rate increase to recover all revenue requirements. Table 7 shows that the net revenue requirement increased between the prior revenue analysis and this study by about $1.3 million, or 49%. The largest expense increases were in: labor and benefits ($370,000), depreciation ($299,000), solid waste operations ($482,000), and an increase in target margin ($100,000). While the revenue requirements have increased over 49%, Table 8 shows that customer counts have only increased by 5%. Without a significant increase in customers, the Utility must raise rates to cover increases in costs or operate at a deficit.

Table 7
Historical Revenue Requirement Comparison

	Fiscal Year Ending June 30,			
	2016 Adj Rev Requirements	2020 Adj Rev Requirements	Dollar Change	Percentage Change
Administrative				
Labor/Benefits	$ 225,552	$ 257,998	$ 32,446	14.4%
Administrative Operations	106,664	110,615	3,951	3.7%
Depreciation plus Closure	918,979	1,217,996	299,017	32.5%
Administrative Overhead	13,822	21,456	7,634	55.2%
Interest/Bad Debt	-	61,016	61,016	N/A
Subtotal	1,265,017	1,669,081	404,064	31.9%
Solid Waste Operations				
Labor/Benefits	632,864	943,980	311,116	49.2%
Operations	676,300	1,159,000	482,700	71.4%
Vehicle				
Labor/Benefits	70,253	86,935	16,682	23.7%
Operations	56,000	56,000	-	0.0%
Facilities				
Labor/Benefits	64,429	74,324	9,895	15.4%
Operations	11,576	13,500	1,924	16.6%
Total	2,776,439	4,002,820	1,226,381	44.2%
Target Margin	-	100,000	100,000	N/A
Capital Expenditures	-	-		N/A
Less Other Income	(16,692)	-	16,692	-100.0%
Net Revenue Requirement	$ 2,759,747	$ 4,102,820	$ 1,343,073	48.7%

Table 8
Historical Customer Count

	Fiscal Year Ending June 30,			
	2016	2020	Change	Percent Change
Number of Customers (Annual Average)				
LF20 Gen Waste	45	44	(1)	-1.9%
LF23 Equipment	12	16	4	30.1%
LF24 Scrap Metal Hl	15	17	2	12.8%
LF51 Misc STL (Lab	9	14	5	54.1%
LF52 Nets	9	6	(3)	-33.0%
LF53 Fish Waste	3	3	0	10.0%
LF54 Refrigerant	4	5	0	11.3%
LF01 Maintenance	997	1,047	50	5.0%
Total	1,094	1,151	57	5.2%

The budget for the fiscal year ending June 30, 2021 shows a budgeted net income of zero but after the adjustments described in the Analysis section above, the deficiency is over $1.5 million, as shown in Table 7. The actual net loss in FY 2020 was over $1.1 million. The reason for the difference between the calculated deficiency and the prior year actual results are:

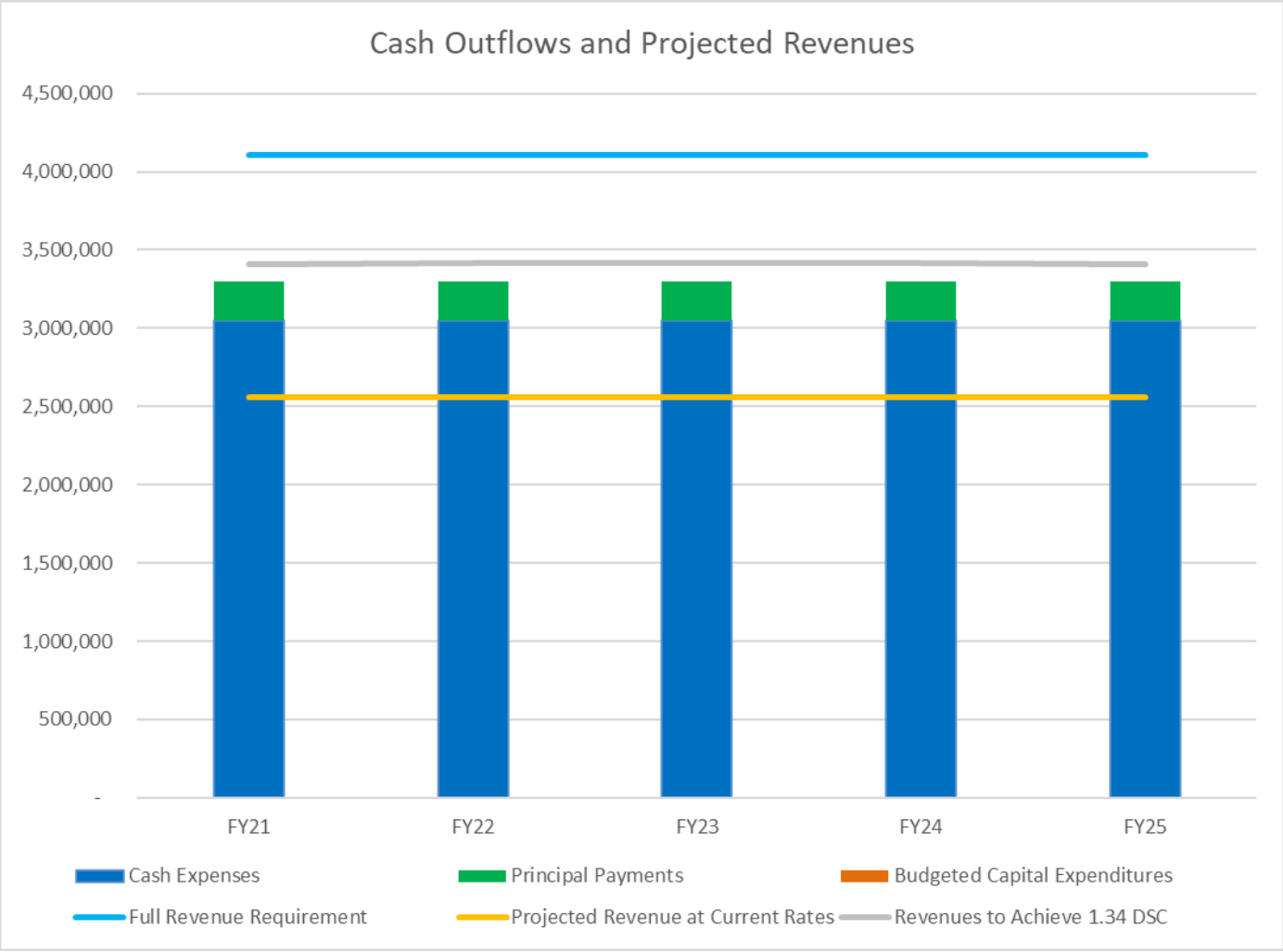
1. The revenue requirements summarized in Table 7 include a target margin of $100,000. No corresponding amount is included in the actual margin.
2. FY 2021 budgeted expenses were approximately $495,000 higher than FY 2020 actual expenses. The primary drivers in this increase were:
    a. Labor/Benefits expense was budgeted approximately $385,000 higher than FY 2020 actual expense;
    b. Solid Waste Operations expense was budgeted approximately $420,000 higher than FY 2020 actual expense; and
    c. Depreciation expense is budgeted to be $307,000 lower than FY 2020 actual expense.

Expenses in 2021 and thereafter are expected to increase due to inflationary effects on the utility's expense structure and an increase in depreciation as new assets are included in the system. Revenue deficits with the existing rates are, therefore, also expected to increase in the future absent increased landfill usage.

Figure 2, on the next page, illustrates that if sales volume and operating expenses remain at the level projected for FY 2021, with no rate increase, cash generated will not be sufficient to cover cash expenses (including

interest) and debt principle payments. Additionally, no cash will be generated to pay for capital expenditures. There are no budgeted capital expenditures for FY 2021 through FY 2025. The graph also shows that if rates are increased to achieve a 1.34 DSC, enough cash will be generated to cover cash expenses, and debt principle payments. Note that budgeted capital expenditures were not accounted for. If rates are increased and sales equal the revenue requirements, enough cash will be generated to cover all projected cash outflows and allow the utility to set aside funds for additional future projects. The remaining amounts will need to be funded through either debt, retained earnings, transfers from the general fund or special revenue fund, or a combination thereof.

Figure 2
Cash Outflows and Projected Revenues



Alternate Cash Basis Revenue Requirement

Traditional ratemaking typically calculates revenue requirements on an income basis (as described in the Revenue Requirements section above). This method includes all operating expenses, interest on debt, and depreciation (a non-cash expense) in the revenue requirement. However, another way to look at the revenue requirement concept is on a cash basis. This method includes all operating expenses and interest on debt but rather than including non-cash depreciation expense, it includes principal payments instead. When evaluating the revenue requirement using this method, the debt service coverage ratio (DSC) can be used to define the utility's cash requirements. DSC is equal to the utility's earnings before interest, taxes, and depreciation, divided by its required debt service payments (principle and interest). Table 9 shows that the Solid Waste Utility's DSC based on projected revenues from current rates and the budgeted debt service payments for FY 2021 is -1.36. To achieve a DSC of +1.36, rates would need to be increased by 33%. Figure 2 shows that if sales volume and operating expenses remain at the level projected for FY 2021, with a rate increase to achieve a 1.36 DSC, cash generated should be sufficient to cover cash expenses (including interest) and debt principle payments however there will be little extra cash left to pay for capital expenditures.

Table 9
Alternate Cash Basis Revenue Requirement

	Total	LF20 Gen Waste	LF23 Equipment	LF24 Scrap Metal HM	LF51 Misc STL (Labor)	LF52 Nets	LF53 Fish Waste	LF54 Refrigerant	LF01 Maintenance
Revenues	$ 2,562,531	$ 1,641,558	$ 42,484	$ 274,041	$ 22,310	$ 109,616	$ 109,616	$ 8,769	$ 354,137
Minimum Required Cash Flow									
Full Revenue Requirement	$ 4,102,820	$ 3,015,319	$ 107,783	$ 194,723	$ 53,142	$ 71,382	$ 238,022	$ 8,881	$ 413,568
Percent	100.00%	73.49%	2.63%	4.75%	1.30%	1.74%	5.80%	0.22%	10.08%
Less:									
Depreciation	$ 955,996	$ 702,598	$ 25,114	$ 45,372	$ 12,383	$ 16,633	$ 55,461	$ 2,069	$ 96,365
Interest Expense	61,016	44,843	1,603	2,896	790	1,062	3,540	132	6,150
Target Margin	100,000	73,494	2,627	4,746	1,295	1,740	5,801	216	10,080
Operating Expenses	$ 2,985,808	$ 2,194,385	$ 78,439	$ 141,709	$ 38,674	$ 51,948	$ 173,219	$ 6,463	$ 300,972
FY 2021 Principal Payments	254,232	186,844	6,679	12,066	3,293	4,423	14,749	550	25,627
Interest Expense	57,202	42,040	1,503	2,715	741	995	3,319	124	5,766
Minimum Required Cash Flow	$ 3,297,242	$ 2,423,269	$ 86,620	$ 156,490	$ 42,708	$ 57,366	$ 191,287	$ 7,137	$ 332,365
Achieved DSC	(1.36)								
Cash Basis Revenue Requirement									
Target DSC	1.36								
Target DSC Revenue Requirement	$ 3,408,168	$ 2,504,793	$ 89,534	$ 161,754	$ 44,145	$ 59,296	$ 197,722	$ 7,377	$ 343,547
Surplus (Deficiency)	$ (845,637)	$ (863,235)	$ (47,050)	$ 112,286	$ (21,834)	$ 50,320	$ (88,106)	$ 1,392	$ 10,590
Percent	-33%	-53%	-111%	41%	-98%	46%	-80%	16%	3%

Rate Options

As mentioned before, it is noted that cost of service studies are somewhat imprecise in nature, consequently, rate adjustments need not be set precisely at cost of service to be fair and equitable. Several rate options are discussed below for the City's consideration and are summarized on Table 10. The average monthly customer impact is presented on Table 11 and each option's effect on rates is summarized on Table 12. With each option,

the Utility could choose to phase the rate increases in over several years to ease the transition. During the interim years, the deficiency in the revenue requirements would need to be covered with cash reserves, transfers from the general fund, or some other source of cash.

Rate Option 1 Increase rates to meet a 1.25 target DSC. This could be accomplished by:

Option 1a
Increase rates by:

- 52.6 % for LF20 Gen Waste;
- 110.7 % for LF23 Equipment;
- 97.9 % for LF51 Misc STL (Labor); and
- 80.4 % for LF53 Fish Waste.

and decrease rates by:

- 41 % for LF24 Scrap Metal;
- 45.9 % for LF52 Nets;
- 15.9 % for LF54 Refrigerant;
- and 3 % for LF01 Maintenance.

Option 1b
Increase rates across-the-board by 33.0%.

Rate Option 2

Adjust rates to meet the full revenue requirement, based on the cost of service study results. This would result in increasing rates by:

- 83.7 % for LF20 Gen Waste;
- 153.7 % for LF23 Equipment;
- 138.2 % for LF51 Misc STL (Labor);
- 117.1 % for LF53 Fish Waste.

and decrease rates by:

- 28.9 % for LF24 Scrap Metal;
- 34.9 % for LF52 Nets;
- 1.3 % for LF54 Refrigerant; and
- 16.8 % for LF01 Maintenance.

Rate Option 3
Implement a 1 % sales tax to fund utility infrastructure to help fund capital expenditures. The total estimated revenues from a 1 % sales tax would be approximately $2.67 million. This revenue could be split between the City of Unalaska utilities to fund utility infrastructure needs and specific projects at the direction of the City Council.

Combine Rate Option 1 and 3
Options 1 and 3 could be combined with revenues from Option 1 providing cash to fund operating expenses and debt payments and revenues from Option 3 providing cash for capital projects.

Table 10
Rate Options

		Total	LF20 Gen Waste	LF23 Equipment	LF24 Scrap Metal HM	LF51 Misc STL (Labor)	LF52 Nets	LF53 Fish Waste	LF54 Refrigerant	LF01 Maintenance
Revenues at Existing Rates		$ 2,562,531	$ 1,641,558	$ 42,484	$ 274,041	$ 22,310	$ 109,616	$ 109,616	$ 8,769	$ 354,137
Full Revenue Requirement										
Allocated Costs		$ 4,102,820	$ 3,015,319	$ 107,783	$ 194,723	$ 53,142	$ 71,382	$ 238,022	$ 8,881	$ 413,568
Surplus (Deficiency)		$ (1,540,289)	$ (1,373,762)	$ (65,299)	$ 79,318	$ (30,832)	$ 38,234	$ (128,405)	$ (112)	$ (59,432)
Required Increase (Decrease)		60.11%	83.69%	153.70%	-28.94%	138.19%	-34.88%	117.14%	1.27%	16.78%
Percent of Total		100.00%	64.06%	1.66%	10.69%	0.87%	4.28%	4.28%	0.34%	13.82%
Cash Basis Revenue Requirement (Target DSC RR)										
Allocated Costs	DSC: 1.36	$ 3,408,168	$ 2,504,793	$ 89,534	$ 161,754	$ 44,145	$ 59,296	$ 197,722	$ 7,377	$ 343,547
Surplus (Deficiency)		$ (845,637)	$ (863,235)	$ (47,050)	$ 112,286	$ (21,834)	$ 50,320	$ (88,106)	$ 1,392	$ 10,590
Required Increase (Decrease)		33.00%	52.59%	110.75%	-40.97%	97.87%	-45.91%	80.38%	-15.87%	-2.99%
Percent of Total		100.00%	73.49%	2.63%	4.75%	1.30%	1.74%	5.80%	0.22%	10.08%
Option 1a: DSC: Based on COSS										
Proposed Adjustment	DSC: 1.36	33.00%	52.59%	110.75%	-40.97%	97.87%	-45.91%	80.38%	-15.87%	-2.99%
After Proposed Adjustment:										
Revenues at Proposed Rates		$ 3,408,168	$ 2,504,793	$ 89,534	$ 161,754	$ 44,145	$ 59,296	$ 197,722	$ 7,377	$ 343,547
Surplus (Deficiency)		$ (845,637)	$ (863,235)	$ (47,050)	$ 112,286	$ (21,834)	$ 50,320	$ (88,106)	$ 1,392	$ 10,590
Percent of Total		100.00%	73.49%	2.63%	4.75%	1.30%	1.74%	5.80%	0.22%	10.08%
Required Increase (Decrease)										
Rates at DSC Based on COSS			$ 383.30	$ 350.75	$ 633.66	$ 172.93	$ 580.73	$ 968.21	$ 90.31	$ 27.13
Option 1b: DSC; Across the Board Increase										
Proposed Adjustment	DSC: 1.36	33.00%	33.00%	33.00%	33.00%	33.00%	33.00%	33.00%	33.00%	33.00%
Revenues at Proposed Rates		$ 3,408,168	$ 2,183,272	$ 56,504	$ 364,474	$ 29,673	$ 145,790	$ 145,790	$ 11,663	$ 471,002
Surplus (Deficiency)		$ (845,637)	$ (541,714)	$ (14,020)	$ (90,433)	$ (7,362)	$ (36,173)	$ (36,173)	$ (2,894)	$ (116,865)
Rates Based on DSC Across the Board			$ 334.10	$ 221.35	$ 1,427.81	$ 116.24	$ 1,427.81	$ 713.90	$ 142.78	$ 37.20
Option 2 No Deficiency; Based on COSS Results										
Proposed Adjustment			83.69%	153.70%	-28.94%	138.19%	-34.88%	117.14%	1.27%	16.78%
After Proposed Adjustment:										
Current Revenues		$ 2,562,531	$ 1,641,558	$ 42,484	$ 274,041	$ 22,310	$ 109,616	$ 109,616	$ 8,769	$ 354,137
Revenues at Proposed Rates		$ 4,102,820	$ 3,015,319	$ 107,783	$ 194,723	$ 53,142	$ 71,382	$ 238,022	$ 8,881	$ 413,568
Surplus (Deficiency)		$ (1,540,289)	$ (1,373,762)	$ (65,299)	$ 79,318	$ (30,832)	$ 38,234	$ (128,405)	$ (112)	$ (59,432)
% Increase/(Decrease)		60.11%	83.69%	153.70%	-28.94%	138.19%	-34.88%	117.14%	1.27%	16.78%
Rates Based on COSS			$ 461.42	$ 422.23	$ 762.82	$ 208.18	$ 699.09	$ 1,165.55	$ 108.72	$ 32.66

Table 11
Average Monthly Bill Impacts

	Current Rates	Option 1a: Cost-Based Rates	Options 1b: Across-the-Board Increase	Option 2: Cost-Based Rates
LF01 Sch A Landfill Maintenance Fee	$ 27.97	$ 27.13	$ 37.20	$ 32.66
% Change:	0.0%	-3.0%	33.0%	16.8%

Table 12
Rate Effects

Rate Class	Current Rates	Across the Board Increase Full Rev Req	Percent Change	Option 1a: DSC Based on COSS	Percent Change	Option 1b: DSC Across the Board	Percent Change	Option 2 COSS Full Rev Req	Percent Change
LF20 Gen Waste	$ 251.20	$ 402.19	60.11%	$ 383.30	52.59%	$ 334.10	33.00%	$ 461.42	83.69%
LF23 Equipment	166.43	266.47	60.11%	350.75	110.75%	221.35	33.00%	422.23	153.70%
LF24 Scrap Metal HM	1,073.54	1,718.82	60.11%	633.66	-40.97%	1,427.81	33.00%	762.82	-28.94%
LF51 Misc STL (Labor)	87.40	139.93	60.11%	172.93	97.87%	116.24	33.00%	208.18	138.19%
LF52 Nets	1,073.54	1,718.82	60.11%	580.73	-45.91%	1,427.81	33.00%	699.09	-34.88%
LF53 Fish Waste	536.77	859.41	60.11%	968.21	80.38%	713.90	33.00%	1,165.55	117.14%
LF54 Refrigerant	107.35	171.88	60.11%	90.31	-15.87%	142.78	33.00%	108.72	1.27%
LF01 Maintenance	27.97	44.78	60.11%	27.13	-2.99%	37.20	33.00%	32.66	16.78%

Summary

The findings of the analysis herein are:

1. Expenses have increased since the last rate review was performed, and the number of customers and the resulting revenue has not changed increased commensurately to keep up with expenses.
2. Due to the significant increase in expenses without significant changes in sales, rates for most customer classes are set less than cost of service.
3. Revenues from the LF20 Gen Waste (tipping fees) account for 76 % of total revenues. Since rates for that class are less than cost of service, an overall revenue shortfall is projected.
4. The minimum cash flow required by the utility, prior to capital expenditures, is estimated to be approximately $4 million per year and the projected sales revenues are $2.5 million per year.

Based on the outcome of this study, it is recommended that solid waste rates be increased at this time. Cash flow cannot be supported at existing rates at this point and both near-term and long-term operations call for a rate increase. Capital improvements necessary to maintain the integrity of the system must be funded. Those additions that are smaller are probably best funded from cash generated through revenues, and while larger additions might be funded from debt or grants, the City's willingness to set appropriate rates will facilitate the ability to secure external funding.

Appendix A – Historical Billing Determinants
Solid Waste Utility

	Fiscal Year Ending June 30,		
	2018	2019	2020
Number of Customers (Annual Average)			
LF20 Gen Waste	43	41	44
LF23 Equipment	10	13	16
LF24 Scrap Metal HM	14	15	17
LF51 Misc STL (Labor)	9	11	14
LF52 Nets	7	6	6
LF53 Fish Waste	3	4	3
LF54 Refrigerant	3	4	5
LF01 Maintenance	1,035	1,036	1,047
Total	1,124	1,129	1,151

Existing Rates

Rate Class	FY18	FY19	FY20	FY21
LF20 Gen Waste				
Volume Charge ($/Tons)	$ 240.38	$ 251.20	$ 251.20	$ 251.20
LF23 Equipment				
Volume Charge ($/Tons)	$ 166.43	$ 166.43	$ 166.43	$ 166.43
LF24 Scrap Metal HM				
Volume Charge ($/Tons)	$ 1,027.31	$ 1,073.54	$ 1,073.54	$ 1,073.54
LF 51 Misc STL (Labor)				
Volume Charge ($/Tons)	$ 87.40	$ 87.40	$ 87.40	$ 87.40
LF 52 Nets				
Volume Charge ($/Cubic Yard)	$ 1,027.31	$ 1,073.54	$ 1,073.54	$ 1,073.54
LF53 Fish Waste				
Volume Charge ($/Tons)	$ 513.66	$ 536.77	$ 536.77	$ 536.77
LF54 Refrigerant				
Volume Charge ($/Pieces)	$ 102.27	$ 107.35	$ 107.35	$ 107.35
LF01 Maintenance				
Service Charge ($/Month)	$ 26.76	$ 27.97	$ 27.97	$ 27.97

Appendix B – Historical and Projected Revenue Requirements
Solid Waste Utility

	FY 2018 (Actual)	FY 2019 (Actual)	FY 2020 (Actual)	FY 2021 (Budget)	Normalized Budget
Administration					
Labor					
Salaries and Wages - Admin	$ 147,728	$ 159,218	$ 144,669	$ 174,711	$ 174,711
Temporary Employees	2,002	545	269	1,297	1,297
Overtime - Admin	841	243	381	494	494
Benefits and PR Taxes - Admin	93,523	62,510	101,714	119,465	81,496
Subtotal - Labor and Benefits	244,094	222,516	247,033	295,967	257,998
Operations					
Legal Services	-	-	-	1,000	1,000
Engineering/Architectural Svs	2,035	2,596	4,382	2,500	2,500
Training Services	1,695	62	-	1,000	1,000
Education Reimbursement	-	-	-	1,450	1,450
Other Professional Svs	994	401	1,379	1,900	1,900
Software/Hardware Support	6,564	8,545	6,606	11,546	11,546
Water/Sewage	481	470	472	456	456
Solid Waste	2,476	674	879	1,215	1,215
Custodial Services/Supplies	1,165	1,213	1,304	4,509	4,509
Repairs/Maintenance Services	309	460	344	500	500
Building/Land Rental	-	-	-	-	42,712
General Insurance	26,890	22,641	25,459	42,712	1,321
Telephone / Fax / TV	1,654	2,387	2,788	1,321	6,900
Network/Internet	3,629	3,619	3,618	6,900	1,000
Travel and Related Costs	4,092	487	603	1,000	1,800
Banking / Credit Card Fees	4,635	5,854	5,170	1,800	2,565
Postal Services	2,753	(1,758)	1,905	2,565	-
Employee Moving Costs	-	-	-	5,000	5,000
General Supplies	840	250	138	200	200
Safety Related Items	-	785	611	-	-
Office Supplies	1,169	1,354	747	2,186	2,186
Computer Hardware / Software	3,709	7,179	5,475	2,841	2,841
Electricity	7,476	8,389	5,961	7,000	7,000
Heating Oil	11,937	10,687	9,455	8,102	8,102
Gasoline for Vehicles	668	674	409	1,962	1,962
Business Meals	37	-	-	200	200
Food/Beverage/Employee Appreciation	1,702	1,833	1,422	750	750
Books/Periodicals	272	272	247	-	-
Other	-	-	791	-	-
Subtotal - Administrative Ops	87,182	79,074	80,165	110,615	110,615
Other					
Depreciation	884,251	907,244	911,102	955,996	955,996
Landfill Closure/Post Closure	(38,963)	255,026	501,774	262,000	262,000
Bad Debt	-	120	417	-	-
Admin OH	20,267	21,456	21,456	21,456	21,456
Interest	72,456	67,566	43,338	61,016	61,016
Subtotal - Administrative Other	938,011	1,251,412	1,478,087	1,300,468	1,300,468
Total Administrative	1,269,287	1,553,002	1,805,285	1,707,050	1,669,081

Appendix B – Historical and Projected Revenue Requirements
Solid Waste Utility

Solid Waste Operations					
Labor					
Salaries - Operations	338,455	380,808	404,900	474,730	474,730
Temporary Employees	38,533	24,774	8,357	27,903	27,903
Overtime - Operations	44,187	45,931	21,966	46,000	46,000
Benefits - Operations	242,820	201,601	128,410	395,347	395,347
Subtotal - Labor and Benefits	663,995	653,114	563,633	943,980	943,980
Operations					
Engineering	4,175	-	-	2,000	2,000
Training	3,256	1,020	1,190	4,000	4,000
Other Professional	66,976	98,191	35,819	46,500	46,500
Computer	54	-	-	2,000	1,200
Sampling	28,567	23,138	6,543	48,000	48,000
Other Technical Services	965	210	1,540	36,500	36,500
Water/Sewage	68,410	192,263	109,269	150,000	150,000
Solid Waste	261,303	26,834	336,580	572,000	572,000
Repairs/Maintenance	10,500	125,088	69,462	11,000	11,000
Construction Services	-	-	-	-	-
Telephone / Fax	4,120	4,001	4,045	4,600	4,600
Network/Internet	-	-	-	-	-
Radio	-	6,325	-	2,750	2,750
Advertising	-	650	450	500	500
Travel	1,882	5,458	(1,067)	8,000	8,000
Postage	-	-	-	-	-
Dues	1,510	418	223	1,000	1,000
Permit Fees	9,945	9,735	10,155	10,000	10,000
Employee Moving Costs	-	1,067	-	-	-
Other	-	-	12,600	-	-
General Supplies	79,305	102,592	118,415	53,500	53,500
Safety Related Items	728	6,518	5,874	16,500	16,500
Lab Supplies	3,075	3,858	-	5,000	5,000
Sand/Gravel/Rock	49,995	50,040	49,994	50,000	50,000
Chemicals	158	-	-	250	250
Office Supplies	988	-	1,018	700	700
Facility Maintenance Supplies	-	-	-	-	-
Computer	3,380	-	843	1,700	1,700
Electricity	61,476	82,584	84,081	70,000	70,000
Propane	1,756	1,618	1,405	2,000	2,000
Heating Fuel	35,321	52,887	42,784	50,000	50,000
Fuel - Vehicles	735	1,162	1,276	800	800
Fuel - Equipment	9,755	9,196	5,892	10,000	10,000
Food/Beverage/Employee Appreciation	275	397	448	400	400
Books/Periodicals	-	55	-	100	100
Other		-	-	-	
Subtotal - Operations Ops	708,610	805,305	898,839	1,159,800	1,159,000
Total Solid Waste Operations	1,372,605	1,458,419	1,462,472	2,103,780	2,102,980
Vehicle and Equipment					
Labor					
Salaries - Operations	22,150	23,235	18,919	49,583	49,583
Overtime - Operations	3,735	2,289	287	1,485	1,485
Benefits - Operations	16,808	15,504	12,416	35,867	35,867
Subtotal - Labor and Benefits	42,693	41,028	31,622	86,935	86,935
Operations					
Repairs/Maintenance	-	112	1,666	2,500	2,500
Construction Services	-	-	-	-	-
General Supplies	119	-	61	2,000	2,000
Machinery / Vehicle Parts	15,925	13,748	20,092	51,500	51,500
Other	3,463	-	-	-	-
Subtotal - Vehicles/Equipment Ops	19,507	13,860	21,819	56,000	56,000
Total Vehicle and Equipment	62,200	54,888	53,441	142,935	142,935

Appendix B – Historical and Projected Revenue Requirements
Solid Waste Utility

Facilities Maintenance					
Labor					
Salaries - Operations	36,829	34,295	20,064	42,764	42,764
Temporary Employees - Operations	401	196	-	-	-
Overtime - Operations	707	2,378	446	574	574
Benefits - Operations	24,280	25,279	15,091	30,986	30,986
Subtotal - Labor and Benefits	62,217	62,148	35,601	74,324	74,324
Operations					
Other Professional	-	5,125	716	-	-
Repairs/Maintenance	4,595	14,876	3,409	5,500	5,500
Construction Services	-	-	-	1,000	1,000
General Supplies	1,075	152	60	1,500	1,500
Safety Related Items	-	2,018	22	-	-
Facility Maint Supplies	6,853	6,182	6,803	5,500	5,500
Other	-	-	-	-	-
Subtotal - Building R&M Ops	12,523	28,353	11,010	13,500	13,500
Total Facilities Maintenance	$ 74,740	$ 90,501	$ 46,611	$ 87,824	$ 87,824
Total Expenses	2,778,832	3,156,810	3,367,809	4,041,589	4,002,820
Net Margin	-	-	-	-	100,000
Capital Expenditures	-	-	-	-	-
Less Other Revenues					
PERS Nonemployer Contributions	(28,010)	(13,072)	(48,708)	(37,969)	-
Vactor Services	-	-	-	-	-
Other Services	(264,992)	(299,425)	(384,051)	(270,450)	-
Late Fees	(860)	(996)	(1,566)	(2,071)	-
Special Assess Pen & Int	-	-	-	-	-
Transfers from Spec Rev Fund	(184,704)	(116,612)	(44,622)	-	-
Budgeted Use of Unrestricted Net Assets	-	-	-	(1,540,288)	-
Less Total Other Revenues	(478,566)	(430,105)	(478,947)	(1,850,778)	-
Net Revenue Requirements	**$ 2,300,266**	**$ 2,726,705**	**$ 2,888,862**	**$ 2,190,811**	**$ 4,102,820**

Appendix C – Allocations
Solid Waste Utility

Line No.	Description	Total	Allocation Basis	LF20 Gen Waste	LF23 Equipment	LF24 Scrap Metal HM	LF51 Misc STL (Labor)	LF52 Nets	LF53 Fish Waste	LF54 Refrigerant	LF01 Maintenance	Total
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
1	**Revenue Requirement Study**											
2	**Operating Expenses**	$ 2,102,980										
3			Landfill Factor	92.90%	0.00%	2.01%	0.00%	0.74%	4.35%	0.00%	0.00%	100.00%
4	Allocated 50% on Landfill Factor	$ 1,051,490		$ 976,873	$ -	$ 21,167	$ -	$ 7,759	$ 45,690	$ -	$ -	$ 1,051,490
5			Revenue Factor	64.67%	3.82%	5.99%	1.88%	2.20%	6.46%	0.31%	14.66%	100%
6	Allocated 50% on Revenue Factor	$ 1,051,490		$ 679,998	$ 40,181	$ 62,969	$ 19,811	$ 23,083	$ 67,962	$ 3,311	$ 154,175	$ 1,051,490
7	**Administrative Expenses**	$ 1,669,081										
8			Revenue Factor	64.67%	3.82%	5.99%	1.88%	2.20%	6.46%	0.31%	14.66%	100.00%
9	Allocated Total			$ 1,079,394	$ 63,781	$ 99,953	$ 31,447	$ 36,641	$ 107,879	$ 5,255	$ 244,730	$ 1,669,081
10	**Vehicle and Equipment Maintenance**	$ 142,935										
11			Landfill Factor	92.90%	0.00%	2.01%	0.00%	0.74%	4.35%	0.00%	0.00%	100.00%
12	Allocated Total			$ 132,792	$ -	$ 2,877	$ -	$ 1,055	$ 6,211	$ -	$ -	$ 142,935
13	**Facilities Maintenance**	$ 87,824										
14			Landfill Factor	92.90%	0.00%	2.01%	0.00%	0.74%	4.35%	0.00%	0.00%	100.00%
15	Allocated Total			$ 81,592	$ -	$ 1,768	$ -	$ 648	$ 3,816	$ -	$ -	$ 87,824
16	**Transfers Out**	$ 100,000										
17			Revenue Factor	64.67%	3.82%	5.99%	1.88%	2.20%	6.46%	0.31%	14.66%	100.00%
18	Allocated Total			$ 64,670	$ 3,821	$ 5,989	$ 1,884	$ 2,195	$ 6,463	$ 315	$ 14,663	$ 100,000
19	**Total Revenue Requirement by Rate Class**	**$ 4,102,820**		**$ 3,015,319**	**$ 107,783**	**$ 194,723**	**$ 53,142**	**$ 71,382**	**$ 238,022**	**$ 8,881**	**$ 413,568**	**$ 4,102,820**
20	Percent of Revenue Requirement			73.49%	2.63%	4.75%	1.30%	1.74%	5.80%	0.22%	10.08%	100.00%
21	Budgeted Revenues Per Rate Class	$ 2,509,647		$ 1,607,680	$ 41,608	$ 268,385	$ 21,850	$ 107,354	$ 107,354	$ 8,588	$ 346,828	$ 2,509,647
22	Percent of Budgeted Revenues			64.06%	1.66%	10.69%	0.87%	4.28%	4.28%	0.34%	13.82%	100.00%
23	Allocate Vehicle Tax and Late Fees Across All Rate Classes	$ 52,885	Ln 22	$ 33,878	$ 877	$ 5,656	$ 460	$ 2,262	$ 2,262	$ 181	$ 7,309	$ 52,885
24	**Total Budgeted Revenues By Rate Class**	**$ 2,562,531**		**$ 1,641,558**	**$ 42,484**	**$ 274,041**	**$ 22,310**	**$ 109,616**	**$ 109,616**	**$ 8,769**	**$ 354,137**	**$ 2,562,531**
25	Over/(Under) Earning Per Rate Class	$ (1,540,289)		$ (1,373,762)	$ (65,299)	$ 79,318	$ (30,832)	$ 38,234	$ (128,405)	$ (112)	$ (59,432)	$ (1,540,289)
26	Percent of Total Underearning			89%	4.24%	-5.15%	2.00%	-2.48%	8.34%	0.01%	3.86%	-100.00%
27	Percent Revenue Increase Required			83.69%	153.70%	-28.94%	138.19%	-34.88%	117.14%	1.27%	16.78%	