CASE NO. 2019-00080
CITY OF PIKEVILLE WHOLESALE WATER SERVICE RATES
RESPONSES TO MOUNTAIN WATER DISTRICT'S INITIAL DATA REQUESTS

1. Provide a list of all regulatory cases, in any state, for which the principal rate analyst has submitted testimony, verbally or written, and provide a copy of such testimony with the name of the regulatory authority, represented utility, case or docket number, and date of testimony.

Response: Mr. Petty has not provided testimony in prior regulatory cases. No regulatory authority has challenged any of Mr. Petty's rate studies and cost of service projects.

WITNESSES: Samuel Petty

2. The contract between Rate Studies and Pikeville requires a cost of service study (COSS) based on Kentucky PSC methodology. How does the COSS prepared by Rate Studies in this case conform to that requirement? Provide reference to any KY PSC order recognizing this methodology as acceptable.

Response: Debt service coverage methodology has been utilized and approved in numerous cases before the Public Service Commission. *See, e.g., Bath County Water Dist.*, Case No. 2012-00537 (Staff Report Feb. 15, 2013). Likewise, Mr. Petty's COSS presents a reasonable approach for distributing the revenue requirement based on available data. Mr. Petty uses generally acceptable principles for distributing the revenue requirement in the industry.

WITNESSES:

3. Considering Pikeville only has one water treatment plant and operates only one transmission/distribution system, why is there different accounting for inside city versus outside city operations?

Explain the in/outside city accounting reference in the COSS and explain why MWD is included in in-city customers.

Explain why Pikeville does not have a wholesale rate.

Response: On information and belief, Pikeville wanted separate inside city and outside city rates. In order to determine appropriate rates, Pikeville tracked expenses and revenues separately. Based on the City's records that date back to 2003, MWD has always been included in the same accounting fund. Pikeville has wholesale rates for MWD and Southern Water and Sewer District.

WITNESSES: Tonya Taylor; Samuel Petty

4. What is the cost to produce 1000 gallons of water at Pikeville's water treatment plant, that is, water production only, not distribution or transmission costs.

Response: As shown on Figure 9 located on page 10 of the cost-of-service study, the cost for water production is $0.80 per 1,000 gallons.

WITNESSES: Samuel Petty

5. Provide total FY 2017 average daily water sold to all customers, retail customers (inside city separate from outside city) and to each wholesale customer, separately.

Response:

	Gallons
Inside City Average Daily Consumption	771,705
Outside City Avg Daily Consumption	198,830
Mountain Water Avg Daily Consumption	1,268,926
Southern Water Avg Daily Consumption	427,348

WITNESSES: Tonya Taylor

6. Does the City have any agreements with any entity to supply water at a rate below the published rates? If so, provide the name of the customer and the date of the most recent agreement or contract.

Response: No.

WITNESSES: Tonya Taylor

7. Provide the test year (Fiscal Year 2017) water usage for the top 25 customers (as volume purchased) and the names of each customer and associated test year revenue.

Response: Please see the chart below.

	Customer Name	Gallons Purchased	Amount Billed
1	Pike Co Correction Authority	23681100	$46,322.49
2	Pikeville Medical Center	21060000	$41,342.40
3	Pikeville Methodist-Hospital	16691000	$33,041.30
4	PMC- Parking Garage	8707600	$17,469.76
5	Pikeville College	5043100	$10,791.38
6	University of Pikeville	3663400	$9,141.20
7	Pikeville College New Dorm	2902600	$7,416.95
8	Pikeville Scholar House	2612000	$6,291.20
9	Housing Authority of Pikeville	2411100	$5,736.88
10	Signature Healthcare	2365500	$5,822.85
11	Super WalMart	2109000	$5,329.65
12	Landmark Properties	1988400	$5,355.83
13	Gatti's of Pikeville	1902200	$4,942.58
14	Texas Roadhouse	1827400	$5,048.98
15	City of Pikeville	1774700	$4,700.33
16	Uniplex Building	1709700	$4,272.73
17	BMA of Pike County	1592700	$4,354.53
18	Pikeville College	1572600	$4,299.57
19	Pikeville College	1558400	$4,289.36
20	City of Pikeville- Pool	1534300	$3,460
21	Pikeville College	1405300	$3,998.28
22	K-VAT Food Stores	1373000	$4,119.50
23	Holiday Inn Express	1372700	$4,478.03
24	Hampton Inn	1354000	$3,901
25	City of Pikeville- Sewage Plant	1280300	$3,092.94

WITNESSES: Tonya Taylor

8. Provide the total gallons sold through water loading stations or any other specials sales (eg., filling of pools, non-routine washdowns, etc.)

Response: Pikeville does not have different rates for "special sales." In response to Item 18 of Commission Staff's second request for information, Pikeville identified $190 for hydrant revenues. There was approximately 38,100 gallons for that revenue.

WITNESSES: Tonya Taylor

9. Confirm the actual master meter readings from which Pikeville charged water rates and fees during Fiscal Year 2017.

Response: See attached

WITNESSES: Tonya Taylor

UMG Meter Readings

WATER DEPARTMENT
MASTER WATER READINGS

DATE: 7-29-2016

ACCOUNT NUMBER	LOCATION	PRESENT	PREVIOUS	USAGE	AMOUNT
	SANDY VALLEY-Pikeville	323837	312592	11245	991 DON'T BILL
54-9966200-0	TOWN MOUNTAIN	585533	567147	18386	
54-9909400-0	CHLOE ROAD	56065	53829	2236	
54-9911500-0	ISLAND CREEK	46500	43215	2285	
54-9928000-0	MUD CREEK-Southern Wt.	059603	049664	9939	
54-9914600-0	COON BRANCH	10502	10399	103	
54-9913000-0	SOUTH MAYO TRAIL	186666	179066	7600	
54-9925500-0	HOOPWOOD HOLLOW	14711	14611	100	
54-9911800-0	ISLAND CK. TRAILER PK.	28504	28327	177	
54-9911900-0	HURRICANE CREEK	296788	294908	1880	
54-9912000-0	PIKE FLOYD-Southern	32855	31560	1295	
54-9900100-0	COWPEN-Mt. Water	252084	249791	2293	
		TOTAL		46294	

only Read First 5 Numbers

METER READER INITIALS: MM / DS

NON METERED WATER

FLUSHING - EST _____

LEAKS - EST _____

TOTAL GALLONS _____

MOUNTAIN WATER
P.O. BOX 3157
PIKEVILLE, KY 41502

509315800 P.01/01

TRANSACTION REPORT

SEP/01/2016/THU 02:26 PM

AX(TX)

#	DATE	START T.	RECEIVER	COM.TIME	PAGE	TYPE/NOTE	FILE
001	SEP/01	02:26PM	4370540	0:00:36	2	MEMORY OK SG3	3404

WATER DEPARTMENT
MASTER WATER READINGS

DATE: 9-1-16

ACCOUNT NUMBER	LOCATION	PRESENT	PREVIOUS	USAGE	AMOUNT
	SANDY VALLEY-Pikeville	337893	323837	14056	9044 DON'T BILL
54-9966200-0	TOWN MOUNTAIN	608185	585533	22652	
54-9909400-0	CHLOE ROAD	59255	56065	3190	
54-9911500-0	ISLAND CREEK	49428	45500	3928	
54-9928000-0	MUD CREEK-Southern Wt.	071481	059603	11878	
54-9914600-0	COON BRANCH	10621	10502	119	
54-9913000-0	SOUTH MAYO TRAIL	198600	186666	11934	
54-9925500-0	HOOPWOOD HOLLOW	14816	14711	105	
54-9911800-0	ISLAND CK. TRAILER PK.	00200	00000	200	
54-9911900-0	HURRICANE CREEK	298730	296788	1942	
54-9912000-0	PIKE FLOYD-Southern	35055	32855	2200	
54-9900100-0	COWPEN-Mt. Water	254896	252084	2812	
		TOTAL		60960	

Only Read First 5 Numbers

METER READER INITIALS: _____

NON METERED WATER

FLUSHING - EST _____

LEAKS - EST _____

TRANSACTION REPORT

OCT/03/2016/MON 11:59 AM

FAX(TX)

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WATER DEPARTMENT
MASTER WATER READINGS

DATE: 10-3-16

ACCOUNT NUMBER	LOCATION	PRESENT	PREVIOUS	USAGE	AMOUNT
	SANDY VALLEY-Pikeville	351625	337893	13732	9294 DON'T BILL
54-9966200-0	TOWN MOUNTAIN	630872	608185	22687	
54-9909400-0	CHLOE ROAD	62186	59255	2931	
54-9911500-0	ISLAND CREEK	53367	49428	3939	
54-9928000-0	MUD CREEK-Southern Wt.	082012	071481	10531	
54-9914600-0	COON BRANCH	10745	10621	124	
54-9913000-0	SOUTH MAYO TRAIL	209692	198600	11092	
54-9925500-0	HOOPWOOD HOLLOW	14905	14816	89	
54-9911800-0	ISLAND CK. TRAILER PK.	00366	00200	166	
54-9911900-0	HURRICANE CREEK	300506	298730	1776	
54-9912000-0	PIKE FLOYD-Southern	36991	35055	1936	
54-9900100-0	COWPEN-Mt. Water	257398	254896	2502	
			TOTAL	57773	

Only Read First 5 Numbers

METER READER INITIALS: MC WH

NON METERED WATER

FLUSHING - EST _____

LEAKS - EST _____

TOTAL GALLONS _____

TRANSACTION REPORT

NOV/01/2016/TUE 01:49 PM

AX (TX)

#	DATE	START T.	RECEIVER	COM.TIME	PAGE	TYPE/NOTE	FILE
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WATER DEPARTMENT
MASTER WATER READINGS

DATE: 11-1-16

ACCOUNT NUMBER	LOCATION	PRESENT	PREVIOUS	USAGE	AMOUNT
	SANDY VALLEY-Pikeville	363600	351625	11975	7789 DON'T BILL
54-9966200-0	TOWN MOUNTAIN	649812	630872	18940	
54-9909400-0	CHLOE ROAD	64504	62186	2318	
54-9911500-0	ISLAND CREEK	54756	53367	1389	
54-9928000-0	MUD CREEK-Southern Wt.	092385	082012	10373	
54-9914600-0	COON BRANCH	10867	10745	122	
54-9913000-0	SOUTH MAYO TRAIL	217143	209692	7451	
54-9925500-0	HOOPWOOD HOLLOW	14984	14905	79	
54-9911800-0	ISLAND CK. TRAILER PK.	00515	00366	149	
54-9911900-0	HURRICANE CREEK	301960	300506	1454	
54-9912000-0	PIKE FLOYD-Southern	38683	36991	1692	
54-9900100-0	COWPEN-Mt. Water	259892	257398	2494	
		TOTAL		46461	

Only Read First 5 numbers

METER READER INITIALS: WH

NON METERED WATER

FLUSHING - EST _____

LEAKS - EST _____

TOTAL GALLONS _____

WATER DEPARTMENT
MASTER WATER READINGS

DATE: 12-1-16

ACCOUNT NUMBER	LOCATION	PRESENT	PREVIOUS	USAGE	AMOUNT
	SANDY VALLEY-Pikeville	376131	363600	12531	8360 DON'T BILL
54-9966200-0	TOWN MOUNTAIN	667801	649812	17989	
54-9909400-0	CHLOE ROAD	66677	64504	2173	
54-9911500-0	ISLAND CREEK	56991	54756	2235	
54-9928000-0	MUD CREEK-Southern Wt.	103564	092385	11179	
54-9914600-0	COON BRANCH	11020	10867	153	
54-9913000-0	SOUTH MAYO TRAIL	226517	217143	9374	
54-9925500-0	HOOPWOOD HOLLOW	15066	14984	82	
54-9911800-0	ISLAND CK. TRAILER PK.	00670	00515	155	
54-9911900-0	HURRICANE CREEK	303564	301960	1604	
54-9912000-0	PIKE FLOYD-Southern	40369	38683	1686	
54-9900100-0	COWPEN-Mt. Water	262377	259892	2485	
		TOTAL		49115	

Only Read 1, YS1 — 5 Numbers

METER READER INITIALS: W H

NON METERED WATER

FLUSHING - EST _____

LEAKS - EST _____

TOTAL GALLONS _____

MOUNTAIN WATER
P.O. BOX 3157
PIKEVILLE, KY 41502

WATER DEPARTMENT
MASTER WATER READINGS

DATE: 1-3-17

ACCOUNT NUMBER	LOCATION	PRESENT	PREVIOUS	USAGE	AMOUNT
	SANDY VALLEY-Pikeville	390447	376131	14316	9894 DON'T BILL
54-9966200-0	TOWN MOUNTAIN	688174	667801	20373	
54-9909400-0	CHLOE ROAD	69185	66677	2508	
54-9911500-0	ISLAND CREEK	60827	56991	3836	
54-9928000-0	MUD CREEK-Southern Wt.	115387	103564	11823	
54-9914600-0	COON BRANCH	11206	11020	186	☆
54-9913000-0	SOUTH MAYO TRAIL	01701	00000	1701	
54-9925500-0	HOOPWOOD HOLLOW	15158	15066	92	
54-9911800-0	ISLAND CK. TRAILER PK.	00862	00670	192	
54-9911900-0	HURRICANE CREEK	305483	303564	1919	
54-9912000-0	PIKE FLOYD-Southern	42148	40369	1779	
54-9900100-0	COWPEN-Mt. Water	265020	262377	2643	
		TOTAL		47052	

Only Read First 5 Numbers

METER READER INITIALS: WH MC

NON METERED WATER

FLUSHING - EST _____

LEAKS - EST _____

TOTAL GALLONS _____

MOUNTAIN WATER
P.O. BOX 0157
PIKEVILLE, KY 41502

509315800 P.01/01

TRANSACTION REPORT

FEB/01/2017/WED 01:12 PM

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WATER DEPARTMENT
MASTER WATER READINGS

DATE: 2-1-17

ACCOUNT NUMBER	LOCATION	PRESENT	PREVIOUS	USAGE	AMOUNT
	SANDY VALLEY-Pikeville	408201	390447	17754	13449 DON'T BILL
54-9966200-0	TOWN MOUNTAIN	708017	688174	19843	
54-9909400-0	CHLOE ROAD	71288	69185	2103	
54-9911500-0	ISLAND CREEK	64520	60827	3693	
54-9928000-0	MUD CREEK-Southern Wt.	125744	115387	10357	
54-9914600-0	COON BRANCH	11406	11206	200	
54-9913000-0	SOUTH MAYO TRAIL	10045	01701	8344	
54-9925500-0	HOOPWOOD HOLLOW	15235	15158	77	
54-9911800-0	ISLAND CK. TRAILER PK.	01042	00862	180	
54-9911900-0	HURRICANE CREEK	307081	305483	1598	
54-9912000-0	PIKE FLOYD-Southern	43591	42148	1443	
54-9900100-0	COWPEN-Mt. Water	267882	265020	2862	
			TOTAL	50700	

Only Read First 5 Numbers

METER READER INITIALS: WH

NON METERED WATER

FLUSHING - EST _____

LEAKS - EST _____

TOTAL GALLONS _____

TRANSACTION REPORT

MAR/01/2017/WED 01:02 PM

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#	DATE	START T.	RECEIVER	COM.TIME	PAGE	TYPE/NOTE	FILE
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WATER DEPARTMENT
MASTER WATER READINGS

DATE: 3-1-17

ACCOUNT NUMBER	LOCATION	PRESENT	PREVIOUS	USAGE	AMOUNT
	SANDY VALLEY-Pikeville	419023	408201	10822	5671 DON'T BILL
54-9966200-0	TOWN MOUNTAIN	723714	708017	15697	
54-9909400-0	CHLOE ROAD	73255	71288	1967	
54-9911500-0	ISLAND CREEK	67429	64520	2909	
54-9928000-0	MUD CREEK-Southern Wt.	135818	125744	10074	
54-9914600-0	COON BRANCH	11602	11406	196	
54-9913000-0	SOUTH MAYO TRAIL	16983	10045	6918	
54-9925500-0	HOOPWOOD HOLLOW	15306	15235	71	
54-9911800-0	ISLAND CK. TRAILER PK.	01205	01042	163	
54-9911900-0	HURRICANE CREEK	308594	307081	1513	
54-9912000-0	PIKE FLOYD-Southern	146284	143591	2693	
54-9900100-0	COWPEN-Mt. Water	270340	267882	2458	
		TOTAL		44659	

copy Read First 5 numbers

METER READER INITIALS: mm

NON METERED WATER

FLUSHING - EST _____

LEAKS - EST _____

TOTAL GALLONS

TRANSACTION REPORT

APR/03/2017/MON 02:10 PM

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WATER DEPARTMENT
MASTER WATER READINGS

DATE: 4-3-17

ACCOUNT NUMBER	LOCATION	PRESENT	PREVIOUS	USAGE	AMOUNT
	SANDY VALLEY-Pikeville	434982	419023	15959	9074 DON'T BILL
54-9966200-0	TOWN MOUNTAIN	742985	723714	19271	
54-9909400-0	CHLOE ROAD	75458	73255	2203	
54-9911500-0	ISLAND CREEK	71110	67429	3681	
54-9928000-0	MUD CREEK-Southern Wt.	147229	135818	11411	
54-9914600-0	COON BRANCH	11844	11602	242	
54-9913000-0	SOUTH MAYO TRAIL	26484	16963	9521	
54-9925500-0	HOOPWOOD HOLLOW	15384	15306	78	
54-9911800-0	ISLAND CK. TRAILER PK.	13820	01205	177	
54-9911900-0	HURRICANE CREEK	3103238	08594	1731	
54-9912000-0	PIKE FLOYD-Southern	50398	46284	4114	
54-9900100-0	COWPEN-Mt. Water	273110	270340	2771	
			TOTAL	55200	

Only Read First 5 numbers

METER READER INITIALS: MM

NON METERED WATER

FLUSHING - EST _____

LEAKS - EST _____

TOTAL GALLONS _____

TRANSACTION REPORT

MAY/01/2017/MON 02:53 PM

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WATER DEPARTMENT
MASTER WATER READINGS

DATE: 5-1-17

ACCOUNT NUMBER	LOCATION	PRESENT	PREVIOUS	USAGE	AMOUNT
	SANDY VALLEY-Pikeville	447264	434988	12278	7821 DON'T BILL
54-9966200-0	TOWN MOUNTAIN	759289	742985	16224	
54-9909400-0	CHLOE ROAD	77125	75458	1667	
54-9911500-0	ISLAND CREEK	75048	71110	3938	
54-9928000-0	MUD CREEK-Southern Wt.	167195	147229	9966	
54-9914600-0	COON BRANCH	12044	11844	200	
54-9913000-0	SOUTH MAYO TRAIL	34961	26484	8477	
54-9925500-0	HOOPWOOD HOLLOW	17462	16384	78	
54-9911800-0	ISLAND CK. TRAILER PK.	01529	01382	147	
54-9911900-0	HURRICANE CREEK	312761	310325	1436	
54-9912000-0	PIKE FLOYD-Southern	52595	50398	2197	
54-9900100-0	COWPEN-Mt. Water	275384	273111	2260	
		TOTAL		46590	

Apply Read First 5 Numbers

METER READER INITIALS: MM

NON METERED WATER

FLUSHING - EST _____

LEAKS - EST _____

TOTAL GALLONS

TRANSACTION REPORT

JUN/01/2017/THU 01:31 PM

FAX(TX)

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WATER DEPARTMENT
MASTER WATER READINGS

DATE: 6-1-17

ACCOUNT NUMBER	LOCATION	PRESENT	PREVIOUS	USAGE	AMOUNT
	SANDY VALLEY-Pikeville	461211	447260	13951	8840 DON'T BILL
54-9966200-0	TOWN MOUNTAIN	776500	759209	17291	
54-9909400-0	CHLOE ROAD	78928	77125	1803	
54-9911500-0	ISLAND CREEK	78772	75048	3724	
54-9928000-0	MUD CREEK-Southern Wt.	168205	157195	11010	
54-9914600-0	COON BRANCH	12197	12044	153	
54-9913000-0	SOUTH MAYO TRAIL	44527	34961	9566	
54-9925500-0	HOOPWOOD HOLLOW	15573	15462	111	
54-9911800-0	ISLAND CK. TRAILER PK.	01712	1529	183	
54-9911900-0	HURRICANE CREEK	313638	311761	1877	
54-9912000-0	PIKE FLOYD-Southern	55026	52595	2431	
54-9900100-0	COWPEN-Mt. Water	278051	27537[illegible]	2680	
		TOTAL		50829	

Only Read First 5 Numbers

METER READER INITIALS: LS CB

NON METERED WATER

FLUSHING - EST _____

LEAKS - EST _____

TOTAL GALLONS _____

MOUNTAIN WATER
P.O. BOX 3167
PIKEVILLE, KY 41502

WATER DEPARTMENT
MASTER WATER READINGS

DATE: 7-3-17

ACCOUNT NUMBER	LOCATION	PRESENT	PREVIOUS	USAGE	AMOUNT
	SANDY VALLEY-Pikeville	477447	461211	16236	9142 DON'T BILL
54-9966200-0	TOWN MOUNTAIN	796135	776500	19635	
54-9909400-0	CHLOE ROAD	81020	78928	2092	
54-9911500-0	ISLAND CREEK	82380	78772	3608	
54-9928000-0	MUD CREEK-Southern Wt.	179014	168205	10809	
54-9914600-0	COON BRANCH	12330	12197	133	
54-9913000-0	SOUTH MAYO TRAIL	55414	44527	10887	
54-9925500-0	HOOPWOOD HOLLOW	15693	15573	120	
54-9911800-0	ISLAND CK. TRAILER PK.	01955	01712	243	
54-9911900-0	HURRICANE CREEK	316958	313638	2320	
54-9912000-0	PIKE FLOYD-Southern	058192	55026	3166	
54-9900100-0	COWPEN-Mt. Water	281979	278051	3928	
			TOTAL	~~73177~~ 56941	

Only Read First 5 Numbers

METER READER INITIALS: CBCR

NON METERED WATER

FLUSHING - EST _____

LEAKS - EST _____

TOTAL GALLONS _____

MOUNTAIN WATER
P.O. BOX 3157
PIKEVILLE, KY 41502

10. Please identify the staff from the City of Pikeville and the staff from Utility Management Group that collected the data, and allocated the costs into the categories of administration, WTP and distribution, and identify who did what work.

Response: The determination of allocation percentages shown in the cost-of-service study was the product of a collaborative effort. Mr. Petty met with and was provided information related to the system from numerous individuals, including Grondall Potter, Philp Elswick, Tonya Taylor, Brad Slone, Donnie Slone, Robbie Bentley, and Rebecca Hamilton.

WITNESSES: Samuel Petty; Grondall Potter

11. Provide copies of any and all invoices submitted for this matter by all experts, counsel or consultants that will be included in the calculation of the surcharge for rate case expenses. Update periodically including the final billing summary.

Response: Please see response to Item 34 of the Commission Staff's Second Request for Information.

WITNESSES: Philip Elswick

12. Please provide a detailed list and total amounts spent on all other miscellaneous expenses or costs related to the petition for a wholesale rate increase.

Response: Please see response to Item 34 of the Commission Staff's Second Request for Information.

WITNESSES: Philip Elswick

13. Please provide a copy of any analysis performed by, or on behalf of, the City of Pikeville, upon which the City relied in making its decision to increase retail rates to its inside residential and business customers, and to its outside residential and business retail customers.

Response: Please see the attached rate analysis.

WITNESSES: Samuel Petty

Pikeville
Water and Wastewater
Rate Study

Pikeville, Kentucky

Water and Wastewater Rate Study

and

Cost of Service Analysis for Wholesale Customers

Prepared By:

RateStudies

Water | Wastewater

August 16, 2018

Table of Contents

Appendix

City of Pikeville, Kentucky

2017 Water and Wastewater Rate Study

Executive Summary

Purpose

The purpose of this report is to present a comprehensive rate study for the City of Pikeville, Kentucky to determine if its water and wastewater rates are sufficient to meet the demands of increasing operation and maintenance expenses, implementing a reasonable five-year capital improvement plan and meeting the requirements of existing and new debt. RateStudies LLC was hired to make recommendations concerning these financial issues. A cost of service analysis is also included to determine fair rates for its wholesale customers.

Methodology

The methodology used by RateStudies is based on the *American Water Works Association (AWWA) M1 Manual - Principles of Water Rates, Fees and Charges, a Manual of Water Supply Practices*. Although rate studies are not an exact science, the financial models used in this report can be a valuable tool for making financial decisions and setting water or wastewater rates. Considerations are always made to make the rate design or rate structure simple and understandable to utility officials, managers, staff and customers.

Included in this report is a historical view of past financial records, a reasonable plan for capital improvements, and recommendations for operational financing over the next five years. The Pikeville staff provided assistance in the collection of historical data, development of the Capital Improvement Plan, growth projections, projections of expenses and the final recommendations of this report.

The data presented was taken from the last five years of audits and annual financial reports provided by the city. The information from the past five years is used in making financial projections for the next five years. Also included is a capital improvement plan with anticipated financing and associated depreciation values.

The City of Pikeville has four separate accounts within the water and wastewater systems; an inside the city limits water account, an outside the city limits water account, an inside the city limits wastewater account and an outside the city limits wastewater account.

To develop a framework for setting new rates, this study utilized three analyses: Cash Flow Analysis, Change in Net Position Analysis and the Debt Service Coverage Ratio. Each one of these gives an indication of financial stability for the Pikeville water and wastewater systems. They are presented in Excel spreadsheets and are designed to function as financial models. Graphs and charts are provided to give a visual presentation of the key analyses in this report.

Significant Events

The City of Pikeville has begun construction on a $21,161,000 wastewater treatment plant improvement project financed with $13,000,000 in loans and $8,161,000 in grants. This project will have a financial impact on both inside city limit customers and outside city limit customers. This project is expected to be completed in Spring of 2019. The new principal and interest payments are estimated to be $578,000 annually and about $529,000 will be added to the depreciation schedule. At the direction of the United States Department of Agriculture - Rural Development, a 40% "across the board" rate increase was placed on all wastewater customers (inside and outside) beginning July 2017 to compensate for the financial impacts from this project.

Major projects for the water system include $805,000 for Radio Read Meters, and a $660,000 intake project

Each of the water and wastewater accounts have other capital improvement needs planned over the next five years that will have an impact on the financial stability of each account.

Recommendations

Based on the information contained in this report the following is recommended:

Rate Increases	Minimum Amount of Total Cash
Inside Water – 10% Increase in FY 2019	$750,000
Outside Water – 40% Increase in FY 2019	$200,000
Inside Wastewater – No Increase	$500,000
Outside Wastewater – No Increase	$500,000

Wholesale Customers – Create a wholesale customer class that would initially include Mountain Water (Mountain Wt.) and Southern Water (Southern Wt.).
Wholesale Customers will be included with the Inside Water customers and charged a rate determined by a "Cost of Service" analysis using audited Fiscal Year (FY) 2017 financials. All customers in the wholesale customer class would be charged the same rate. A Cost of Service analysis using FY 2017 financials has determined that rate to be $2.05 per 1,000 gallons.

Mountain Wt. – The current rate for Mountain Water is $1.58 per 1,000 gallons. Based on the Cost of Service analysis, the rate should be adjusted to $2.05 per 1,000 gallons for FY 2017. The Rate Analysis indicates that a 10% increase is needed on all inside water customers, therefore the new rate for FY 2019 would be $2.25. This represents an overall 40% increase for Mountain Wt.

Southern Wt. – The current rate for Southern Water is $1.72 per 1,000 gallons. Based on the Cost of Service analysis, the rate should be adjusted to $2.05 per 1,000 gallons for FY 2017. The Rate Analysis indicates that a 10% increase is needed on all inside water customers, therefore the new rate for FY 2019 would be $2.25. This represents an overall 29% increase.

The minimum amount of total cash is primarily needed for emergencies such as major water or wastewater line repairs and replacements that are unplanned, pump failures, replacing electrical components etc. that are beyond the scope of budgeted repair and maintenance items. Also, lending agencies require varying amounts of cash to the held in reserve. An accumulation of cash can benefit the City in the long run by providing a means of self-funding capital improvement instead of borrowing from state and federal agencies who places regulations on how the money is spent. Another benefit of having cash reserves is that the interest gained can be used as income to supplement revenue and help pay for expenses.

Other Considerations

Although the proposed rate increases are designed to improve the utility's finances over the next five years, it is recommended to monitor and update this report at least every two years to verify projections presented in this report, react to unforeseen financial changes, and make corrections as necessary.

Customer Growth and Revenue Projections

Overview

The City of Pikeville depends on revenue collected from its customers to pay for all the water and wastewater department needs, including operation costs, maintenance, debt and capital improvements. Projecting revenue over the next five years is critical for determining the sufficiency of current rates and the need for rate increases for the future. A review and analysis of the previous five years records fiscal years (FY) 2012 - 2017 provides a reasonable basis for making projections over the next five years (FY 2018-2022) concerning customer growth and revenue. Other considerations include major projects by others that would impact growth and revenue, such as a new industry and expansion of the medical center.

Pikeville has two water accounts; inside city limits customers and outside city limit customers. The City also has two wastewater accounts; inside city limits customers and outside city limit customers. Each of the water and wastewater accounts has a variety of customer classes as follows:

Inside City Limits Water Customers

- Residential
- Commercial
- Public Authority
- Multifamily
- Multifamily Commercial
- Mountain Water
- Southern Water

Outside City Limits Water Customers

- County Residential
- County Commercial
- County Public Authority
- Sandy Valley Residential
- Sandy Valley Commercial
- Sandy Valley Public Authority
- Sandy Valley Multifamily

Inside City Limits Wastewater Customers

- Car Wash
- Residential
- Commercial
- Public Authority
- Multifamily
- Multifamily Commercial
- Marions Branch Commercial
- Marions Branch Flat Rate

Outside City Limits Wastewater Customers

- County Residential
- County Commercial
- County Public Authority
- Marions Branch Residential
- Marions Branch Commercial
- Marions Branch Flat Rate
- Mossy Bottom Residential
- Mossy Bottom Commercial
- Mossy Bottom Public Authority
- Mossy Bottom Multifamily

Customer Growth and Revenue Projections – Inside and Outside Water

Customer growth and revenue for the inside water customers and outside water customers appears to have declined over the past five years as shown in **Figure 1**. In FY 2013 the total number of inside water customers was 3,418 and the amount of revenue was $2,305,219. In FY 2017 the number of inside customers was 3,317 (a decrease of 3%) and the amount of revenue was $2,256,339 (a decrease of 2%). In FY 2013 there were 1,787 outside water customers that provided $739,283 in revenue. In FY 2017 there were 1,653 outside water customers (a decrease of 7.5%) and the revenue was $668,106 (a decrease of 9.6%).

The next five years is projected to have more customers and revenue due to a new industry locating in the Pikeville industrial park and a proposed expansion of the Pikeville medical center. The new industry is anticipated to be completed by FY 2019 and the medical center expansion by 2021. These two projects could encourage new commercial and retail activity as well as having an impact on population growth in the Pikeville area. This report is projecting an inside water customer growth of about 3% and a 7% increase in revenue by FY 2022. The inside customer base is projected to be 3,402 providing an estimated revenue of $2,415,894. The areas outside the city limits could also benefit from these two projects. Outside water customers are expected to increase about 1% to 1,668 and revenue is expected to be $673,500, an increase of about 1% by FY 2022.

Customer Growth and Revenue Projections – Inside and Outside Wastewater

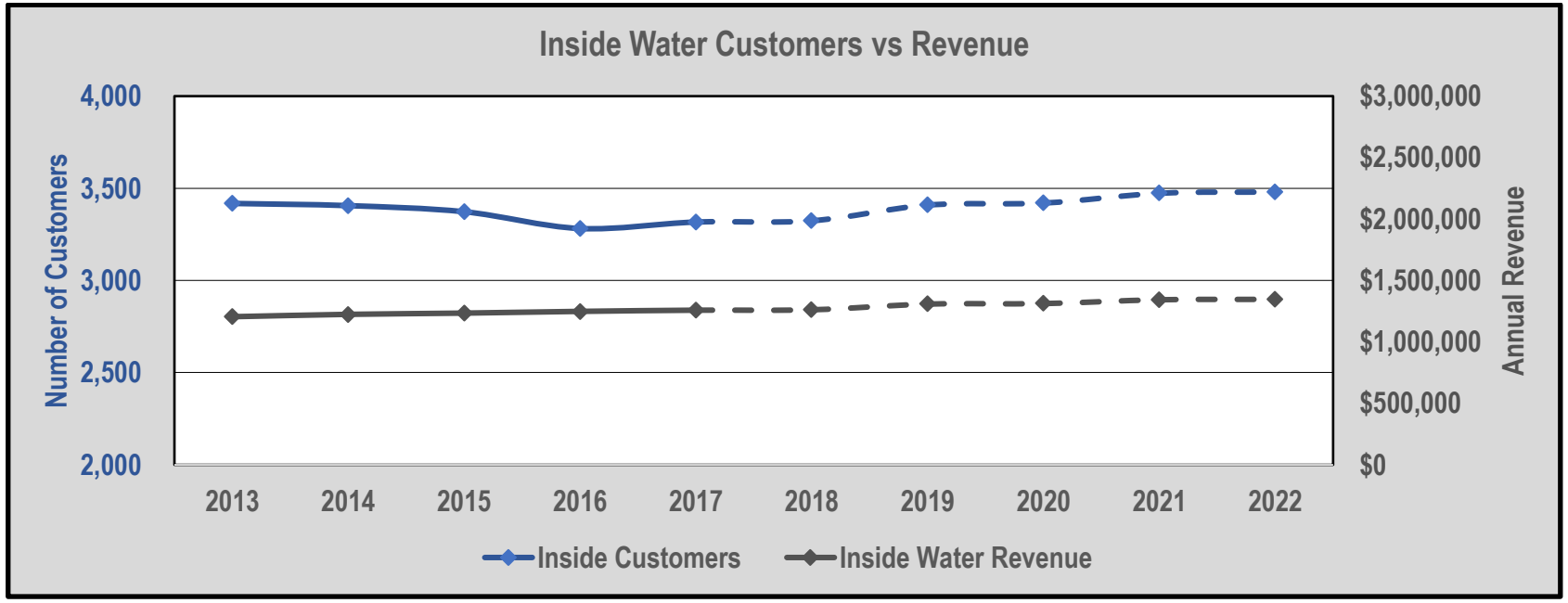
The inside wastewater customer decreased from 3,233 in FY 2013 to 3,129 in FY 2017, a 3% difference. Revenues, however have increased 4% over the same time from $1,013,263 in FY 2013 to $1,057,142 in FY 2017 as shown in **Figure 2**. In FY 2013 the total number of outside wastewater customers was 1,189 and the amount of revenue was $665,756. In FY 2017 the number of outside wastewater customers was 1,175 (a decrease of 1%) and the amount of revenue was $615,196 (a decrease of 7%).

The wastewater system is also projected to have more customers and revenue over the next five years due to a new industry locating in the Pikeville industrial park and a proposed expansion of the Pikeville medical center. Also, the Mullins Hill area is expected to receive wastewater service in FY 2021 and will provide additional revenue for the outside wastewater system. This report is projecting an inside wastewater customer growth of about 7% and a 19% increase in revenue above the current 40% rate increase. The FY 2022 inside wastewater customer base is projected to be 3,340 providing an estimated revenue of $1,684,852. The areas outside the city limits could also benefit from these two projects. By FY 2022 outside wastewater customers are expected to increase about 9% to 1,278 and revenue is expected to be $919,823, an increase of about 10% above the current 40% increase.

Other considerations

Water and wastewater usage and associated revenue will vary according to weather. Customers generally use less water in years that has greater than average amounts of rainfall and more water usage in years when the amount of rainfall is less than average. This report assumes that rainfall will remain at average levels over the next five years.

Many water customers are becoming more conscious of water conservation and are installing water conservation devices to help reduce water usage. Any reduction in water usage will result in a reduction of water and wastewater revenue.


Inside Water Customers vs Revenue
Number of Customers
4,000
3,500
3,000
2,500
2,000
$3,000,000
$2,500,000
$2,000,000
$1,500,000
$1,000,000
$500,000
$0
Annual Revenue
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
Inside Customers
Inside Water Revenue

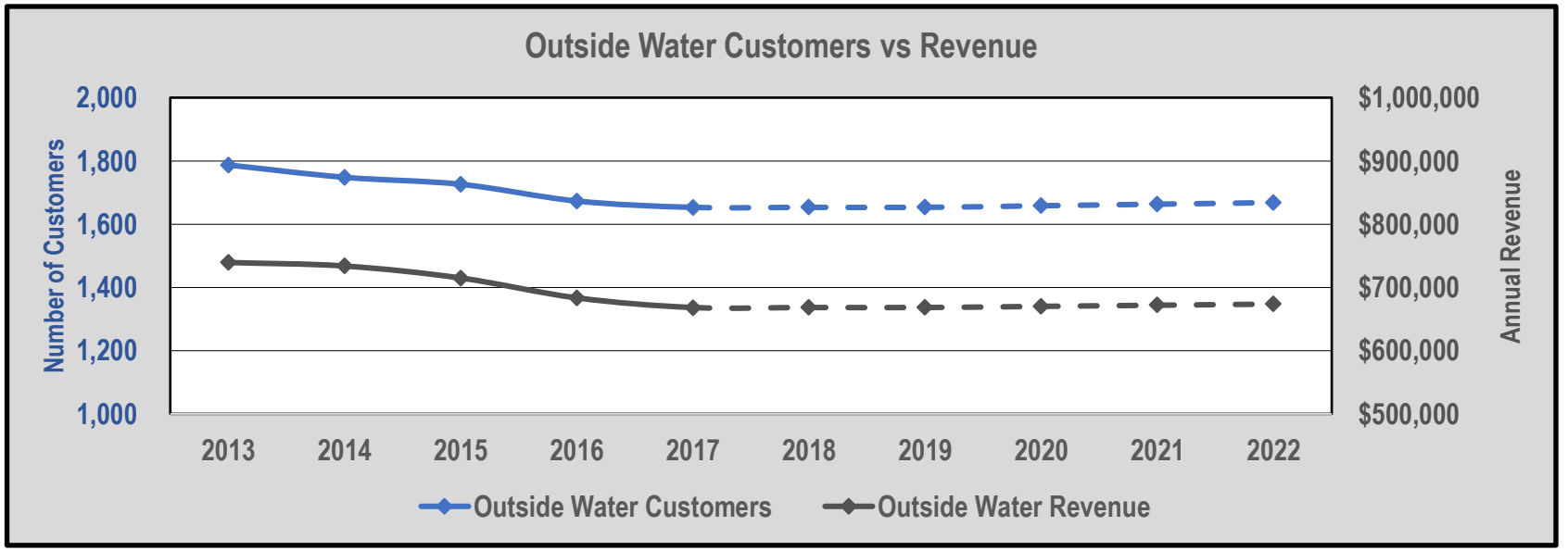
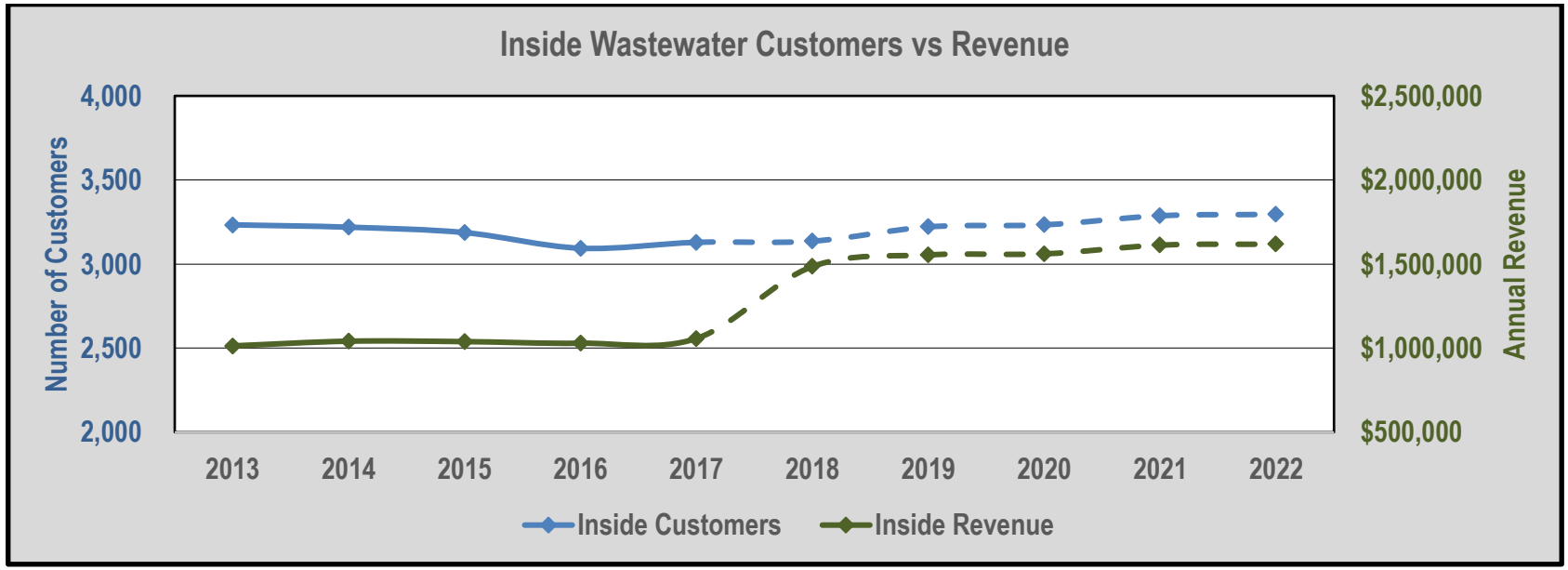

Outside Water Customers vs Revenue
Number of Customers
2,000
1,800
1,600
1,400
1,200
1,000
$1,000,000
$900,000
$800,000
$700,000
$600,000
$500,000
Annual Revenue
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
Outside Water Customers
Outside Water Revenue

Figure 1


Inside Wastewater Customers vs Revenue
Number of Customers
4,000
3,500
3,000
2,500
2,000
$2,500,000
$2,000,000
$1,500,000
$1,000,000
$500,000
Annual Revenue
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
Inside Customers
Inside Revenue

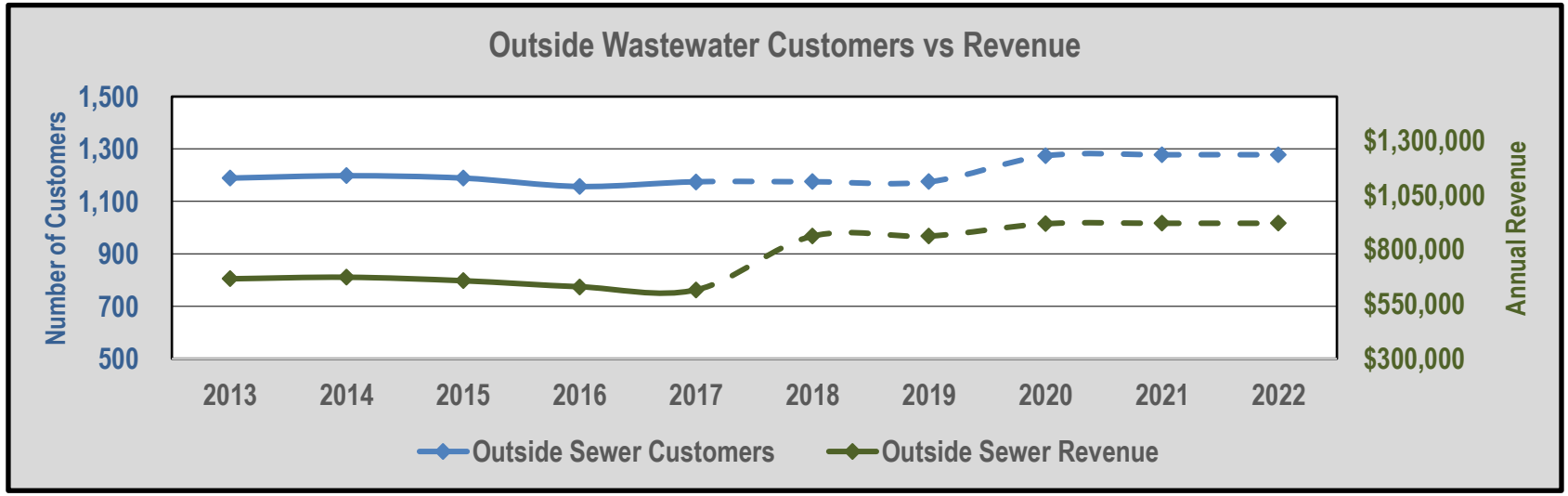

Outside Wastewater Customers vs Revenue
Number of Customers
1,500
1,300
1,100
900
700
500
$1,300,000
$1,050,000
$800,000
$550,000
$300,000
Annual Revenue
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
Outside Sewer Customers
Outside Sewer Revenue

Figure 2

Capital Improvement Plan

Overview

A Capital Improvement Plan (CIP) is typically an unaudited planning document used to identify needed capital improvements and other assets, along with methods of financing the CIP. The City's auditors define a capital asset as any individual item with a useful life of more than one year. The costs of normal maintenance and repairs that do not add to the asset value or materially extend useful lives are not capitalized but are considered as expenses. Also included in the CIP is the estimated life of the capital improvement and its resulting annual depreciation. The CIP includes the name of each project, its estimated cost, proposed financing, useful life in years and annual depreciation. The depreciation is calculated on the "straight line" method, meaning that the cost of each project or capital expense is divided by its useful life in years. A detailed CIP is essential in determining the amount of cash flow from one year to the next.

Inside Water - CIP

Figure 3 is Pikeville's Inside Water CIP and includes the purchase and installation of radio read water meters, a raw water intake project, water treatment plant improvements and water line replacements. Over the next five years, approximately $2,694,350 of water system infrastructure is anticipated to be installed, resulting in about $154,000 in new depreciation added to the depreciation schedule.

Financing of the radio read meters will be through a general obligation bond on the open market, and financing of the intake will be primarily with a grant. All other projects will be funded with available cash in the inside water system account.

Outside Water - CIP

Figure 4 is Pikeville's Outside Water CIP and includes the purchase and installation of radio read water meters, water line replacement, booster station improvements, service line replacements and new valve inserts. Over the next five years, approximately $1,194,650 of water system infrastructure is anticipated to be installed, resulting in about $42,660 in new depreciation added to the depreciation schedule.

Financing of the radio read meters will be the same as financing for the inside water system radio read meters and financing of the water line replacement in FY 2020 will be through a loan and a grant. All other projects will be funded with available cash in the outside water system account.

Inside Wastewater – CIP

Figure 5 is Pikeville's Inside Wastewater CIP which includes the largest of the water and wastewater projects over the next five years, a $21,161,883 wastewater treatment plant improvement project. Also included is lift station improvements, slip lining projects and an odor control system. Over the next five years, approximately $22,074,383 of wastewater system infrastructure is anticipated to be installed, resulting in about $572,597 in new depreciation added to the depreciation schedule.

Financing of the wastewater treatment plant improvement project will be through $10,500,000 in loans from United States Department of Agriculture (USDA), a $2,500,000 general obligation bond on the open market, a $4,500,000 USDA grant, a $500,000 Appalachian Regional Commission grant, a $2,361,000 grant Economic Development Agency grant and a $800,883 Housing and Urban Development – Community Development Block Grant. The odor control project is anticipated to be paid with $200,000 from coal severance money. All other projects will be funded with available cash in the outside water system account.

Outside Wastewater – CIP

Figure 6 is Pikeville's Outside Wastewater CIP which includes a telemetry system, flow hoods, line replacements, lift station repairs and a new collection system in the Mullins Hill area. Over the next five years, approximately $1,669,722 of wastewater system infrastructure is anticipated to be installed, resulting in about $45,418 in new depreciation added to the depreciation schedule.

Funding for the Mullins Hill project will be by the City of Coal Run Village. When completed this system will be dedicated to the City of Pikeville. Although the City will not have to pay for any of the Mullins Hill wastewater project, it will take ownership to operate and maintain. The value of the new system will be added to the depreciation schedule. All other projects will be funded with available cash in the outside water system account.

Other considerations

The CIP can serve as a planning document and should be review and updated annually. The document should cover at least five years and include major purchases such as equipment, controls, and water meters as well as line extensions, pump replacements and rehabilitation projects. The CIP can also be helpful in developing budgets, especially if the budget contains depreciation as an expense.

Inside Water - Five Year Capital Improvement Plan

Fiscal Year 2018 (July 1, 2017 - June 30, 2018)

Projects	Cost	Cash	Loan	Grant	Life Years	Annual Depreciation
Radio Read Meters	$539,350		$539,350		15	$35,957
Water Line Replacement	$245,000	$245,000			40	$6,125
Plant Improvement	$150,000	$150,000			10	$15,000
Intake	$660,000	$120,000		$540,000	40	$16,500
TOTAL	$1,594,350	$515,000	$539,350	$540,000		$73,582

Fiscal Year 2019 (July 1, 2018 - June 30, 2019)

Projects	Cost	Cash	Loan	Grant	Life Years	Annual Depreciation
Water Lines	$150,000	$150,000			40	$3,750
Water Plant	$200,000	$200,000			10	$20,000
TOTAL	$350,000	$350,000	$0	$0		$23,750

Fiscal Year 2020 (July 1, 2019 - June 30, 2020)

Projects	Cost	Cash	Loan	Grant	Life Years	Annual Depreciation
Water Lines	$100,000	$100,000			40	$2,500
Water Plant	$200,000	$200,000			10	$20,000
TOTAL	$300,000	$300,000	$0	$0		$22,500

Fiscal Year 2021 (July 1, 2020 - June 30, 2021)

Projects	Cost	Cash	Loan	Grant	Life Years	Annual Depreciation
Water Lines	$100,000	$100,000			40	$2,500
Water Plant	$200,000	$200,000			10	$20,000
TOTAL	$300,000	$300,000	$0	$0		$22,500

Fiscal Year 2022 (July 1, 2021 - June 30, 2022)

Projects	Cost	Cash	Loan	Grant	Life Years	Annual Depreciation
Water Lines	$50,000	$50,000			40	$1,250
Water Plant	$100,000	$100,000			10	$10,000
TOTAL	$150,000	$150,000	$0	$0		$11,250

Figure 3

Outside Water - Five Year Capital Improvement Plan

Fiscal Year 2018 (July 1, 2017 - June 30, 2018)

Projects	Cost	Cash	Loan	Grant	Life Years	Annual Depreciation
Radio Read Meters	$265,650		$265,650		15	$17,710
TOTAL	$265,650	$0	$265,650	$0		$17,710

Fiscal Year 2019 (July 1, 2018 - June 30, 2019)

Projects	Cost	Cash	Loan	Grant	Life Years	Annual Depreciation
Service Lines	$15,000	$15,000			40	$375
Valve Inserts	$12,000	$12,000			40	$300
Booster Pump Station	$25,000	$25,000			25	$1,000
TOTAL	$52,000	$52,000	$0	$0		$1,675

Fiscal Year 2020 (July 1, 2019 - June 30, 2020)

Projects	Cost	Cash	Loan	Grant	Life Years	Annual Depreciation
Sandy Valley Line Replacement	$750,000	$0	$375,000	$375,000	40	$18,750
Service Lines	$12,000	$12,000			40	$300
Valve Inserts	$12,000	$12,000			40	$300
Booster Pump Station	$25,000	$25,000			25	$1,000
TOTAL	$799,000	$49,000	$375,000	$375,000		$20,350

Fiscal Year 2021 (July 1, 2020 - June 30, 2021)

Projects	Cost	Cash	Loan	Grant	Life Years	Annual Depreciation
Service Lines	$9,000	$9,000			20	$450
Booster Pump Station	$25,000	$25,000			25	$1,000
Valve Inserts	$12,000	$12,000			40	$300
TOTAL	$46,000	$46,000	$0	$0		$1,750

Fiscal Year 2022 (July 1, 2021 - June 30, 2022)

Projects	Cost	Cash	Loan	Grant	Life Years	Annual Depreciation
Service Lines	$7,000	$7,000			40	$175
Booster Pump Station	$25,000	$25,000			25	$1,000
TOTAL	$32,000	$32,000	$0	$0		$1,175

Figure 4

Inside Wastewater - Five Year Capital Improvement Plan

Fiscal Year 2018 (July 1, 2017 - June 30, 2018)

Projects	Cost	Cash	Loan	Grant	Life Years	Annual Depreciation
WWTP	$10,580,942		$10,580,942			
Lift Stations	$95,000	$95,000			25	$3,800
Slip Lines	$125,000	$125,000			40	$3,125
TOTAL	$10,800,942	$220,000	$10,580,942	$0		$6,925

Fiscal Year 2019 (July 1, 2018 - June 30, 2019)

Projects	Cost	Cash	Loan	Grant	Life Years	Annual Depreciation
WWTP	$10,580,941		$2,419,058	$8,161,883		
Lift Stations	$115,000	$115,000			25	$4,600
Slip Lines	$75,000	$75,000			40	$1,875
TOTAL	$10,770,941	$190,000	$2,419,058	$8,161,883		$6,475

Fiscal Year 2020 (July 1, 2019 - June 30, 2020)

Projects	Cost	Cash	Loan	Grant	Life Years	Annual Depreciation
WWTP	$21,161,883				40	$529,047
Lift Stations	$57,500	$57,500			25	$2,300
Slip Lines	$50,000	$50,000			40	$1,250
TOTAL	$107,500	$107,500	$0	$0		$532,597

Fiscal Year 2021 (July 1, 2020 - June 30, 2021)

Projects	Cost	Cash	Loan	Grant	Life Years	Annual Depreciation
Lift Stations	$57,500	$57,500			25	$2,300
Slip Lines	$50,000	$50,000			40	$1,250
TOTAL	$107,500	$107,500	$0	$0		$3,550

Fiscal Year 2022 (July 1, 2021 - June 30, 2022)

Projects	Cost	Cash	Loan	Grant	Life Years	Annual Depreciation
Lift Stations	$57,500	$57,500			25	$2,300
Slip Lines	$30,000	$30,000			40	$750
Odor Control	$200,000			$200,000	10	$20,000
TOTAL	$287,500	$87,500	$0	$200,000		$23,050

Figure 5

Outside Wastewater - Five Year Capital Improvement Plan

Fiscal Year 2018 (July 1, 2017 - June 30, 2018)

Projects	Cost	Cash	Loan	Grant	Other	Life Years	Annual Depreciation
Telemetry	$15,000	$15,000				5	$3,000
Safety Equipment	$3,000	$3,000				5	$600
TOTAL	$18,000	$18,000	$0	$0			$3,600

Fiscal Year 2019 (July 1, 2018 - June 30, 2019)

Projects	Cost	Cash	Loan	Grant	Other	Life Years	Annual Depreciation
Line Replacements	$200,000	$200,000				40	$5,000
Lift Stations	$25,000	$25,000				40	$625
TOTAL	$225,000	$225,000	$0	$0			$5,625

Fiscal Year 2020 (July 1, 2019 - June 30, 2020)

Projects	Cost	Cash	Loan	Grant	Other	Life Years	Annual Depreciation
Line Replacements	$50,000	$50,000				40	$1,250
Lift Stations	$20,000	$20,000				40	$500
TOTAL	$70,000	$70,000	$0	$0			$1,750

Fiscal Year 2021 (July 1, 2020 - June 30, 2021)

Projects	Cost	Cash	Loan	Grant	Other	Life Years	Annual Depreciation
Line Replacements	$100,000	$100,000				40	$2,500
Lift Stations	$15,000	$15,000				40	$375
Safety Equipment	$3,000	$3,000				5	$600
Mullins Hill	$1,173,722				$1,173,722	40	$29,343
TOTAL	$1,291,722	$118,000	$0	$0	$1,173,722		$32,818

Fiscal Year 2022 (July 1, 2021 - June 30, 2022)

Projects	Cost	Cash	Loan	Grant	Other	Life Years	Annual Depreciation
Line Replacements	$50,000	$50,000				40	$1,250
Lift Stations	$15,000	$15,000				40	$375
TOTAL	$65,000	$65,000	$0	$0			$1,625

Figure 6

Depreciation

Overview

Depreciation is defined as a reduction in the value of an asset with the passage of time, due to wear and tear. Although depreciation is listed as an expense, it is not paid out to anyone but instead remains within the enterprise fund. Funding depreciation is a process compelling the City to accumulate cash. Over time the accumulated depreciation equals the value of money originally spent on each capital asset. This process allows the City to have sufficient funds for paying principal payments, financing new capital improvements or replacing depreciated assets. **Figure 7** is a simplified schedule of depreciation for the inside and outside water systems showing the past five years and projections for the next five. **Figure 8** is the same representation of the inside and outside wastewater system. Without any additions to depreciation, the current depreciation schedules would be reduced because of assets being fully depreciated and their annual amount of depreciation going to zero, but because new assets are being added each year, the amount of new depreciation could be greater than the amount that is being totally depreciated. The total amount of depreciation generally changes from year to year.

Requirement

According to the Governmental Accounting Standards Board (GASB), depreciation is to be included in the Statement of Revenues, Expenses and Change in Net Position section of the audit as an operating expense. The City's Ordinance Number O-2017-19 regarding funding of the wastewater treatment plant project states *"--- the rates for all services and facilities rendered by the System to the City and to its citizens, corporations, or others requiring the same, shall be reasonable and just, taking in to account and consideration the cost and value of the System, the cost of maintaining operating the same, the proper and necessary allowances for depreciation thereof ---".*

Calculating the costs

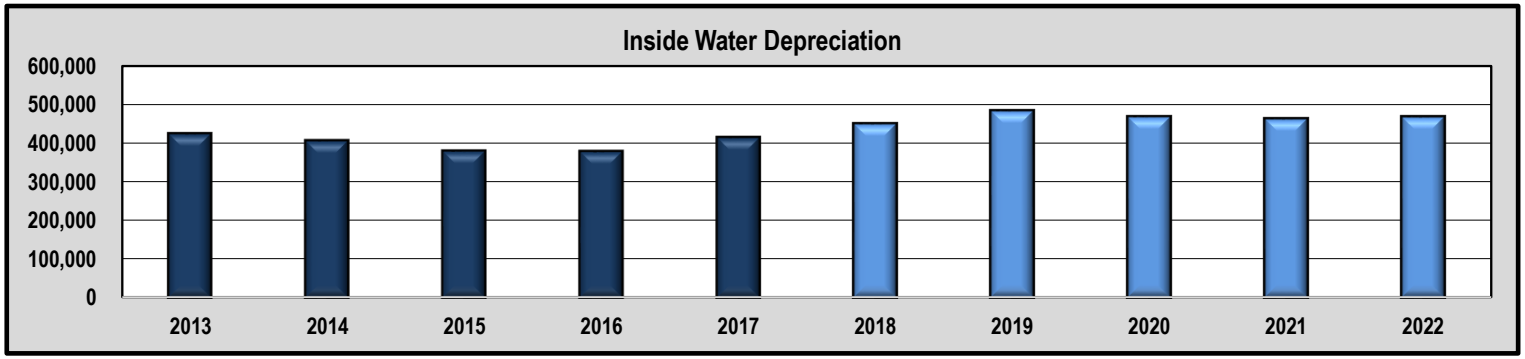
Although there are several methods of determining depreciation, the "straight line" method is used by the City of Pikeville. The calculation is simply dividing the cost of an asset by its useful life. The useful life of assets, such as water and wastewater lines, pumps, vehicles, and building projects, is predetermined and listed in the City's annual audit. For example, the maximum life of any infrastructure is 40 years, but items such as meters and pump have a much lower useful life.

The depreciation schedule is a listing of all assets, their original cost, the year it went into service and its useful life. From that, an annual depreciation amount is determined, the accumulated depreciated amount is calculated, and a book value is determined. When the accumulated depreciated amount equals the original cost, the book value goes to zero and the annual amount of depreciation goes to zero. Unless new assets are added, the total annual depreciation will either stay the same or it will eventually go away.

Other considerations

It is important to note that all assets are to be depreciated regardless of the method of financing, even if an asset is acquired with grants or purchased by others and dedicated to the City. An asset begins to depreciate when it is placed into service, not when it is bought or under construction.

Inside Water Depreciation										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Scheduled Depreciation	423,973	406,394	379,791	378,658	414,224	413,752	398,936	359,674	333,280	318,936
2017 New Depreciation						36,791	73,582	73,582	73,582	73,582
2018 New Depreciation							11,875	23,750	23,750	23,750
2019 New Depreciation								11,250	22,500	22,500
2020 New Depreciation									11,250	22,500
2021 New Depreciation										5,625
Total Depreciation	423,973	406,394	379,791	378,658	414,224	450,542	484,393	468,256	464,362	466,892



Outside Water Depreciation										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Scheduled Depreciation	66,730	76,494	74,957	65,705	67,095	61,908	53,369	53,369	53,369	53,369
2018 New Depreciation						8,855	17,710	17,710	17,710	17,710
2019 New Depreciation							838	1,675	1,675	1,675
2020 New Depreciation								10,175	20,350	20,350
2021 New Depreciation									875	1,750
2022 New Depreciation										588
Total Depreciation	66,730	76,494	74,957	65,705	67,095	70,763	71,917	82,929	93,979	95,442

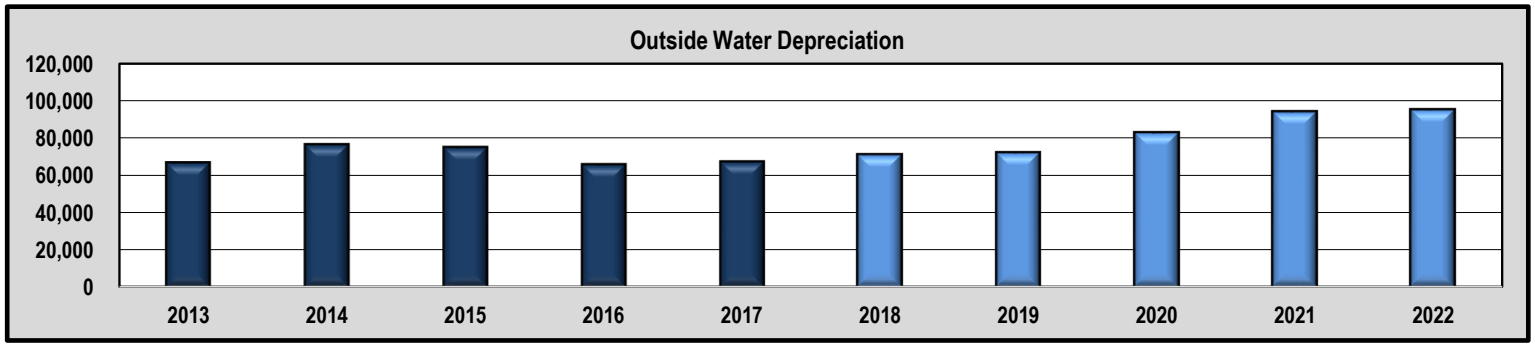
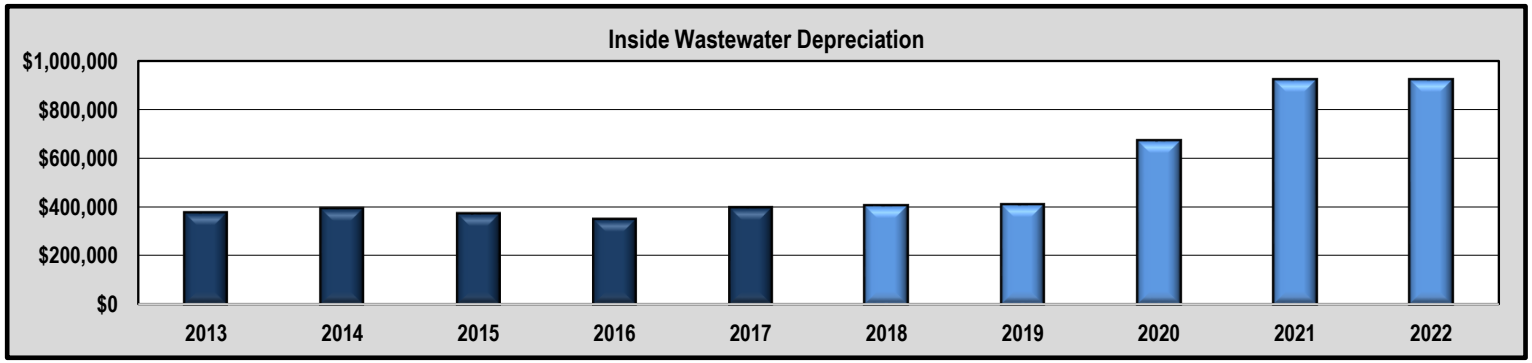


Figure 7

Inside Wastewater Depreciation										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Scheduled Depreciation	373,807	391,377	370,285	347,679	395,267	400,301	397,882	391,180	373,360	359,996
2018 New Depreciation						3,463	6,925	6,925	6,925	6,925
2019 New Depreciation							3,238	6,475	6,475	6,475
2020 New Depreciation								266,299	532,597	532,597
2021 New Depreciation									1,775	3,550
2022 New Depreciation										11,525
Total Depreciation	373,807	391,377	370,285	347,679	395,267	403,763	408,044	670,878	921,132	921,068



Outside Wastewater Depreciation										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Scheduled Depreciation	217,250	221,764	222,104	215,197	210,618	205,610	202,961	202,063	197,846	195,875
2018 New Depreciation						1,800	3,600	3,600	3,600	3,600
2019 New Depreciation							2,813	5,625	5,625	5,625
2020 New Depreciation								875	1,750	1,750
2021 New Depreciation									16,409	32,818
2022 New Depreciation										813
Total Depreciation	217,250	221,764	222,104	215,197	210,618	207,410	209,374	212,163	225,230	240,480

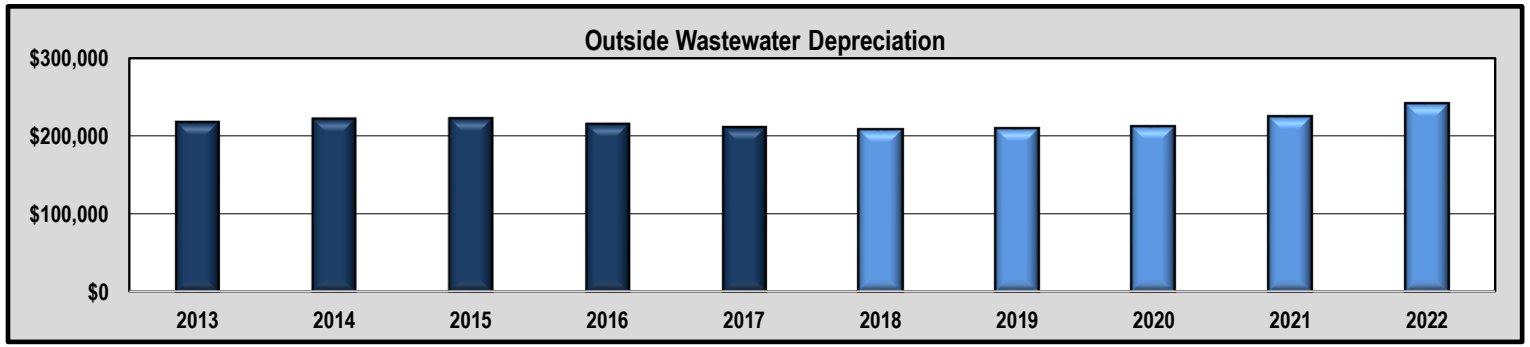


Figure 8

Debt Service

Overview

The City of Pikeville currently pays principal and interest on two general obligation bonds, three USDA loans and one Kentucky Infrastructure Authority loan for projects associated with the water and wastewater systems. Other loans will be needed as listed in the Capital Improvement Plan.

Methodology

For purposes of this report the existing and proposed loans and bonds have been separated for each of water and wastewater accounts. This is important in understanding revenue requirements and rate adjustments for the separated systems. Debt service impacts both the cash flow and the change in net position. Both principal and interest is included in the cash flow analysis but only the interest amount is included in the change in net position analysis. For proposed loans, estimates are made concerning interest rates and time period.

Inside Water Debt Service

The inside water debt service schedule is shown in **Figure 9**. Currently the inside water system is paying principal and interest on a $1,405,000 general obligation bond and 80% of a $3,166,000 USDA loan. A new loan of $805,000 will be needed to finance the radio read meter project and the inside water system will pay 74% of the principal and interest.

Outside Water Debt Service

The outside water debt service schedule is shown in **Figure 10**. The outside water system is paying 50% of a $1,837,000 USDA loan and about 35% of a $1,170,000 general obligation bond. A new KIA loan of $375,000 is anticipated to finance 50% of $750,000 for a Sandy Valley water line replacement project. The outside water system will also pay 26% of a $805,000 loan for the radio read meters.

Inside Wastewater Debt Service

The inside wastewater debt service schedule is shown in **Figure 11**. Until FY 2016 the inside wastewater system was paying on only one debt service, 20% of a $3,166,000 USDA loan. There will be three new loans needing to finance the wastewater treatment plant improvement project, a $5,000,000 USDA loan, a $5,500,000 USDA loan and a $2,500,000 general obligation bond.

Outside Wastewater System Debt Service

The outside wastewater debt schedule is shown in **Figure 12**. The outside wastewater system is currently paying principal and interest on a $1,116,574 KIA loan, a $1,500,000 USDA loan, 50% of a $1,837,000 USDA loan and about 65% of a $1,170,000 general obligation bond. There are no other bonds required to finance projects listed in the outside wastewater system CIP.

Other considerations

The principal and interest debt schedules can be a resource when developing an annual budget.

Inside Water Debt Service																
Refinancing 2012C				Marion's Branch 80% Wt.				Radio Read Meters				Total			
	Principal	Interest	Total		Principal	Interest	Total		Principal	Interest	Total		**Principal**	**Interest**	**Total**
2013	135,000	26,600	161,600	2013				2013				**2013**	**135,000**	**26,600**	**161,600**
2014	125,000	23,138	148,138	2014				2014				**2014**	**125,000**	**23,138**	**148,138**
2015	125,000	21,888	146,888	2015				2015				**2015**	**125,000**	**21,888**	**146,888**
2016	130,000	19,963	149,963	2016		11,085	11,085	2016				**2016**	**130,000**	**31,048**	**161,048**
2017	130,000	18,363	148,363	2017		56,988	56,988	2017				**2017**	**130,000**	**75,351**	**205,351**
2018	135,000	14,713	149,713	2018	38,800	56,551	95,351	2018		7,444	7,444	**2018**	**173,800**	**78,708**	**252,508**
2019	140,000	11,963	151,963	2019	39,600	55,670	95,270	2019	51,800	15,725	67,525	**2019**	**231,400**	**83,357**	**314,757**
2020	140,000	9,163	149,163	2020	40,800	54,765	95,565	2020	55,500	14,652	70,152	**2020**	**236,300**	**78,580**	**314,880**
2021	145,000	6,131	151,131	2021	42,000	53,834	95,834	2021	55,500	13,542	69,042	**2021**	**242,500**	**73,507**	**316,007**
2022	145,000	3,169	148,169	2022	43,200	52,875	96,075	2022	55,500	12,155	67,655	**2022**	**243,700**	**68,198**	**311,898**

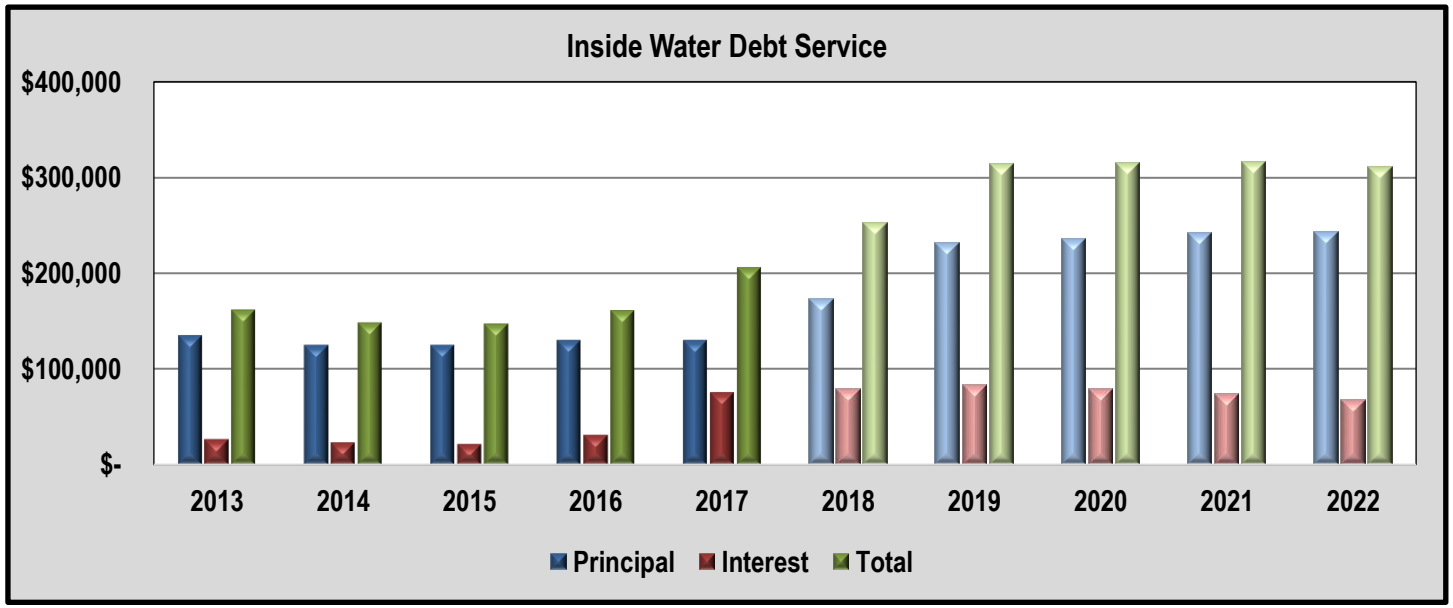


Figure 9

Outside Water Debt Service

Refinancing SV & MB 2012B

	Principal	Interest	Total
2012			
2013	15,750	13,420	29,170
2014	10,500	12,233	22,733
2015	10,500	12,138	22,638
2016	10,500	12,002	22,502
2017	10,500	11,830	22,330
2018	10,500	11,645	22,145
2019	10,500	11,562	22,062
2020	10,500	11,357	21,857
2021	12,250	11,011	23,261
2022	12,250	10,742	22,992

Combined Wt. & Sw. North

	Principal	Interest	Total
2012		22,963	22,963
2013	14,750	22,778	37,528
2014	15,250	22,403	37,653
2015	15,500	22,019	37,519
2016	16,000	21,625	37,625
2017	16,250	21,222	37,472
2018	16,750	20,809	37,559
2019	17,250	20,384	37,634
2020	17,500	19,950	37,450
2021	18,000	19,506	37,506
2022	18,500	19,050	37,550

Sandy Valley Line Replacement

	Principal	Interest	Total
2012			
2013			
2014			
2015			
2016			
2017			
2018			
2019			
2020	14,680	9,375	24,055
2021	15,047	9,008	24,055
2022	15,423	8,632	24,055

Radio Read Meters

	Principal	Interest	Total
2012			
2013			
2014			
2015			
2016			
2017			
2018		2,414	2,414
2019	16,800	5,100	21,900
2020	18,000	4,752	22,752
2021	18,000	4,392	22,392
2022	18,000	3,942	21,942

Total

	Principal	Interest	Total
2012	**0**	**22,963**	**22,963**
2013	**30,500**	**36,198**	**66,698**
2014	**25,750**	**34,636**	**60,386**
2015	**26,000**	**34,157**	**60,157**
2016	**26,500**	**33,627**	**60,127**
2017	**26,750**	**33,052**	**59,802**
2018	**27,250**	**34,868**	**62,118**
2019	**44,550**	**37,046**	**81,596**
2020	**60,680**	**45,434**	**106,114**
2021	**63,297**	**43,917**	**107,214**
2022	**64,173**	**42,365**	**106,539**

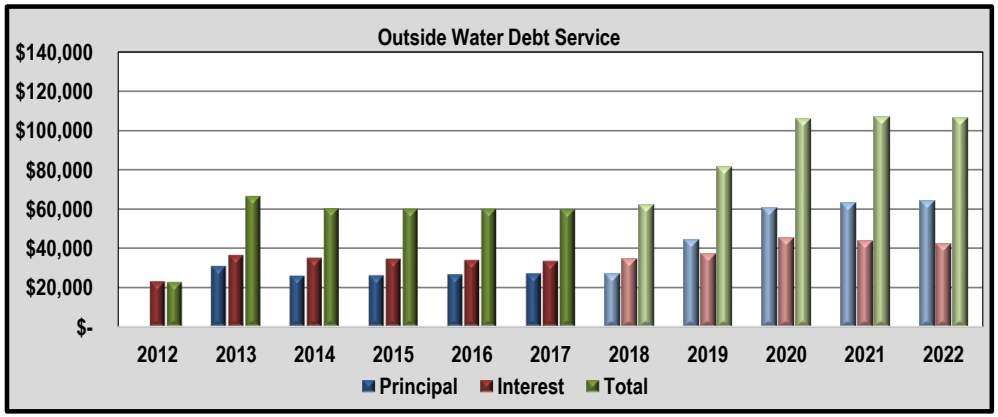


Figure 10

Inside Wastewater Debt Service

Marion's Branch 20% Sw

	Principal	Interest	Total
2016		2,771	2,771
2017		14,247	14,247
2018	9,700	14,138	23,838
2019	9,900	13,917	23,817
2020	10,200	13,691	23,891
2021	10,500	13,458	23,958
2022	10,800	13,219	24,019

$5,000,000 Series

	Principal	Interest	Total
2016			
2017			
2018		125,000	125,000
2019		125,000	125,000
2020	74,181	125,000	199,181
2021	76,036	123,145	199,181
2022	77,937	121,245	199,181

$5,500,000 Series

	Principal	Interest	Total
2016			
2017			
2018		137,500	137,500
2019		137,500	137,500
2020	81,599	137,500	219,099
2021	83,639	135,460	219,099
2022	85,730	133,369	219,099

$2,500,000 Series

	Principal	Interest	Total
2016			
2017			
2018	97,868	62,500	160,368
2019	100,315	60,053	160,368
2020	102,822	57,545	160,368
2021	105,393	54,975	160,368
2022	108,028	52,340	160,368

Total

	Principal	Interest	Total
2016	**0**	**2,771**	**2,771**
2017	**0**	**14,247**	**14,247**
2018	**107,568**	**339,138**	**446,706**
2019	**110,215**	**336,471**	**446,685**
2020	**268,803**	**333,737**	**602,540**
2021	**275,568**	**327,039**	**602,607**
2022	**282,495**	**320,172**	**602,667**

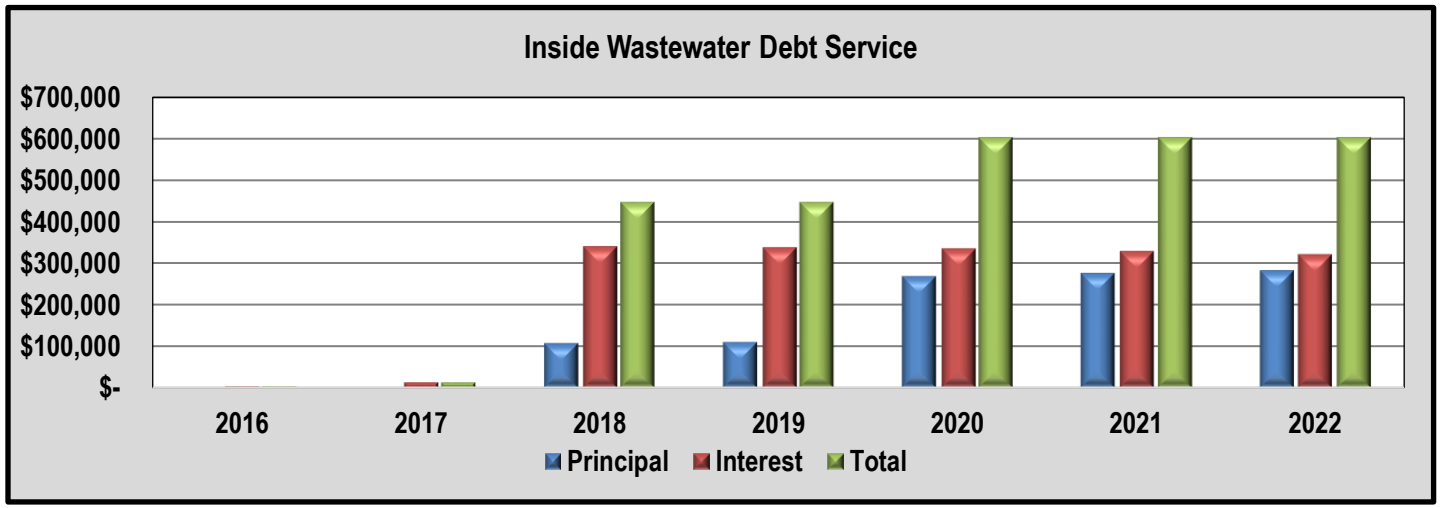


Figure 11

Outside Wastewater Debt Service

KIA Loan

	Principal	Interest	Total
2012			
2013	29,250	24,923	54,173
2014	19,500	22,718	42,218
2015	19,500	22,542	42,042
2016	19,500	22,289	41,789
2017	19,500	23,270	42,770
2018	19,500	21,639	41,139
2019	19,500	21,294	40,794
2020	19,500	20,914	40,414
2021	22,750	20,449	43,199
2022	22,750	19,949	42,699

Mossy Bottom

	Principal	Interest	Total
2012	57,231	10,695	67,926
2013	58,132	9,685	67,817
2014	59,049	8,653	67,702
2015	59,982	7,603	67,585
2016	60,933	6,534	67,466
2017	61,900	5,445	67,345
2018	62,885	4,337	67,222
2019	63,888	3,209	67,097
2020	64,910	2,060	66,969
2021	65,949	890	66,839
2022			

Combined Wt & Sw North

	Principal	Interest	Total
2012		22,963	22,963
2013	14,750	22,778	37,528
2014	15,250	22,403	37,653
2015	15,500	22,019	37,519
2016	16,000	21,625	37,625
2017	16,250	21,222	37,472
2018	16,750	20,809	37,559
2019	17,250	20,384	37,634
2020	17,500	19,950	37,450
2021	18,000	19,506	37,506
2022	18,500	19,050	37,550

Marion's Branch 2010S

	Principal	Interest	Total
2012		33,750	33,750
2013	24,000	33,750	57,750
2014	24,500	33,210	57,710
2015	25,500	32,659	58,159
2016	26,000	32,085	58,085
2017	26,500	31,500	58,000
2018	27,500	30,904	58,404
2019	28,000	30,285	58,285
2020	28,500	29,655	58,155
2021	29,500	29,014	58,514
2022	30,000	28,350	58,350

Total - Wastewater

	Principal	Interest	Total
2012	57,231	67,408	124,639
2013	126,132	91,136	217,268
2014	118,299	86,984	205,283
2015	120,482	84,822	205,305
2016	122,433	82,532	204,965
2017	124,150	81,437	205,587
2018	126,635	77,688	204,324
2019	128,638	75,172	203,810
2020	130,410	72,579	202,988
2021	136,199	69,859	206,058
2022	71,250	67,349	138,599

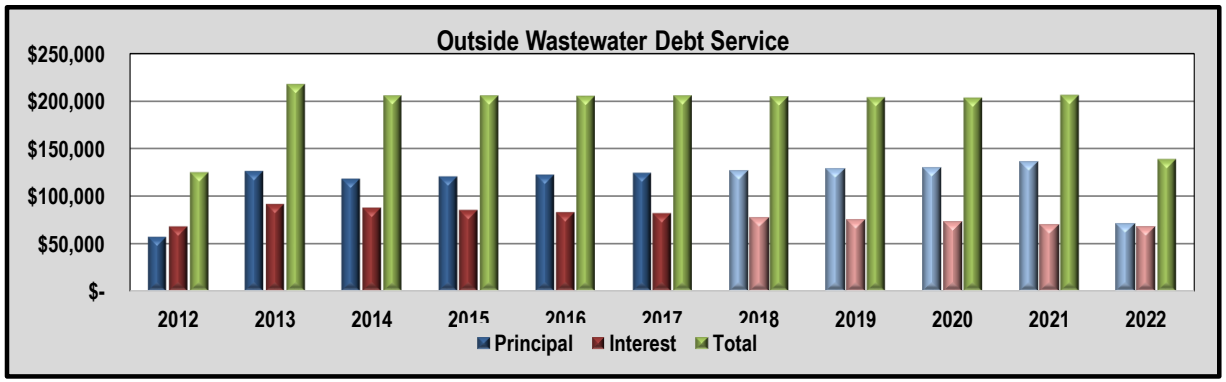


Figure 12

General Expenses

Overview

The City of Pikeville maintains a comprehensive budget with over 30 expense items for the inside water, outside water, inside wastewater and outside wastewater accounts. Included are items such as insurance, office supplies, repair and maintenance, salaries and benefits, UMG services, electric cost and other miscellaneous expenses. Each individual expense is not included in this report, but a summary of the results is shown in **Figure 13.**

Methodology

Spreadsheets were developed containing each expense item for the past five years (2013 – 2017) for each of the four utility accounts. Work sessions were conducted with city staff knowledgeable of the water and wastewater systems to make income and expense projections for the next five years (2018-2022). Making projections for expenses requires a knowledge base of what has happened in the past, current events and a reasonable expectation of what will happen over the next five years. Some expenses are more predictable than others such as UMG services and salaries and benefits, but items like repair and maintenance will vary because of the unpredictability of what is going to break next, or when is the next large electric rate will happen or what is the price of gasoline going to do. All questionable projections, however are generally made on the conservative side.

Inside Water General Expenses

There is a significant increase (13%) in expenses projected for FY 2018, primarily due to expected increases in repairs / maintenance, gasoline and electricity. Increases of 4% - 5% are projected for FY 2019-2022.

Outside Water General Expenses

The outside water expenses show an 18% increase in FY 2017 due to repairs being made caused by the 2015 storm. These storm repair expenses will not occur in FY 2018 so there is a decrease. In FY 2019 the increase is up 8% primarily due to projected repair and maintenance. For FY 2020-2022 the increases are expected to be 4% - 5%.

Inside Wastewater General Expenses

The inside wastewater had a large increase in expenses in FY 2017 due to increased repairs and maintenance FY 2018 will have about a 6% increase then drop down to -12% increase in FY 2019 due to construction of the wastewater treatment plant improvements. Expense increases for FY 2020-2022 will vary from 2% to 6%.

Outside Wastewater General Expenses

The outside wastewater expenses are projected to increase by 28% in FY 2018 due to expected higher electric costs and repairs / maintenance and then dropping in FY 2019. In FY 2020 expenses increases again due to the outside wastewater customers paying their share of the cost of the wastewater treatment plant improvements.

Other considerations

For a city like Pikeville general expenses can vary from year to year. A large repair & maintenance item or needing to buy large quantities of materials & supplies can make a big difference in general expenses which could impact cash flow and the change in net position.

Expense Summary

Inside Water Expense - Projections										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total	1,845,832	1,965,854	1,996,982	1,896,950	2,009,651	2,278,293	2,381,857	2,471,388	2,601,954	2,701,155
Percent Change		7%	2%	-5%	6%	13%	5%	4%	5%	4%

Outside Water Expense - Projections										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total	694,044	754,973	786,303	761,043	900,795	688,638	741,676	771,776	811,540	854,233
Percent Change		9%	4%	-3%	18%	-24%	8%	4%	5%	5%

Inside Wastewater Expense - Projections										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total	929,608	767,757	882,757	872,085	1,080,004	1,141,462	1,004,713	1,041,151	1,062,704	1,130,612
Percent Change		-17%	15%	-1%	24%	6%	-12%	4%	2%	6%

Outside Wastewater Expense - Projections										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total	285,814	344,632	376,827	374,374	406,075	518,190	471,719	643,876	665,009	696,794
Percent Change		21%	9%	-1%	8%	28%	-9%	36%	3%	5%

Figure 13

Cost of Service Analysis

Overview

A Cost of Service analysis is a method used to fairly distribute cost to classes of customers based on the services provided to each class. The City of Pikeville does not distinguish between classes of customers such as residential, commercial, or industrial. However, the City provides water service to two other water systems, Mountain Wt. and Southern Wt. Each of these water systems are charged different rates although they are provided the same level of service. The purpose of the Cost of Service analysis is to determine a fair water rate for both water systems. It is recommended that the City create a "Wholesale" class of customers and include both Mountain Wt. and Southern Wt. in the wholesale classification.

Pikeville has separate financial accounting for inside city water and outside city water. Mountain Wt. and Southern Wt. income and expenses are currently included with the inside water accounting and it is recommended that the wholesale financial accounting remain with the inside water accounting.

Methodology

The American Water Works Association published book titled "Manual of Water Supply Practices – M54 – Developing Rates for Small Systems" that describes the rate-making process as follows: *(1) determination of revenue requirements; (2) identify customer classes; (3) allocation of costs to the functional components of the cost of service; (4) distribution of the functional cost of service to customer classes; and (5) development and design of a schedule of rates and charges to recover the revenue requirements.* The Cost of Service analysis prepared for the Pikeville wholesale customers follows this pattern.

Revenue Requirement

The revenue requirement is the total amount of cash needed for the inside water system to operate for a specific year. The year selected for this report is FY 2017 because of the audited information available. The "Cash-Basis" method as described by AWWA is used to determine the revenue requirement. Categories of cost and values of cost for FY 2017 are listed in **Figure 14.** Major cost components include Administration, Water Treatment Plant, Distribution System and Debt.

There are two components of the City's water rate structure, a fixed cost and a variable cost. Fixed costs are those costs unrelated to the treatment and distribution of water and variable costs are associated directly or indirectly with the treatment and distribution of water. The fixed cost is generally used to determine a base amount or used in the calculation of a minimum bill and the variable cost is used to determine unit rate, or cost per 1,000 gallons. It is this variable rate for the wholesale customers that's to be determined by the cost of service analysis.

Included in the cost components is an item called "Other Income" and is a combination of fees and penalties collected by the City that primarily impacts the fixed cost and not variable costs. The "Capital Funds" is the excess cash (income less expenses) realized in the FY 2017 for the inside water system and can be used for capital or reserve purposes.

The result of this part of the cost of service analysis shows that $2,150,302 in costs are to be recovered through the variable rate.

Customer Classes
Currently there are two customers recommended to be included in the wholesale class, Mountain Wt. and Southern Wt. The water usage for each of the customers is shown in **Figure 14**. For FY 2017 Mountain Wt. bought 50% of the total water sold to inside city customers and Southern Wt. bought 17% of the total water sold to inside city customers. Combined they bought 67% of the water sold to inside city customers but provided only 44% of the total revenue from inside city customers.

Cost Allocation
The allocation of cost is shown in **Figure 15**. The cost of the distribution system is allocated to seven services. Allocation of these costs are determined by applying percentages as determined by general knowledge of the City's staff and UMG of how the services are being provided to the inside water customers, including Mountain Wt. and Southern Wt. The percentages are then multiplied by the total cost of the distribution cost to determine the amount allocated to each service item.

Cost Distribution
The Cost Distribution is shown in **Figure 16**. The cost of each water service along with the cost of debt and capital funds is presented along with an estimated percentage of distribution to the two wholesale customers. The percentage of distribution is determined by City's staff and UMG. The cost of each service item is multiplied by the corresponding percentage for the wholesale customers. The result is a fair amount that each wholesale customer should pay for each item of service. They are then totaled together to determine the revenue needed from each. Finally, the revenue needed is divided by the amount of annual usage to obtain a unit rate in cost per 1,000 gallons.

Rate Determination
The following is a summary for the wholesale rate for the wholesale customer class.

Customer Class	Revenue Required	Usage	Rate per 1,000 gallons
Wholesale	**$1,269,229**	**619 MGY**	**$2.05**

Rate Analysis
The result of this cost of service analysis concludes that both Mountain Wt. and Southern Wt. has been paying less than their fair share of the cost of water service. It should be noted however, that the new rate does not include administrative costs, service call costs or the cost for testing. Mountain Wt. needs a 30% increase to adjust for their fair share of water service provided in FY2017 and Southern Wt. needs a 19% increase. These adjusted rates would be the base for the recommended FY 2019 inside water rate increase.

Other Considerations
The wholesale class of customers would give the City flexibility to include other large water users and allow them to take advantage of a reduced water rate.

Revenue Requirement - 2017					
	Cost	Fixed		Variable	
Administration	$119,758	100%	$119,758	0%	$0
Water Treatment Plant	$773,926	6%	$43,783	94%	$730,143
Distribution System	$1,115,966	8%	$92,156	92%	$1,023,811
Debt	$205,351	50%	$102,676	50%	$102,676
Other Income	($252,335)	100%	($252,335)	0%	
Capital Funds	$293,672	0%	$0	100%	$293,672
Revenue Requirement	**$2,256,339**		**$106,037**		**$2,150,302**

Inside Water Usage Analysis					
	Water Usage MGY			Water Usage MGY	Percent Usage
Total Inside Usage	930		Mountain Wt.	463	50%
			Southern Wt.	156	17%
			Total Wholesale	619	67%

Figure 14

Percentages of Cost Allocation - 2017										
	Water Treatment	Booster Stations	Line Maint.	Tanks	Service Calls	Meters	Leak Detection	Testing	Total	
Water Treatment Plant	100%	0%	0%	0%	0%	0%	0%	0%	**100%**	
Distribution System	0%	20%	40%	5%	15%	5%	10%	5%	**100%**	
Cost of Services - 2017										
	Water Treatment	Booster Stations	Line Maint.	Tanks	Service Calls	Meters	Leak Detection	Testing	Total	Percent
Water Treatment Plant	$ 730,143	$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ 730,143**	**41.63%**
Distribution System	$ -	$ 204,762	$ 409,524	$ 51,191	$ 153,572	$ 51,191	$ 102,381	$ 51,191	**$ 1,023,811**	**58.37%**
Total	$ 730,143	$ 204,762	$ 409,524	$ 51,191	$ 153,572	$ 51,191	$ 102,381	$ 51,191	**$ 1,753,954**	**100.00%**

Figure 15

Cost Distribution 2017											
Cost of Services											
	Water Treatment	Booster Stations	Line Maint.	Tanks	Service Calls	Meters	Leak Detection	Testing	Debt	Capital Funds	Total
Annual Cost	$730,143	$204,762	$409,524	$51,191	$153,572	$51,191	$102,381	$51,191	$102,676	$293,672	$2,150,302
Percent Distribution											
Wholesale Account	Water Treatment	Booster Stations	Line Maint.	Tanks	Service Calls	Meters	Leak Detection	Testing	Debt	Capital Funds	
Mountain Wt.	50%	50%	50%	50%	0%	12%	50%	0%	50%	50%	
Southern Wt.	17%	17%	17%	17%	0%	3%	17%	0%	17%	17%	
Cost Distribution											
Wholesale Account	Water Treatment	Booster Stations	Line Maint.	Tanks	Service Calls	Meters	Leak Detection	Testing	Debt	Capital Funds	Total
Mountain Wt.	$363,625	$101,976	$203,951	$25,494	$0	$6,143	$51,191	$0	$51,338	$146,836	$950,553
Southern Wt.	$122,617	$34,387	$68,774	$8,597	$0	$1,536	$17,193	$0	$17,243	$49,318	$319,664
Wholesale	$486,242	$136,362	$272,725	$34,091	$0	$7,679	$68,384	$0	$68,581	$196,154	$1,270,217

Rate Analysis 2017						
Wholesale Account	Revenue Paid	Current Rate 1,000 Gal.	Revenue Required	Required Rate 1,000 Gal.	Revenue Deficient	Rate Increase Needed
Mountain Wt.	$729,785	1.58	$950,553	$2.05	$198,989	30%
Southern Wt.	$268,289	1.72	$319,664	$2.05	$73,154	19%
Wholesale	$998,074		$1,270,217	$2.05	$272,143	27%

Figure 16

Cash Flow Analysis

Overview

It is important for the City to know the amount of cash it has on hand and if its cash reserves are growing or being depleted. Cash is necessary to pay for the utility's operational and maintenance needs as well as debt and capital expenses to preserve its infrastructure, retain its staff, deliver services to customers, preserve restricted accounts and maintain a healthy cash reserve. Therefore, it is important to predict its anticipated expenditures and how much cash the utility expects to receive from its customers and other sources. Such an examination is called a Cash Flow Analysis. If the projected income is less than the projected expenses or less than a minimal amount of cash, under normal circumstances, then a rate increase is needed.

Methodology

The Cash Flow Analysis is configured like a cash budget showing the amount of cash at the beginning of the fiscal year, the amount of income (including customer charges and miscellaneous fees), the amount of expenses (including operational expenses and debt). Adding income and subtracting expenses and capital improvements provides the amount of cash available for capital expenses. Additional financing such as loans and grants are also included. The City operates on an accrual accounting basis, so an accrual adjustment line item is included to facilitate a cash amount at the end of the year. It is difficult to project the accrual adjustment (reconciliation of operating income) for future years, so it is not included in the projected years.

Inside Water

Figure 17 shows the cash flow analysis for the inside water system. The average increase in revenue over the next five years is projected to be about 1.5% and the average expenses over the next five years is projected to be about 3.7%. The debt service is projected to increase about $120,000 yearly. Also, the City is planning to spend $1,594,350 in FY 2018 for capital expenses with $1,079,350 financing with loans and grants and the remaining coming from cash reserves. The combination of this analysis creates a problem in with total expenses exceeding total income in FY 2019 and cash reserves being depleted in FY 2020. It is recommended that the City maintain a minimum of $750,000 in total cash as an emergency fund and to finance any unplanned expenses. **Figure 18** is a graphical representation of the inside water cash flow analysis.

Outside Water

Figure 19 shows the cash flow analysis for the outside water system, which has struggled financially for the past five years, showing income less expenses as negative amounts. The system begins FY 2013 with $631,619 in cash but is projected to run out of cash by the end of FY 2020. It is recommended that this system maintains a minimum of $200,000 in cash each year. **Figure 20** is a graphical representation of the outside water cash flow analysis.

Inside Wastewater

Figure 21 shows the cash flow analysis for the inside wastewater system. The inside wastewater system has proven to be financially sound for the last five years. Beginning July 2017, a 40% increase went into effect and is projected to provide enough revenue to cover all general expenses, debt payment and capital expenses over the next five years. The inside wastewater system did not have any debt until FY 2017. The amount of cash at the end of each of the next five years is projected to be more than $500,000. **Figure 22** is a graphical representation of the inside wastewater cash flow analysis.

Outside Wastewater

Figure 23 shows the cash flow analysis for the outside wastewater system. Like the inside wastewater system, the outside wastewater system has proven to be financially sound over the last five years. This system also had a 40% increase in July 2017. The next five years is projected to remain financially strong. It is recommended that this system maintain $500,000 in cash reserves. **Figure 24** is a graphical representation of the outside wastewater cash flow analysis.

Other considerations

Having a better understanding of cash flow and the accumulation of cash can be helpful in developing a multi-year capital improvement plan and financing of future projects.

Inside Water Cash Flow Analysis - No Rate Increases										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Cash Beginning Jul. 1	1,228,924	1,465,130	600,721	955,071	**1,238,358**	**1,250,435**	**762,354**	**337,274**	**0**	**0**
Income Sources										
Pikeville Inside	1,205,251	1,224,422	1,234,621	1,248,544	1,258,264	**1,261,701**	**1,307,833**	**1,312,270**	**1,342,992**	**1,346,476**
Mountain Water	749,054	764,806	790,009	754,765	729,785	**733,434**	**737,101**	**740,787**	**748,195**	**755,677**
Southern Water	337,768	315,403	273,585	247,011	268,289	**269,630**	**270,979**	**272,334**	**275,057**	**277,807**
Other Income	377,399	276,734	412,510	246,326	252,335	**285,754**	**292,064**	**313,560**	**320,248**	**327,133**
Total Income	2,669,472	2,581,365	2,710,725	2,496,645	**2,508,673**	**2,550,520**	**2,607,978**	**2,638,951**	**2,686,492**	**2,707,094**
Expenses										
General Expenses	1,845,832	1,965,854	1,996,982	1,896,950	2,009,651	**2,271,093**	**2,368,301**	**2,445,521**	**2,537,152**	**2,632,959**
Debt	331,463	1,489,796	146,887	20,833	205,351	**252,508**	**314,757**	**314,880**	**316,007**	**311,898**
Total Expenses	2,177,295	3,455,650	2,143,869	1,917,783	2,215,001	**2,523,602**	**2,683,058**	**2,760,400**	**2,853,159**	**2,944,857**
Income Less Expenses	492,178	(874,285)	566,856	578,863	293,672	**26,918**	**(75,080)**	**(121,449)**	**(166,667)**	**(237,763)**
Transfers										
Net Transfers	(7,854)	(24,337)	246,010	(306,903)						
Capital Financing										
Loans				2,400,866		**539,350**				
Grants				1,369,088	415,931	**540,000**				
Total Loans / Grants				3,769,954	415,931	**1,079,350**				
Capital Expenses										
Capital Expenses	239,677	58,459	531,961	3,771,346	697,525	**1,594,350**	**350,000**	**300,000**	**300,000**	**150,000**
Annual Gain - (Loss)	244,647	(957,081)	280,905	270,568	12,077	**(488,082)**	**(425,080)**	**(421,449)**	**(466,667)**	**(387,763)**
Accrual Adjustment	(21,587)	74,717	64,864	10,820						
Cash Ending Jun. 30	1,465,130	600,721	955,071	1,238,358	1,250,435	**762,354**	**337,274**	**0**	**0**	**0**
Cash Limits										
Restricted Cash	33,633	40,270	40,604	54,458	50,000	**50,000**	**50,000**	**50,000**	**50,000**	**50,000**
Minimum Total Cash	750,000	750,000	750,000	750,000	750,000	**750,000**	**750,000**	**750,000**	**750,000**	**750,000**
Available Cash	681,497	0	164,467	433,900	450,435	**0**	**0**	**0**	**0**	**0**

Figure 17

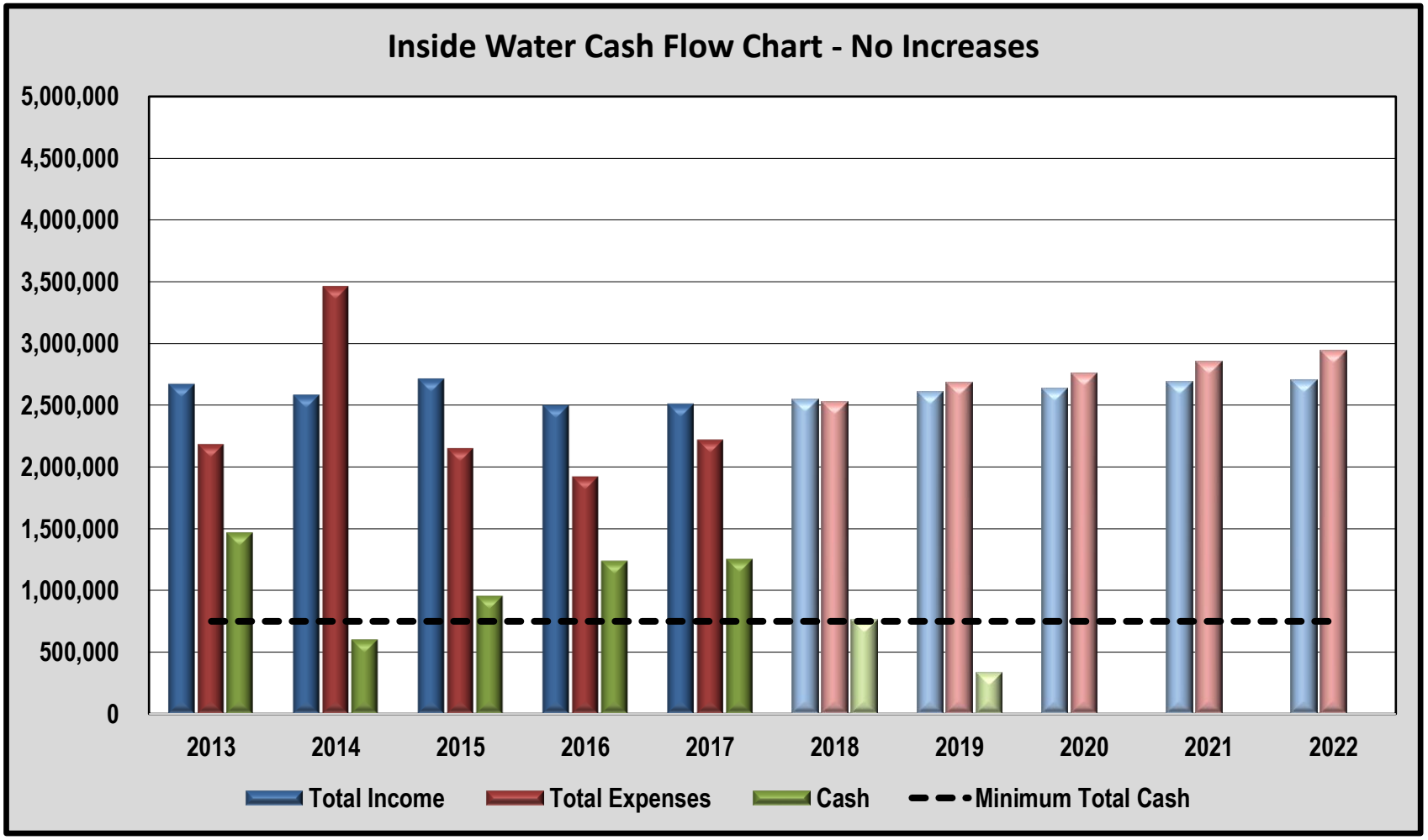

Inside Water Cash Flow Chart - No Increases
5,000,000
4,500,000
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
Total Income
Total Expenses
Cash
Minimum Total Cash

Figure 18

Outside Water Cash Flow Analysis - No Rate Increases										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Cash Beginning Jul. 1	631,619	628,310	526,567	409,848	388,325	**279,100**	**201,850**	**3,273**	**0**	**0**
Income Sources										
Charges for Services	739,283	733,731	714,793	683,353	668,106	**668,106**	**668,106**	**669,904**	**671,702**	**673,500**
Other Income	9,391	9,057	15,356	13,844	13,782	**5,400**	**5,400**	**5,400**	**5,400**	**5,400**
Total Income	748,674	742,788	730,149	697,196	681,888	**673,506**	**673,506**	**675,304**	**677,102**	**678,900**
Expenses										
General Expenses	694,044	754,973	786,303	761,043	900,795	**688,638**	**738,488**	**765,870**	**800,592**	**837,951**
Debt	59,165	53,238	55,043	60,690	59,802	**62,118**	**81,596**	**106,114**	**107,214**	**106,539**
Total Expenses	753,209	808,211	841,346	821,733	960,597	**750,757**	**820,084**	**871,984**	**907,806**	**944,489**
Income Less Expenses	(4,535)	(65,422)	(111,197)	(124,537)	(278,709)	**(77,250)**	**(146,577)**	**(196,680)**	**(230,704)**	**(265,589)**
Transfers										
Net Transfers	43,992	16,964	6,340	1,445						
Capital Financing										
Loans						**265,650**		**375,000**		
Grants				84,955	192,079			**375,000**		
Total Loans / Grants				84,955	192,079	**265,650**		**750,000**		
Capital Expenses										
Capital Expenses	61,693		3,000		22,595	**265,650**	**52,000**	**799,000**	**46,000**	**32,000**
Annual Gain - (Loss)	(22,236)	(48,458)	(107,857)	(38,137)	(109,225)	**(77,250)**	**(198,577)**	**(245,680)**	**(276,704)**	**(297,589)**
Accrual Adjustment	18,927	(53,285)	(8,862)	16,614						
Cash Ending Jun. 30	628,310	526,567	409,848	388,325	279,100	**201,850**	**3,273**	**0**	**0**	**0**
Cash Limits										
Restricted Cash	30,135	35,516	33,324	36,513	35,000	**35,000**	**35,000**	**35,000**	**35,000**	**35,000**
CD's	11,603	46,689	52,332	56,112	50,000	**50,000**	**50,000**	**50,000**	**50,000**	**50,000**
Minimum Total Cash	100,000	100,000	100,000	100,000	100,000	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**
Available Cash	486,572	344,362	224,192	195,700	94,100	**16,850**	**0**	**0**	**0**	**0**

Figure 19

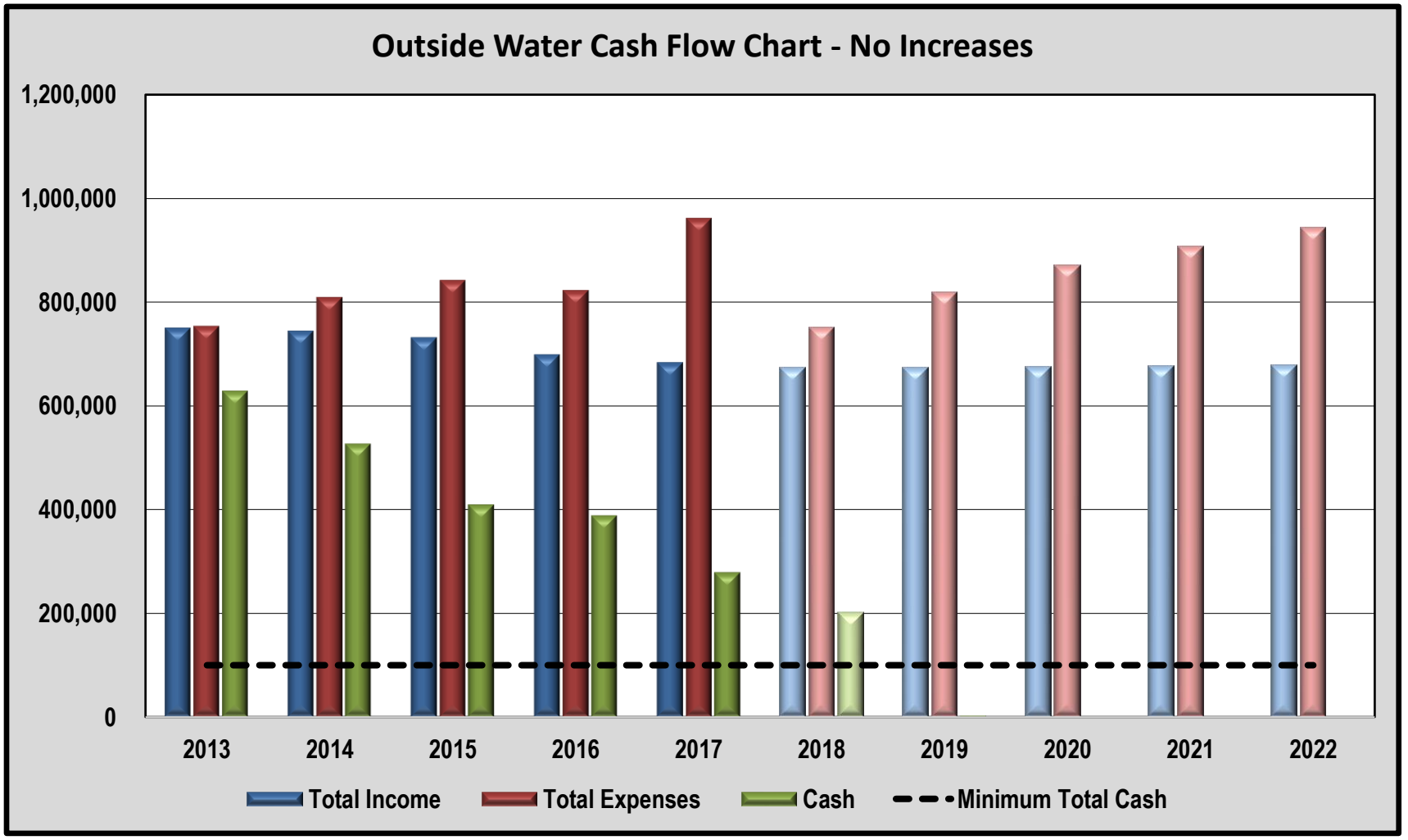

Outside Water Cash Flow Chart - No Increases
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
Total Income
Total Expenses
Cash
Minimum Total Cash

Figure 20

Inside Wastewater Cash Flow Analysis - No Rate Increases										
	2013	2014	2015	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Cash Beginning Jul. 1	184,146	520,532	740,126	648,557	**845,795**	**676,541**	**539,130**	**617,903**	**641,841**	**720,878**
Income Sources										
Charges for Services	1,007,263	1,036,125	1,034,140	1,021,778	1,057,142	**1,484,959**	**1,554,215**	**1,560,384**	**1,612,305**	**1,618,006**
Other Income	218,741	164,107	161,792	179,319	126,299	**173,697**	**174,927**	**204,222**	**205,501**	**206,805**
Total Income	1,226,004	1,200,232	1,195,933	1,201,098	1,183,441	**1,658,656**	**1,729,143**	**1,764,606**	**1,817,806**	**1,824,812**
Expenses										
General Expenses	929,608	767,757	882,757	872,085	1,080,004	**1,129,362**	**1,013,684**	**1,030,629**	**1,028,662**	**1,075,475**
Debt					14,247	**446,706**	**446,685**	**602,540**	**602,607**	**602,667**
Total Expenses	929,608	767,757	882,757	872,085	1,094,251	**1,576,068**	**1,460,369**	**1,633,168**	**1,631,268**	**1,678,142**
Income Less Expenses	296,397	432,475	313,175	329,012	89,190	**82,588**	**268,773**	**131,438**	**186,537**	**146,669**
Transfers										
Net Transfers	(108,781)	(65,016)	166,417	(37,960)						
Capital Financing										
Loans						**10,580,942**	**2,419,058**			
Grants	658,735	368,341	572,407	1,629,365	104,235		**8,161,883**			**200,000**
Total Loans / Grants	658,735	368,341	572,407	1,629,365	**104,235**	**10,580,942**	**10,580,941**			**200,000**
Capital Expenses										
Capital Expenses	505,123	506,948	1,158,937	1,736,366	362,679	**10,800,942**	**10,770,941**	**107,500**	**107,500**	**287500**
Annual Gain - (Loss)	341,228	228,852	(106,938)	184,051	(169,254)	**(137,412)**	**78,773**	**23,938**	**79,037**	**59,169**
Accrual Adjustment	(10,842)	(14,213)	10,818	5,973						
Cash Ending Jun. 30	520,532	740,126	648,557	845,795	**676,541**	**539,130**	**617,903**	**641,841**	**720,878**	**780,047**
Cash Limits										
Restricted Cash	122,384			3,300		**50,000**	**50,000**	**50,000**	**50,000**	**50,000**
Minimum Total Cash	500,000	500,000	500,000	500,000	500,000	**500,000**	**500,000**	**500,000**	**500,000**	**500,000**
Available Cash	0	240,126	148,557	342,495	176,541	**0**	**67,903**	**91,841**	**170,878**	**230,047**

Figure 21

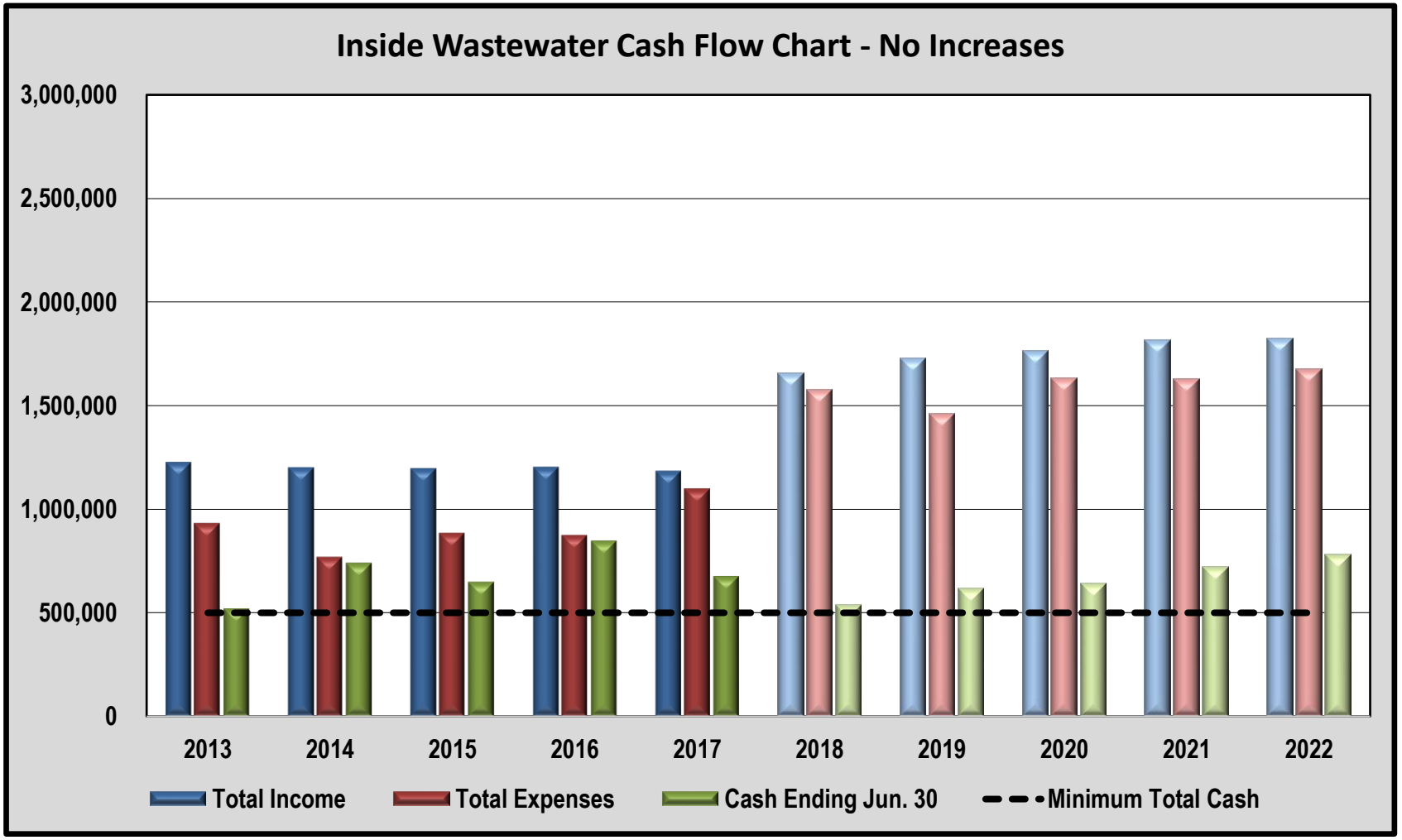

Inside Wastewater Cash Flow Chart - No Increases
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
Total Income
Total Expenses
Cash Ending Jun. 30
Minimum Total Cash

Figure 22

Outside Wastewater Cash Flow Analysis - No Rate Increases										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Cash Beginning Jul. 1	455,811	580,970	547,030	604,594	**706,144**	**698,589**	**756,684**	**657,182**	**724,224**	**723,450**
Income Sources										
Charges for Services	665,756	672,920	656,896	629,338	615,196	**861,324**	**861,324**	**917,683**	**919,823**	**919,823**
Other Income	6,627	7,008	6,640	23,938	7,163	**5,905**	**5,905**	**5,905**	**5,905**	**5,905**
Total Income	672,383	679,928	663,536	653,276	622,360	**867,229**	**867,229**	**923,588**	**925,728**	**925,728**
Expenses										
General Expenses	285,814	344,632	376,827	374,374	406,075	**586,810**	**537,921**	**583,558**	**602,444**	**631,836**
Debt	139,192	186,167	191,859	204,009	205,351	**204,324**	**203,810**	**202,988**	**206,058**	**138,599**
Total Expenses	425,006	530,799	568,686	578,383	611,425	**791,134**	**741,731**	**786,546**	**808,502**	**770,434**
Income Less Expenses	247,377	149,129	94,850	74,893	10,935	**76,095**	**125,498**	**137,042**	**117,226**	**155,294**
Transfers										
Net Transfers	(141,844)	(129,965)	84,113	2,651						
Capital Financing										
Loans	(58,005)									
Grants	91,205			40,692					**1,173,722**	
Total Loans / Grants	33,200	0	0	40,692	0	**0**	**0**	**0**	**1,173,722**	**0**
Capital Expenses										
Capital Expenses	10,124	30,553	82,169	31,400	18,490	**18,000**	**225,000**	**70,000**	**1,291,722**	**65,000**
Annual Gain - (Loss)	128,609	(11,389)	96,794	86,836	(7,555)	**58,095**	**(99,502)**	**67,042**	**(774)**	**90,294**
Accrual Adjustment	(3,450)	(22,551)	(39,230)	14,714						
Cash Ending Jun. 30	580,970	547,030	604,594	706,144	698,589	**756,684**	**657,182**	**724,224**	**723,450**	**813,744**
Cash Limits										
Restricted Cash	119,844	135,453	140,539	90,717	100,000	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**
CD's	99,482	98,586	104,488	173,057	100,000	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**
Minimum Total Cash	500,000	500,000	500,000	500,000	500,000	**500,000**	**500,000**	**500,000**	**500,000**	**500,000**
Available Cash	0	0	0	0	0	**56,684**	**0**	**24,224**	**23,450**	**113,744**

Figure 23

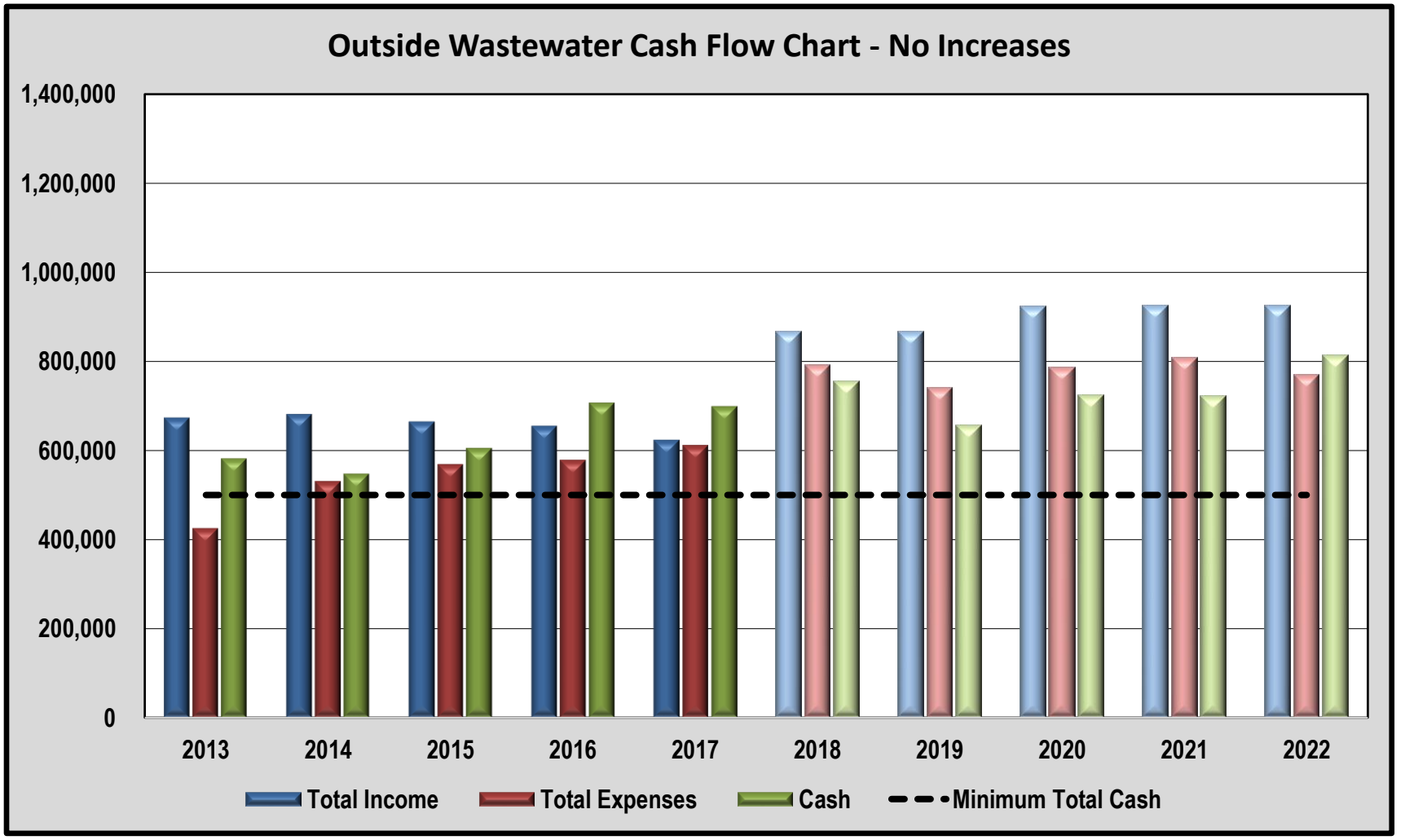

Outside Wastewater Cash Flow Chart - No Increases
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
Total Income
Total Expenses
Cash
Minimum Total Cash

Figure 24

Change in Net Position Analysis

Overview

Net position is generally defined as assets less liabilities. The City's water and wastewater assets include all cash (unrestricted and restricted), land and the "net value" of everything it owns such as pipes in the ground, tanks, pumps, building, furniture, vehicles and other purchases made that are necessary to the operation of the utility. The net value is defined as the original cost of a capital asset less its accumulated depreciation. Each year there is a change in net position because the amount of cash changes with increasing or decreasing revenues and expenses, and the amount of the net capital asset value changes because of new capital assets being purchased, all capital assets being depreciated and possibly some capital assets being totally depreciated. This "change in net position" is calculated in a section of the City's audit called "Statement of Revenues, Expenses and Changes in the Net Position". The Change in Net Position Analysis in this report contains the same data and information found in that section of the audit.

Methodology

The Net Position Analysis is different from the Cash Flow Analysis in that it includes depreciation as an operating expense but does not include the amount of money paid for principal debt payments, cash paid for capital improvements, bond issues or loans. the annual audit includes grants and gives credit for the value of capital improvements provided by others.

Requirement

According to the Governmental Accounting Standards Board (GASB), depreciation is to be included in the Statement of Revenues, Expenses and Change in Net Position section of the audit as an operating expense. The City's Ordinance Number O-2017-19 regarding funding of the wastewater treatment plant project states *"--- the rates for all services and facilities rendered by the System to the City and to its citizens, corporations, or others requiring the same, shall be reasonable and just, taking in to account and consideration the cost and value of the System, the cost of maintaining operating the same, the proper and necessary allowances for depreciation thereof ---".*

The State of Kentucky does not regulate the change in net position. The City should consider adopting a policy regarding the change in net position to define "proper and necessary allowances for depreciation". A continual decline in the water and wastewater net position could have a negative impact on the City's over-all bond rating.

Inside Water

Figure 25 is the Change in Net Position Analysis for the inside water system. Based on projections, the Change in Net Position will be negative for FY 2019 – 2022. This is another indication, other than cash flow, that additional revenue is needed to cover all expenses including depreciation. Depreciation is 15% of the total expenses when calculating the change in net position.

Outside Water

Figure 26 is the Change in Net Position Analysis for the outside water system. The outside water system shows a negative change in net position for each year shown except for FY 2013 and FY 2020, and the income less expenses has been negative for each year. This is an indication that there has been a need for additional revenue since FY 2013.

Inside Wastewater

Figure 27 is the Change in Net Position Analysis for the inside wastewater system. Based on projections, the Change in Net Position will be negative for FY 2020 – 2022. Depreciation is 40% of the total expenses and interest expense is 14% when calculating the change in net position. The depreciation expense is creating what is best described as a "paper loss" because there is a positive cash flow projected over the next five years, but the calculation of change in net position is showing negative numbers, or losses. The 40% increase in the wastewater rates in July 2017 is projected to create a positive cash flow but not enough to cover the projected depreciation. Since the change in net position is not regulated, the City should monitor the change in net position on an annual basis, set a limit on the amount of "paper loss" and increase rates accordingly.

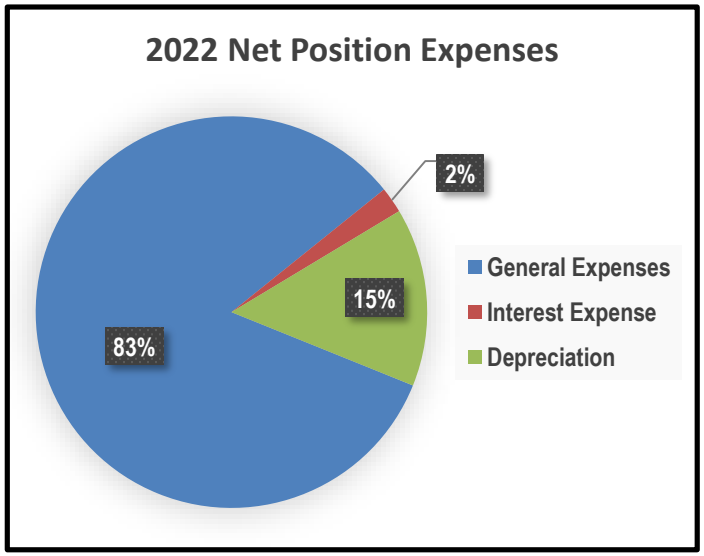
Outside Wastewater

Figure 28 is the Change in Net Position Analysis for the outside wastewater system. The 40% increase in rates that went into effect July 2017 is projected to positive income less expenses and change in net position for the next five years except for FY 2018 and FY 2022. The negative numbers are small in comparison with the inside wastewater system and could possibly turn out positive given that estimates are made on the conservative side for both income and expenses. The percent of depreciation is 26% and interest expense is 7%.

Other Considerations

The Change in Net Position Analysis is the analysis that generally controls the amount of rate increase if the City is wanting to avoid a paper loss. The Change in Net Position is one of several metrics considered by rating agencies when determining bond ratings.

Inside Water Change in Net Position - No Rate Increases										
	2013	2014	2015	2016	2017	**2018**	**2019**	**2020**	**2021**	**2022**
Revenue / Income										
Revenue	1,205,251	1,224,422	1,234,621	1,248,544	1,258,264	**1,261,701**	**1,307,833**	**1,312,270**	**1,342,992**	**1,346,476**
Other income	377,399	276,734	412,510	246,326	252,335	**285,754**	**292,064**	**313,560**	**320,248**	**327,133**
Total Income	1,582,650	1,501,155	1,647,131	1,494,870	1,510,599	**1,547,455**	**1,599,897**	**1,625,831**	**1,663,240**	**1,673,609**
Expenses										
General Expenses	1,845,832	1,965,854	1,996,982	1,896,950	2,009,651	**2,271,093**	**2,368,301**	**2,445,521**	**2,537,152**	**2,632,959**
Interest Expense	61,168	119,764	19,338	30,619	75,351	**78,708**	**83,357**	**78,580**	**73,507**	**68,198**
Depreciation	423,973	406,394	379,791	378,658	414,224	**450,542**	**484,393**	**468,256**	**464,362**	**466,892**
Total Expenses	2,330,973	2,492,012	2,396,111	2,306,227	2,499,225	**2,800,344**	**2,936,050**	**2,992,356**	**3,075,021**	**3,168,049**
Income Less Expenses	(748,323)	(990,856)	(748,980)	(811,357)	(988,627)	**(1,252,889)**	**(1,336,153)**	**(1,366,525)**	**(1,411,781)**	**(1,494,440)**
Transfers										
Net Transfers	(7,854)	(24,337)	246,010	(306,903)						
Grants										
Grants				1,369,088	415,931	**540,000**				
Change in Net Position										
Change in Net Position	(756,177)	(1,015,193)	(502,970)	250,828	(572,696)	**(712,889)**	**(1,336,153)**	**(1,366,525)**	**(1,411,781)**	**(1,494,440)**



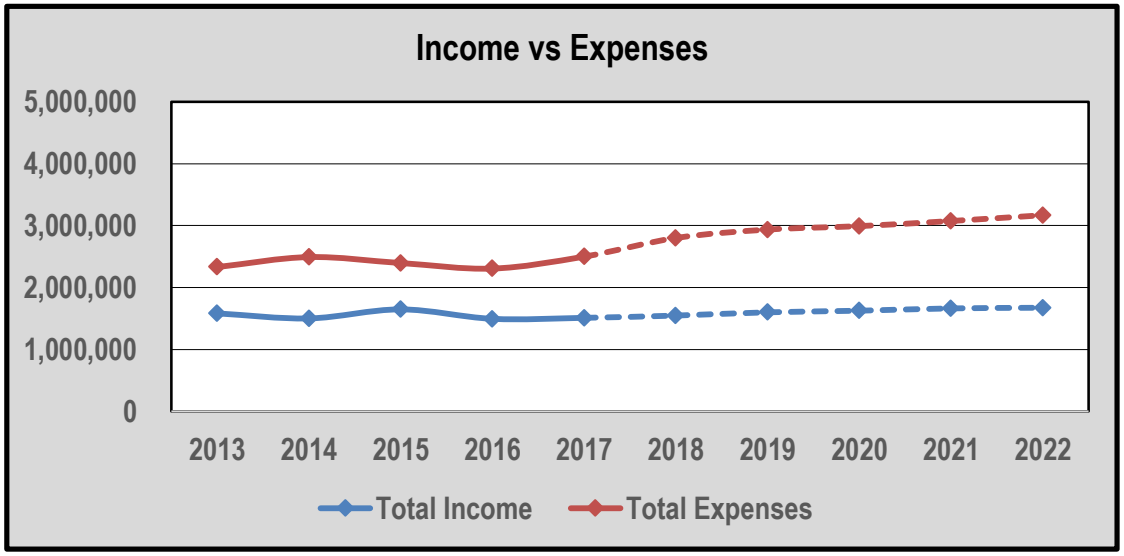
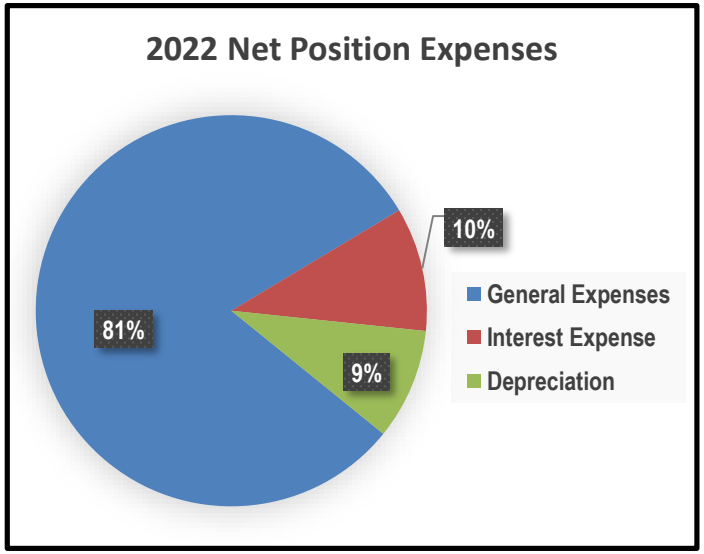


Figure 25

Outside Water Change in Net Position - No Rate Increases										
	2013	2014	2015	2016	2017	**2018**	**2019**	**2020**	**2021**	**2022**
Revenue / Income										
Revenue	739,283	733,731	714,793	683,353	668,106	**668,106**	**668,106**	**669,904**	**671,702**	**673,500**
Other income	9,391	9,057	15,356	13,844	13,782	**5,400**	**5,400**	**5,400**	**5,400**	**5,400**
Total Income	748,674	742,788	730,149	697,196	681,888	**673,506**	**673,506**	**675,304**	**677,102**	**678,900**
Expenses										
General Expenses	694,044	754,973	786,303	761,043	900,795	**688,638**	**738,488**	**765,870**	**800,592**	**837,951**
Interest Expense	28,904	27,680	34,637	34,189	33,052	**62,118**	**81,596**	**106,114**	**107,214**	**106,539**
Depreciation	66,730	76,494	74,957	65,705	67,095	**70,763**	**71,917**	**82,929**	**93,979**	**95,442**
Total Expenses	789,678	859,147	895,897	860,937	1,000,942	**821,520**	**892,001**	**954,914**	**1,001,786**	**1,039,931**
Income Less Expenses	(41,004)	(116,358)	(165,748)	(163,741)	(319,054)	**(148,013)**	**(218,494)**	**(279,609)**	**(324,683)**	**(361,031)**
Transfers										
Net Transfers	43,992	16,964	6,340	1,445						
Grants										
Grants				84,955	192,079			**375,000**		
Change in Net Position										
Change in Net Position	2,988	(99,394)	(159,408)	(77,341)	(126,975)	**(148,013)**	**(218,494)**	**95,391**	**(324,683)**	**(361,031)**



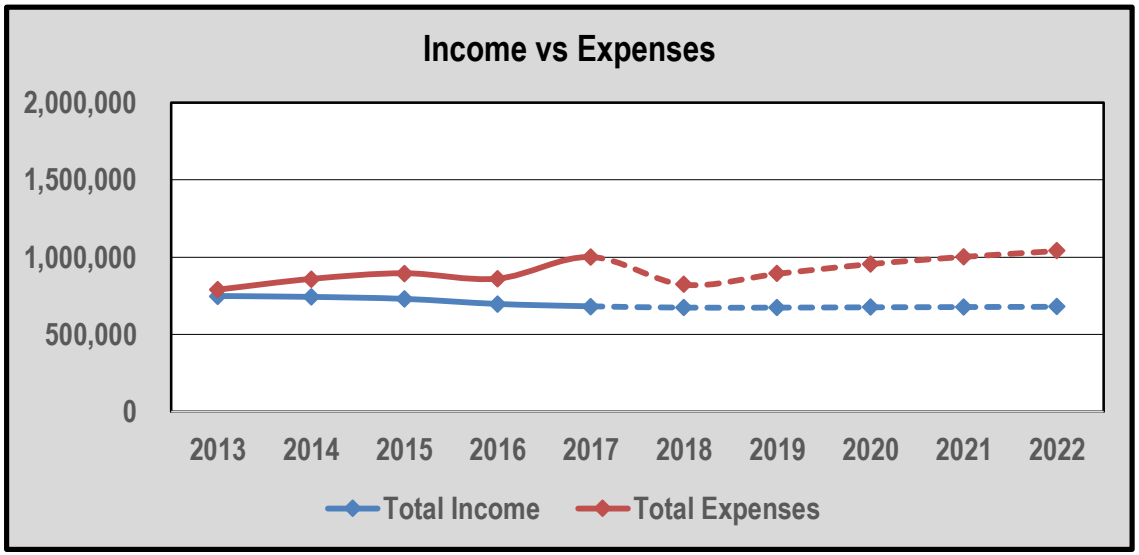
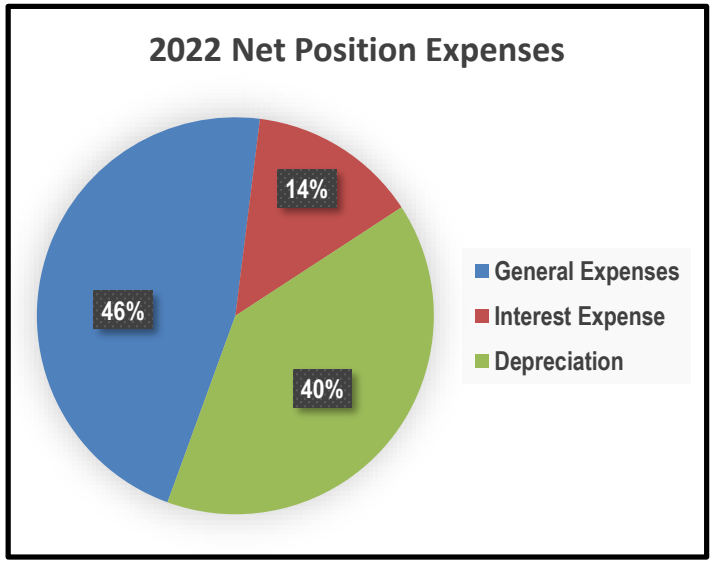


Figure 26

Inside Wastewater Change in Net Position - No Rate Increases										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Revenue / Income										
Revenue	1,007,263	1,036,125	1,034,140	1,021,778	1,057,142	**1,484,959**	**1,554,215**	**1,560,384**	**1,612,305**	**1,618,006**
Other income	218,741	164,107	161,792	179,319	126,299	**173,697**	**174,927**	**204,222**	**205,501**	**206,805**
Total Income	1,226,004	1,200,232	1,195,933	1,201,098	1,183,441	**1,658,656**	**1,729,143**	**1,764,606**	**1,817,806**	**1,824,812**
Expenses										
General Expenses	929,608	767,757	882,757	872,085	1,080,004	**1,129,362**	**1,013,684**	**1,030,629**	**1,028,662**	**1,075,475**
Interest Expense					14,247	**339,138**	**336,471**	**333,737**	**327,039**	**320,172**
Depreciation	373,807	391,377	370,285	347,679	395,267	**403,763**	**408,044**	**670,878**	**921,132**	**921,068**
Total Expenses	1,303,415	1,159,134	1,253,042	1,219,764	1,489,518	**1,872,263**	**1,758,199**	**2,035,244**	**2,276,833**	**2,316,716**
Income Less Expenses	(77,410)	41,098	(57,110)	(18,667)	(306,077)	**(213,607)**	**(29,056)**	**(270,638)**	**(459,027)**	**(491,905)**
Transfers										
Net Transfers	(108,781)	(65,016)	166,417	(37,960)						
Grants										
Grants	658,735	368,341	572,407	996,165	104,235		**8,161,883**			**200,000**
Change in Net Position										
Change in Net Position	472,544	344,423	681,714	939,538	(201,842)	**(213,607)**	**8,132,827**	**(270,638)**	**(459,027)**	**(291,905)**



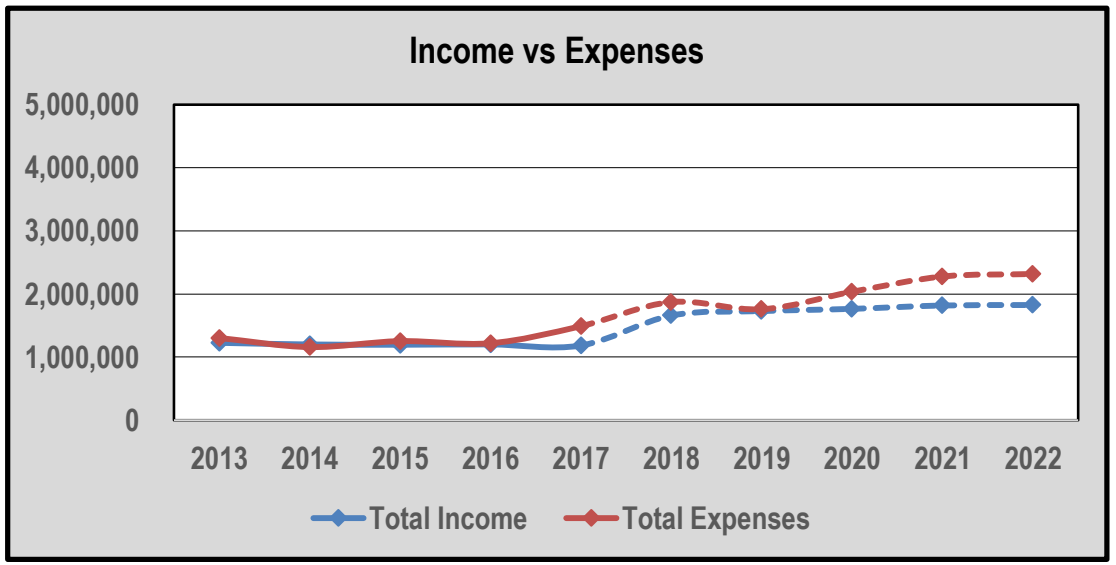
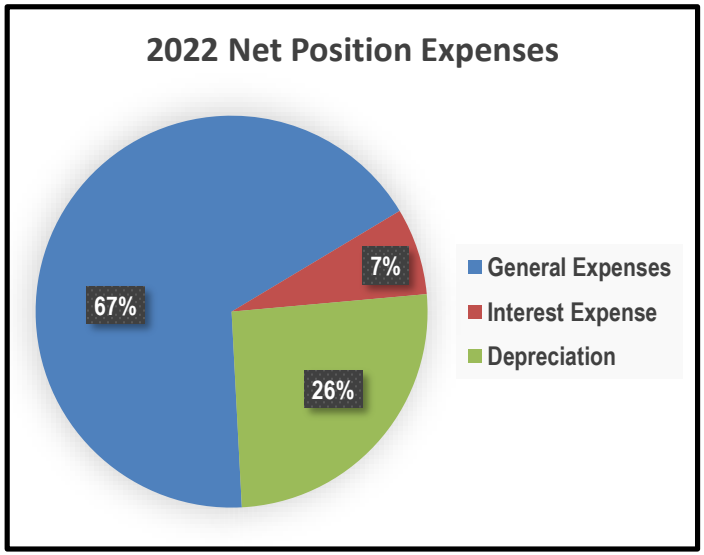


Figure 27

Outside Wastewater Change in Net Position - No Rate Increases										
	2013	2014	2015	2016	2017	**2018**	**2019**	**2020**	**2021**	**2022**
Revenue / Income										
Revenue	665,756	672,920	656,896	629,338	615,196	**861,324**	**861,324**	**917,683**	**919,823**	**919,823**
Other income	6,627	7,008	6,640	23,938	7,163	**5,905**	**5,905**	**5,905**	**5,905**	**5,905**
Total Income	672,383	679,928	663,536	653,276	622,360	**867,229**	**867,229**	**923,588**	**925,728**	**925,728**
Expenses										
General Expenses	285,814	344,632	376,827	374,374	406,075	**586,810**	**537,921**	**583,558**	**602,444**	**631,836**
Interest Expense	727,768	86,952	85,259	82,953	82,953	**77,688**	**75,172**	**72,579**	**69,859**	**67,349**
Depreciation	217,250	221,764	222,104	215,197	210,618	**207,410**	**209,374**	**212,163**	**225,230**	**240,480**
Total Expenses	1,230,832	653,348	684,190	672,524	699,645	**871,908**	**822,467**	**868,299**	**897,533**	**939,665**
Income Less Expenses	(558,449)	26,580	(20,654)	(19,248)	(77,286)	**(4,679)**	**44,762**	**55,289**	**28,195**	**(13,936)**
Transfers										
Net Transfers	(141,844)	(129,965)	84,113	2,651						
Grants										
Grants	91,205			40,692					**1,173,722**	
Change in Net Position										
Change in Net Position	(609,088)	26,580	(20,654)	21,444	(77,286)	**(4,679)**	**44,762**	**55,289**	**1,201,917**	**(13,936)**



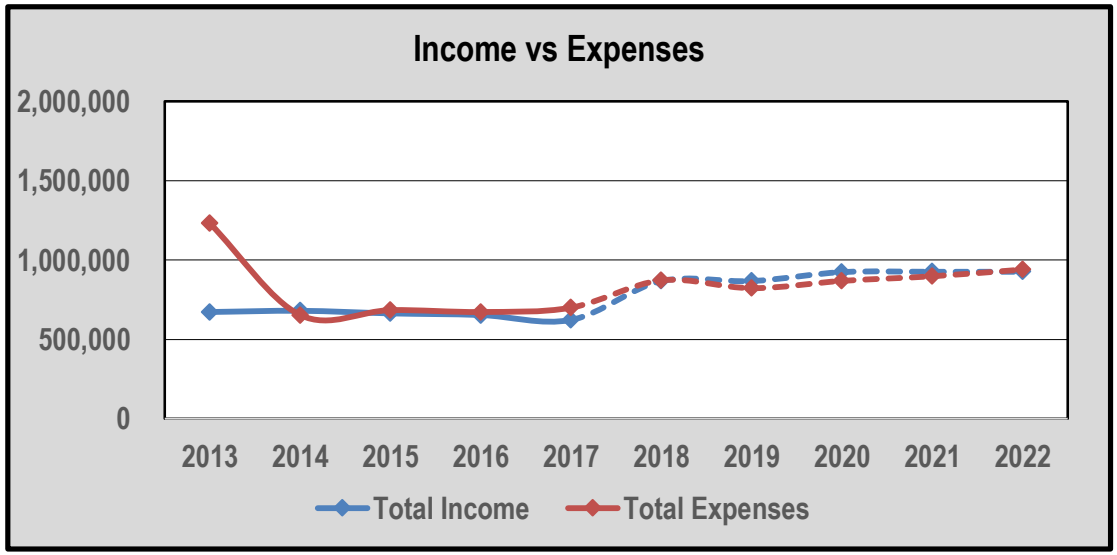


Figure 28

Debt Service Coverage Ratio

Overview

The Debt Service Coverage Ratio, or DSCR, is a measure of the cash flow available to pay current debt obligations. The ratio states net operating income as a multiple of debt obligations due within one year, including interest and principal payments. A debt service coverage ratio is the ratio of the amount of cash available (income less expenses) and the amount of combined principal and interest for the outstanding bonds. The DSCR provides a useful indicator of financial strength.

Requirement

The City's Ordinance Number O-2017-19 regarding funding of the wastewater treatment plant project states "--- such rates and charges shall be adequate at all times to produce Net Revenues equal to at least 120% of the maximum annual debt service requirement for any fiscal year ---". This may not apply to all loans and bonds such as the general obligation bonds, but it is a financial measure the City should consider on all its financial debts. **Figure 29** shows the DSCR for all existing and proposed debts for each of the water and wastewater accounts.

Debt Service Coverage Ratio (DSCR) Total Income less General Expenses Divided by Debt										
Inside Water - No Increases										
	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Inc. Less Exp.	823,641	615,511	713,743	599,696	499,023	**279,427**	**239,677**	**193,430**	**149,340**	**74,135**
Debt	331,463	1,489,796	146,887	20,833	205,351	**252,508**	**314,757**	**314,880**	**316,007**	**311,898**
DSCR	2.48	0.41	4.86	28.79	2.43	**1.11**	**0.76**	**0.61**	**0.47**	**0.24**
DSCR Required	1.20	1.20	1.20	1.20	1.20	**1.20**	**1.20**	**1.20**	**1.20**	**1.20**
Amt. Over / (Under)	1.28	(0.79)	3.66	27.59	1.23	**(0.09)**	**(0.44)**	**(0.59)**	**(0.73)**	**(0.96)**

Outside Water - No Increases										
	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Inc. Less Exp.	54,630	(12,184)	(56,154)	(63,847)	(218,907)	**(15,132)**	**(64,982)**	**(90,566)**	**(123,490)**	**(159,050)**
Debt	59,165	53,238	55,043	60,690	59,802	**62,118**	**81,596**	**106,114**	**107,214**	**106,539**
DSCR	0.92	(0.23)	(1.02)	(1.05)	(3.66)	**(0.24)**	**(0.80)**	**(0.85)**	**(1.15)**	**(1.49)**
DSCR Required	1.20	1.20	1.20	1.20	1.20	**1.20**	**1.20**	**1.20**	**1.20**	**1.20**
Amt. Over / (Under)	(0.28)	(1.43)	(2.22)	(2.25)	(4.86)	**(1.44)**	**(2.00)**	**(2.05)**	**(2.35)**	**(2.69)**

Inside Wastewater - No Increases										
	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Inc. Less Exp.	296,397	432,475	313,175	329,012	103,437	**529,294**	**715,458**	**733,977**	**789,144**	**749,336**
Debt	0	0	0	0	14,247	**446,706**	**446,685**	**602,540**	**602,607**	**602,667**
DSCR					7.26	**1.18**	**1.60**	**1.22**	**1.31**	**1.24**
DSCR Required					1.20	**1.20**	**1.20**	**1.20**	**1.20**	**1.20**
Amt. Over / (Under)					6.06	**(0.02)**	**0.40**	**0.02**	**0.11**	**0.04**

Outside Wastewater - No Increases										
	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Inc. Less Exp.	386,569	335,296	286,709	278,902	216,285	**280,419**	**329,308**	**340,030**	**323,285**	**293,892**
Debt	139,192	186,167	191,859	204,009	205,351	**204,324**	**203,810**	**202,988**	**206,058**	**138,599**
DSCR	2.78	1.80	1.49	1.37	1.05	**1.37**	**1.62**	**1.68**	**1.57**	**2.12**
DSCR Required	1.20	1.20	1.20	1.20	1.20	**1.20**	**1.20**	**1.20**	**1.20**	**1.20**
Amt. Over / (Under)	1.58	0.60	0.29	0.17	(0.15)	**0.17**	**0.42**	**0.48**	**0.37**	**0.92**

Figure 29

Rate Increase

Overview

The determination of the amount of rate increase needed is based on the Cash Flow Analysis. It is critically important that each account have enough income to cover all general expenses, debt and an amount of cash on hand to satisfy bond and loan reserve requirements, pay for capital improvements and replacement of equipment, vehicles and other capital items. Having enough cash flow will have a positive impact on funding depreciation that shows in the Change in Net Position and provides sufficient coverage for the Debt Service Coverage Ratio.

Inside Water

It is recommended to adjust the Mountain Wt. and Southern Wt. rates to the 2017 rates determined the Cost of Service Analysis. Also recommended is to increase all inside water rates by 10%, including the adjusted 2017 rates for Mountain Wt. and Southern Wt. **Figure 30** is a spreadsheet like the Cash Flow Analysis in **Figure 17** but includes new line items for the recommended rate increases. This rate increase provides adequate cash flow positive income less expenses and maintaining over $750,000 in cash at the end of each year for FY 2020 - 2022. **Figure 31** is a graphical representation of the Cash Flow Analysis with the rate increase. **Figure 32** shows the Change in Net Position Analysis with the rate increase that is projecting a positive change in net position over the next five years. **Figure 33** shows the impact that the rate increase has on the DSCR.

Outside Water

It is recommended that the outside water rates be increased by 40% in FY 2019. **Figure 34** is the Cash Flow Analysis with this rate increase. The outside water customers have needed a rate increase for the last five years. **Figure 35** is the graphical representation of the Cash Flow Analysis with the rate increase. Although the proposed rate increase provides a positive cash flow, there are two years that are projected to have negative change in net position as shown in **Figure 36**. **Figure 37** shows the impact that the rate increase has on the DSCR.

Inside Wastewater

The inside wastewater will not need additional rate increases because the 40% increase directed by Rural Development is enough.

Outside Wastewater

The outside wastewater will not need additional rate increases because the 40% increase directed by Rural Development is enough.

Other considerations

The recommended rate increase is based on projections of income, expenses, debt service and capital improvement projections. Pikeville should review annually the impacts of making these increases and adjust as needed.

Inside Water Cash Flow Analysis - With Rate Increases										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Cash Beginning Jul. 1	1,228,924	1,465,130	600,721	955,071	**1,238,358**	**1,107,687**	**619,605**	**697,951**	**782,233**	**828,115**
Income Sources										
Charges for Services	1,205,251	1,224,422	1,234,621	1,248,544	1,258,264	**1,261,701**	**1,438,617**	**1,443,497**	**1,477,291**	**1,481,123**
Rate Increase							**10%**			
Mountain Water	749,054	764,806	790,009	754,765	729,785	**733,434**	**1,030,509**	**1,035,661**	**1,046,018**	**1,056,478**
Rate Increase							**40%**			
Southern Water	337,768	315,403	273,585	247,011	268,289	**269,630**	**350,213**	**351,964**	**355,483**	**359,038**
Rate Increase							**29%**			
Other Income	377,399	276,734	412,510	246,326	252,335	**285,754**	**292,064**	**313,560**	**320,248**	**327,133**
Total Income	2,669,472	2,581,365	2,710,725	2,496,645	2,508,673	**2,550,520**	**3,111,403**	**3,144,682**	**3,199,040**	**3,223,773**
Expenses										
General Expenses	1,845,832	1,965,854	1,996,982	1,896,950	2,009,651	**2,271,093**	**2,368,301**	**2,445,521**	**2,537,152**	**2,632,959**
Debt	331,463	1,489,796	146,887	20,833	205,351	**252,508**	**314,757**	**314,880**	**316,007**	**311,898**
Total Expenses	2,177,295	3,455,650	2,143,869	1,917,783	2,215,001	**2,523,602**	**2,683,058**	**2,760,400**	**2,853,159**	**2,944,857**
Income Less Expenses	492,178	(874,285)	566,856	578,863	293,672	**26,918**	**428,345**	**384,282**	**345,882**	**278,916**
Transfers										
Net Transfers	(7,854)	(24,337)	246,010	(306,903)						
Capital Financing										
Loans				2,400,866		**539,350**				
Grants				1,369,088	415,931	**540,000**				
Total Loans / Grants	0	0	0	3,769,954	415,931	**1,079,350**	**0**	**0**	**0**	**0**
Capital Expenses										
Capital Expenses	239,677	58,459	531,961	3,771,346	697,525	**1,594,350**	**350,000**	**300,000**	**300,000**	**150,000**
Annual Gain - (Loss)	244,647	(957,081)	280,905	270,568	12,077	**(488,082)**	**78,345**	**84,282**	**45,882**	**128,916**
Accrual Adjustment	(21,587)	74,717	64,864	10,820						
Cash Ending Jun. 30	1,465,130	600,721	955,071	1,238,358	1,107,687	**619,605**	**697,951**	**782,233**	**828,115**	**957,031**
Cash Limits										
Restricted Cash	33,633	40,270	40,604	54,458	50,000	**50,000**	**50,000**	**50,000**	**50,000**	**50,000**
Minimum Total Cash	750,000	750,000	750,000	750,000	750,000	**750,000**	**750,000**	**750,000**	**750,000**	**750,000**
Available Cash	681,497	0	164,467	433,900	307,687	**0**	**0**	**0**	**28,115**	**157,031**

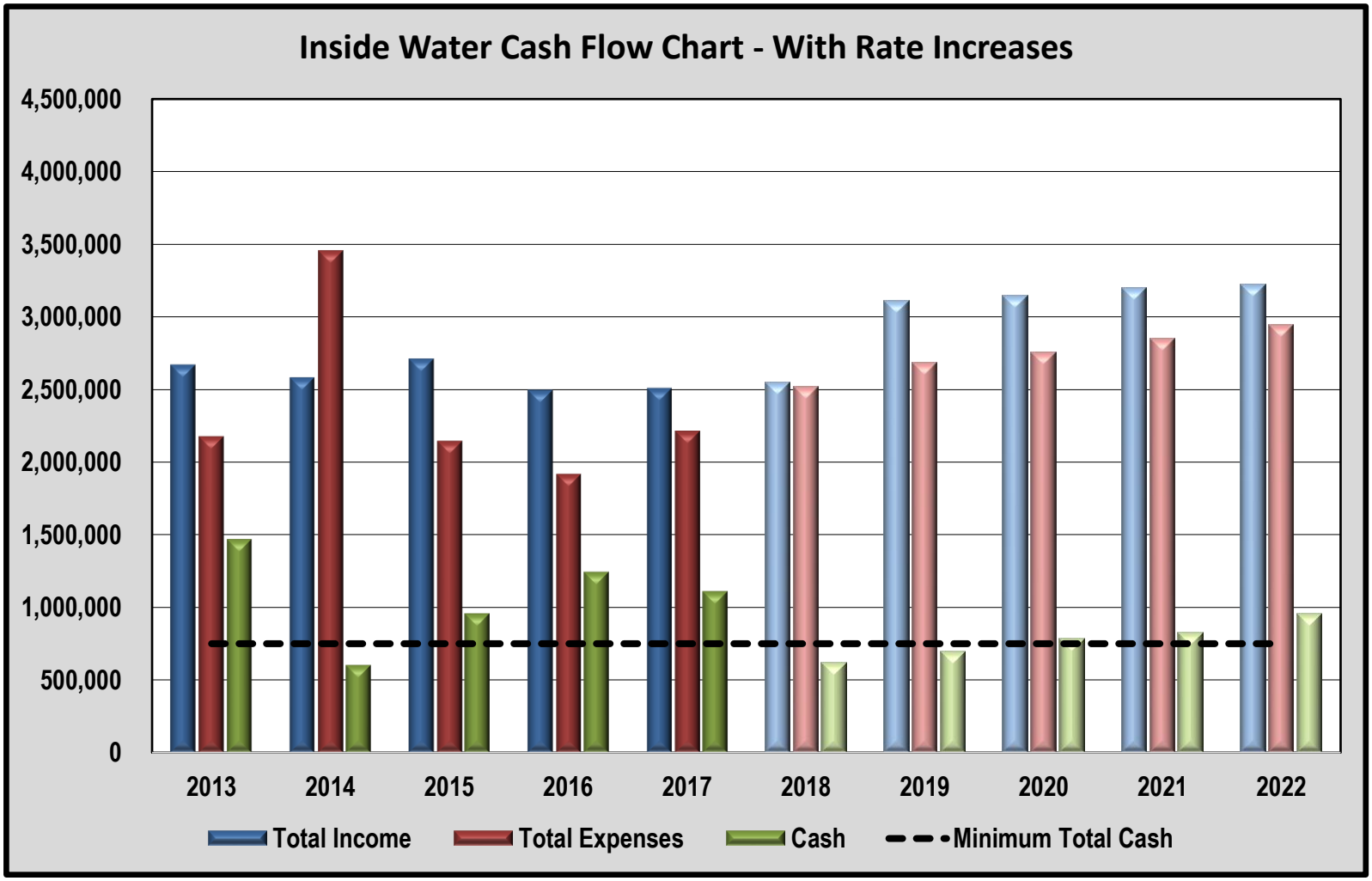
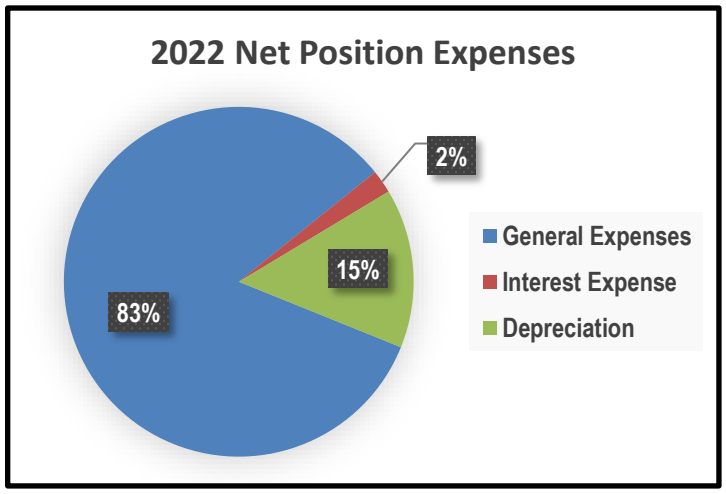

Inside Water Cash Flow Chart - With Rate Increases
4,500,000
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
Total Income
Total Expenses
Cash
Minimum Total Cash

Figure 31

Inside Water Change in Net Position - With Rate Increases										
	2013	2014	2015	2016	2017	**2018**	**2019**	**2020**	**2021**	**2022**
Revenue / Income										
Revenue	1,205,251	1,224,422	1,234,621	1,248,544	1,258,264	**1,261,701**	**1,438,617**	**1,443,497**	**1,477,291**	**1,481,123**
Other income	377,399	276,734	412,510	246,326	252,335	**285,754**	**292,064**	**313,560**	**320,248**	**327,133**
Total Income	1,582,650	1,501,155	1,647,131	1,494,870	1,510,599	**1,547,455**	**1,730,681**	**1,757,058**	**1,797,539**	**1,808,257**
Expenses										
General Expenses	1,845,832	1,965,854	1,996,982	1,896,950	2,009,651	**2,271,093**	**2,368,301**	**2,445,521**	**2,537,152**	**2,632,959**
Interest Expense	61,168	119,764	19,338	30,619	75,351	**78,708**	**83,357**	**78,580**	**73,507**	**68,198**
Depreciation	423,973	406,394	379,791	378,658	414,224	**450,542**	**484,393**	**468,256**	**464,362**	**466,892**
Total Expenses	2,330,973	2,492,012	2,396,111	2,306,227	2,499,225	**2,800,344**	**2,936,050**	**2,992,356**	**3,075,021**	**3,168,049**
Income Less Expenses	(748,323)	(990,856)	(748,980)	(811,357)	(988,627)	**(1,252,889)**	**(1,205,369)**	**(1,235,298)**	**(1,277,481)**	**(1,359,792)**
Transfers										
Net Transfers	(7,854)	(24,337)	246,010	(306,903)						
Grants										
Grants				1,369,088	415,931	**540,000**				
Change in Net Position										
Change in Net Position	(756,177)	(1,015,193)	(502,970)	250,828	(572,696)	**(712,889)**	**(1,205,369)**	**(1,235,298)**	**(1,277,481)**	**(1,359,792)**



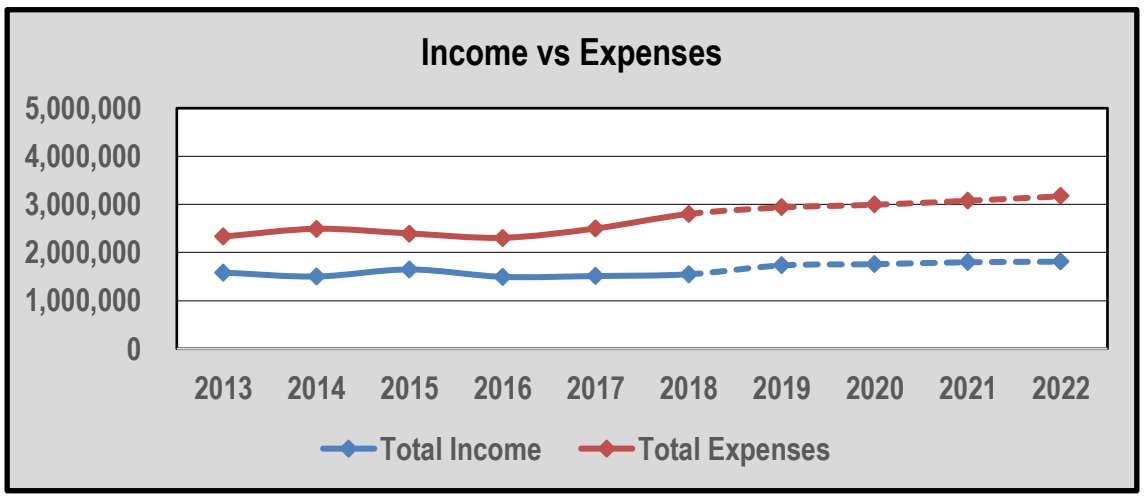


Figure 32

Debt Service Coverage Ratio (DSCR) Total Income less General Expenses Divided by Debt										
Inside Water - With Increases										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Inc. Less Exp.	823,641	615,511	713,743	599,696	499,023	279,427	743,102	699,162	661,888	590,814
Debt	331,463	1,489,796	146,887	20,833	205,351	252,508	314,757	314,880	316,007	311,898
DSCR	2.48	0.41	4.86	28.79	2.43	1.11	2.36	2.22	2.09	1.89
DSCR Required	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
Amt. Over / (Under)	1.28	(0.79)	3.66	27.59	1.23	(0.09)	1.16	1.02	0.89	0.69

Figure 33

Outside Water Cash Flow Analysis - With Rate Increases										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Cash Beginning Jul. 1	631,619	628,310	526,567	409,848	388,325	**279,100**	**203,443**	**272,108**	**294,390**	**286,367**
Income Sources										
Charges for Services	739,283	733,731	714,793	683,353	668,106	**935,349**	**935,349**	**937,866**	**940,383**	**942,900**
Rate Increase						**40%**				
Other Income	9,391	9,057	15,356	13,844	13,782	**5,400**	**5,400**	**5,400**	**5,400**	**5,400**
Total Income	748,674	742,788	730,149	697,196	681,888	**940,749**	**940,749**	**943,266**	**945,783**	**948,300**
Expenses										
General Expenses	694,044	754,973	786,303	761,043	900,795	**688,638**	**738,488**	**765,870**	**800,592**	**837,951**
Debt	59,165	53,238	55,043	60,690	59,802	**62,118**	**81,596**	**106,114**	**107,214**	**106,539**
Total Expenses	753,209	808,211	841,346	821,733	960,597	**750,757**	**820,084**	**871,984**	**907,806**	**944,489**
Income Less Expenses	(4,535)	(65,422)	(111,197)	(124,537)	(278,709)	**189,993**	**120,665**	**71,282**	**37,977**	**3,811**
Transfers										
Net Transfers	43,992	16,964	6,340	1,445						
Capital Financing										
Loans								**375,000**		
Grants				84,955	192,079			**375,000**		
Total Loans / Grants				84,955	192,079			**750,000**		
Capital Expenses										
Capital Expenses	61,693	0	3,000	0	22,595	**265,650**	**52,000**	**799,000**	**46,000**	**32,000**
Annual Gain - (Loss)	(22,236)	(48,458)	(107,857)	(38,137)	(109,225)	**(75,657)**	**68,665**	**22,282**	**(8,023)**	**(28,189)**
Accrual Adjustment	18,927	(53,285)	(8,862)	16,614						
Cash Ending Jun. 30	628,310	526,567	409,848	388,325	279,100	**203,443**	**272,108**	**294,390**	**286,367**	**258,178**
Cash Limits										
Restricted Cash	30,135	35,516	33,324	36,513	35,000	**35,000**	**35,000**	**35,000**	**35,000**	**35,000**
CD's	11,603	46,689	52,332	56,112	50,000	**50,000**	**50,000**	**50,000**	**50,000**	**50,000**
Minimum Total Cash	200,000	200,000	200,000	200,000	200,000	**200,000**	**200,000**	**200,000**	**200,000**	**200,000**
Available Cash	398,175	291,051	176,524	151,812	44,100	**0**	**37,108**	**59,390**	**51,367**	**23,178**

Figure 34

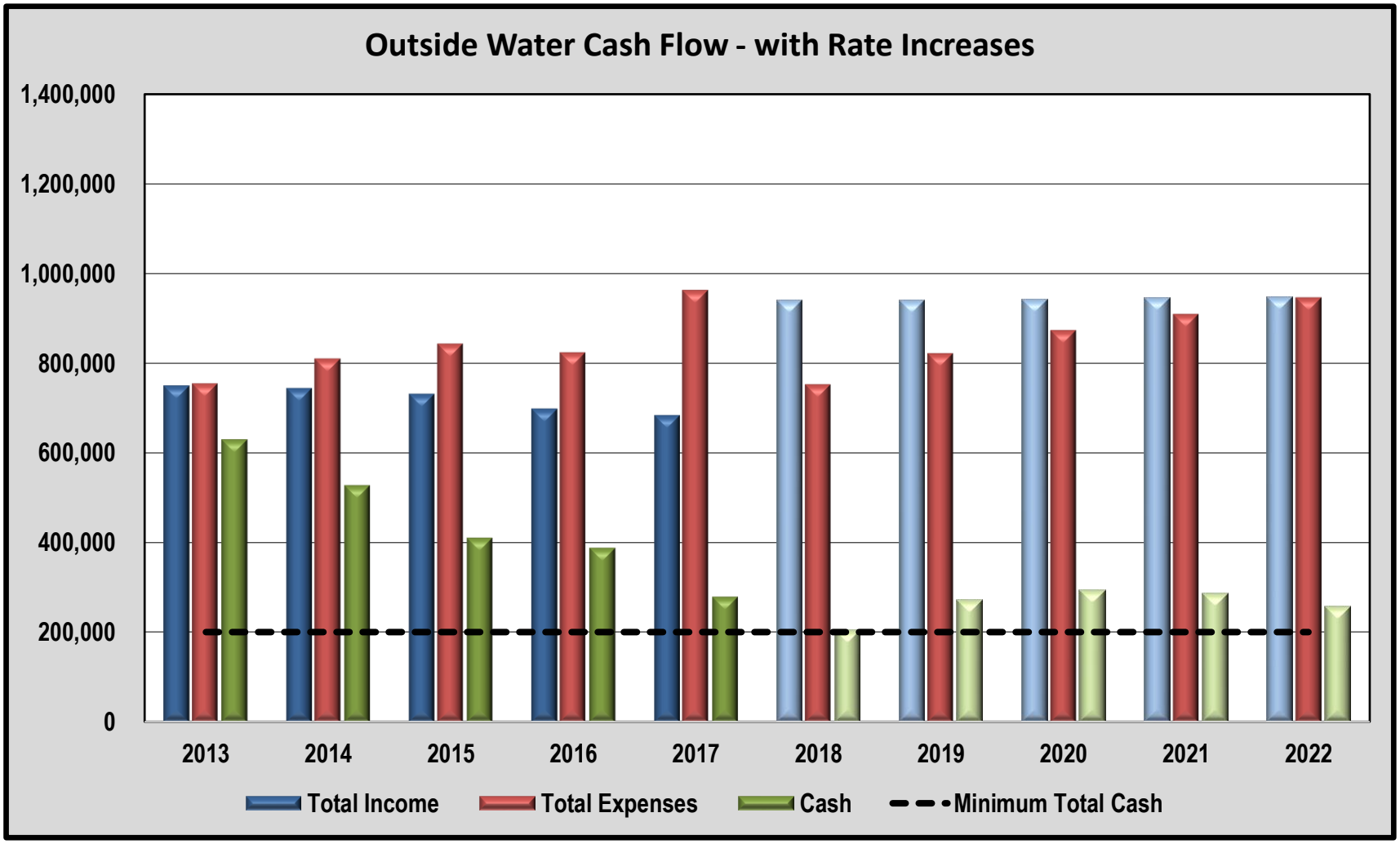
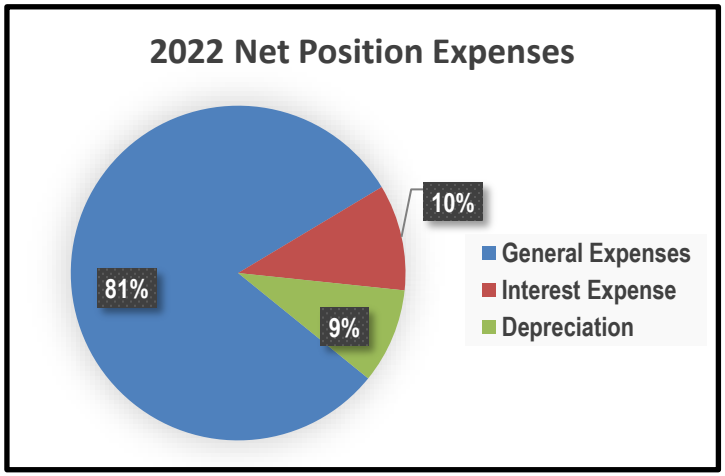

Outside Water Cash Flow - with Rate Increases
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
Total Income
Total Expenses
Cash
Minimum Total Cash

Figure 35

Outside Water Change in Net Position - With Rate Increases										
	2013	2014	2015	2016	2017	**2018**	**2019**	**2020**	**2021**	**2022**
Revenue / Income										
Revenue	739,283	733,731	714,793	683,353	668,106	**935,349**	**935,349**	**937,866**	**940,383**	**942,900**
Other income	9,391	9,057	15,356	13,844	13,782	**5,400**	**5,400**	**5,400**	**5,400**	**5,400**
Total Income	748,674	742,788	730,149	697,196	681,888	**940,749**	**940,749**	**943,266**	**945,783**	**948,300**
Expenses										
General Expenses	694,044	754,973	786,303	761,043	900,795	**688,638**	**738,488**	**765,870**	**800,592**	**837,951**
Interest Expense	28,904	27,680	34,637	34,189	33,052	**62,118**	**81,596**	**106,114**	**107,214**	**106,539**
Depreciation	66,730	76,494	74,957	65,705	67,095	**70,763**	**71,917**	**82,929**	**93,979**	**95,442**
Total Expenses	789,678	859,147	895,897	860,937	1,000,942	**821,520**	**892,001**	**954,914**	**1,001,786**	**1,039,931**
Income Less Expenses	(41,004)	(116,358)	(165,748)	(163,741)	(319,054)	**119,229**	**48,748**	**(11,647)**	**(56,002)**	**(91,631)**
Transfers										
Net Transfers	43,992	16,964	6,340	1,445						
Grants										
Grants				84,955	192,079			**375,000**		
Change in Net Position										
Change in Net Position	2,988	(99,394)	(159,408)	(77,341)	(126,975)	**119,229**	**48,748**	**363,353**	**(56,002)**	**(91,631)**



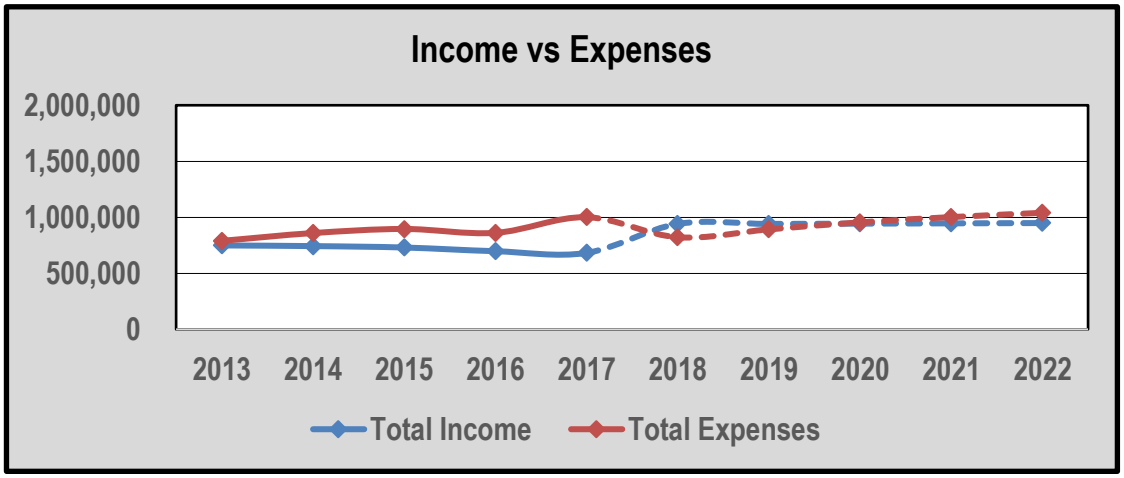


Figure 36

Debt Service Coverage Ratio (DSCR) Total Income less General Expenses Divided by Debt										
Outside Water - With Increases										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Inc. Less Exp.	54,630	(12,184)	(56,154)	(63,847)	(218,907)	252,111	202,261	177,396	145,191	110,350
Debt	59,165	53,238	55,043	60,690	59,802	62,118	81,596	106,114	107,214	106,539
DSCR	0.92	(0.23)	(1.02)	(1.05)	(3.66)	4.06	2.48	1.67	1.35	1.04
DSCR Required	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
Amt. Over / (Under)	(0.28)	(1.43)	(2.22)	(2.25)	(4.86)	2.86	1.28	0.47	0.15	(0.16)

Figure 37

Recommendations

It is recommended that the City of Pikeville implement the following:

1. Inside Water
   a) Create a wholesale class of customers than includes Mountain Wt. and Southern Wt.
   b) Adjust Mountain Wt. and Southern Wt. rates to reflect wholesale rates of $2.05 per 1,000 gallons as calculated by the 2017 wholesale Cost of Service Analysis.
   c) Increase water rates by 10 % for all inside water system customers in FY 2019, including wholesale customers. The new wholesale customer rate would be $2.25 per 1,000 gallons.
2. Outside Water – Increase rates by 40% in FY 2019
3. Inside Wastewater – No additional rate increase needed
4. Outside Wastewater – No additional rate increase needed

These increases are based on providing a positive cash flow over the next five years. The Inside and Outside Wastewater customers do not need additional increases because the 40% increase directed by Rural Development is enough.

The City should maintain the minimum amount of cash in each of the water and wastewater accounts as recommended:

1. Inside Water - $750,000
2. Outside Water - $200,000
3. Inside Wastewater - $500,000
4. Outside Wastewater - $500,000

The cash reserves are needed for:

1. Emergencies such as major water or wastewater line repairs and replacements that are unplanned, pump failures, replacing electrical components etc. that are beyond the scope of budgeted repair and maintenance items.
2. Lending agencies require varying amounts of cash to the held in reserve.
3. Self-funding capital improvement instead of selling bonds or borrowing from state and federal agencies who places regulations on how the money is spent.
4. Interest gained can be used as income to supplement revenue and pay expenses.

The City should take into consideration that the Change in Net Position is projected to be negative in FY 2020 – 2022 for the Inside Wastewater System. Although there are currently no regulations regarding net position, the City may want to address this in future

years if it is determined to have a negative impact on the City's bond ratings or if lending agencies require a positive change in net position.

The recommendations for rate increases are based on projections and estimates of income, general expenses, capital expenses, and capital improvements to be made over the next five years. Pikeville should review annually the impacts of making these increases and adjust as necessary.

Appendix

Customer Profile

An inside water customer profile was made based on data from July 2017 and includes all five customer classes. The data included the number of inside water customers, their usage and the amount of revenue billed. The profile shows the percentage of total number of inside water customers, percentage of the total usage and percentage of total revenue. These profiles are shown in **Figures 38 – 40**. The last profile in **Figure 40** is a combination of all inside water customer classes.

The inside water residential profile shows that 33% of inside residential customers use 8% of all the water sold to inside residential customers and provide 15% of the revenue provided by all inside water residential customers, 61% of the inside residential water customers use 65% of all water sold to inside residential customers and provide 64% of the revenue provided by all inside water residential customers.

Comparison with Other Utilities

Although rate increases are required over the next five years, Pikeville remains competitive in water and wastewater rates with several of its surrounding cities and districts as shown on the comparison chart, **Figure 41** for inside water customers and **Figure 42** for inside wastewater customers. The comparison is for a monthly use of 5,000 gallons of water.

Inside Water Rate Table

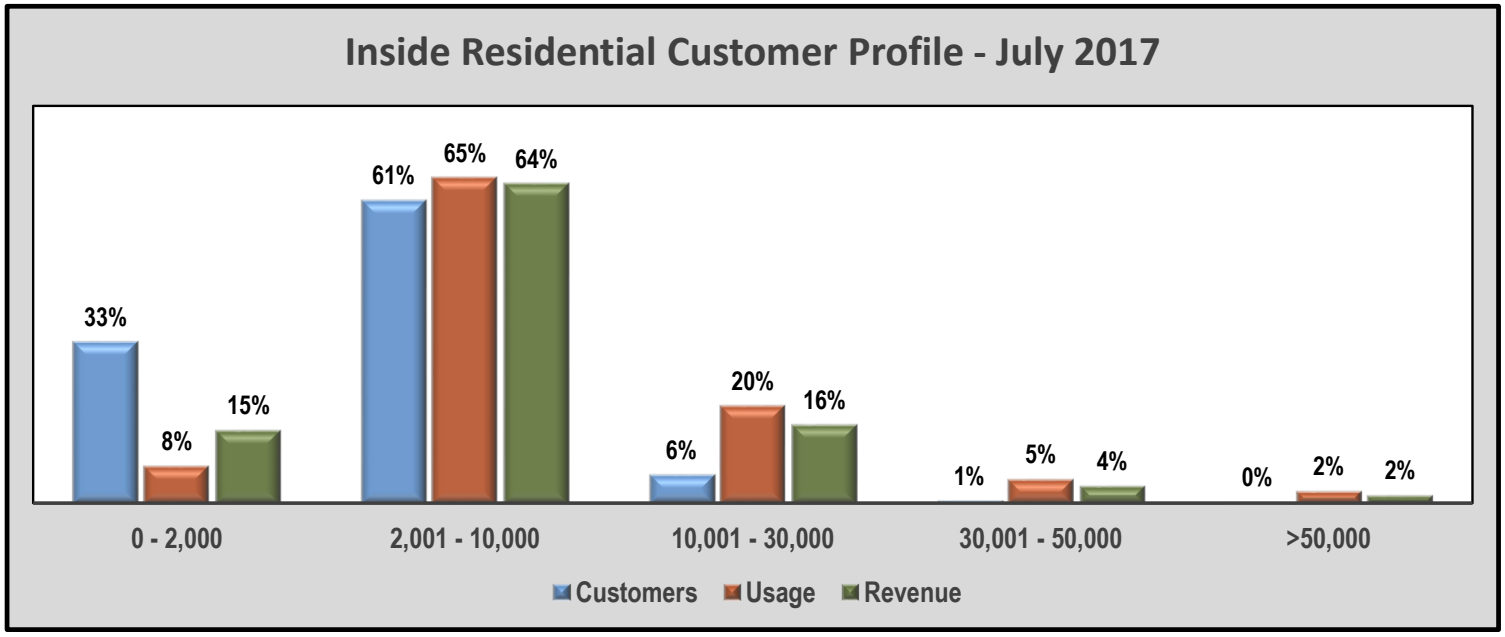
Figure 43 shows the 2017 and recommended 2019 inside water rates, with a listing of various amounts of water uses is shown with associated monthly charges and the difference the rates make.

Wholesale Rate Table

Figure 44 shows the 2017 water rates for both Mountain Wt. and Southern Wt. Also included are the adjusted 2017 rates determined by the cost of service analysis and the recommended 2019 water rates, with a listing of various amounts of water uses is shown with associated monthly charges and the difference the rates make.

Outside Water Rate Table

Figure 45 shows 2017 and recommended 2019 inside water rates, with a listing of various amounts of water uses is shown with associated monthly charges and the difference the rates make.


Inside Residential Customer Profile - July 2017
33%
8%
15%
61%
65%
64%
6%
20%
16%
1%
5%
4%
0%
2%
2%
0 - 2,000
2,001 - 10,000
10,001 - 30,000
30,001 - 50,000
>50,000
Customers
Usage
Revenue

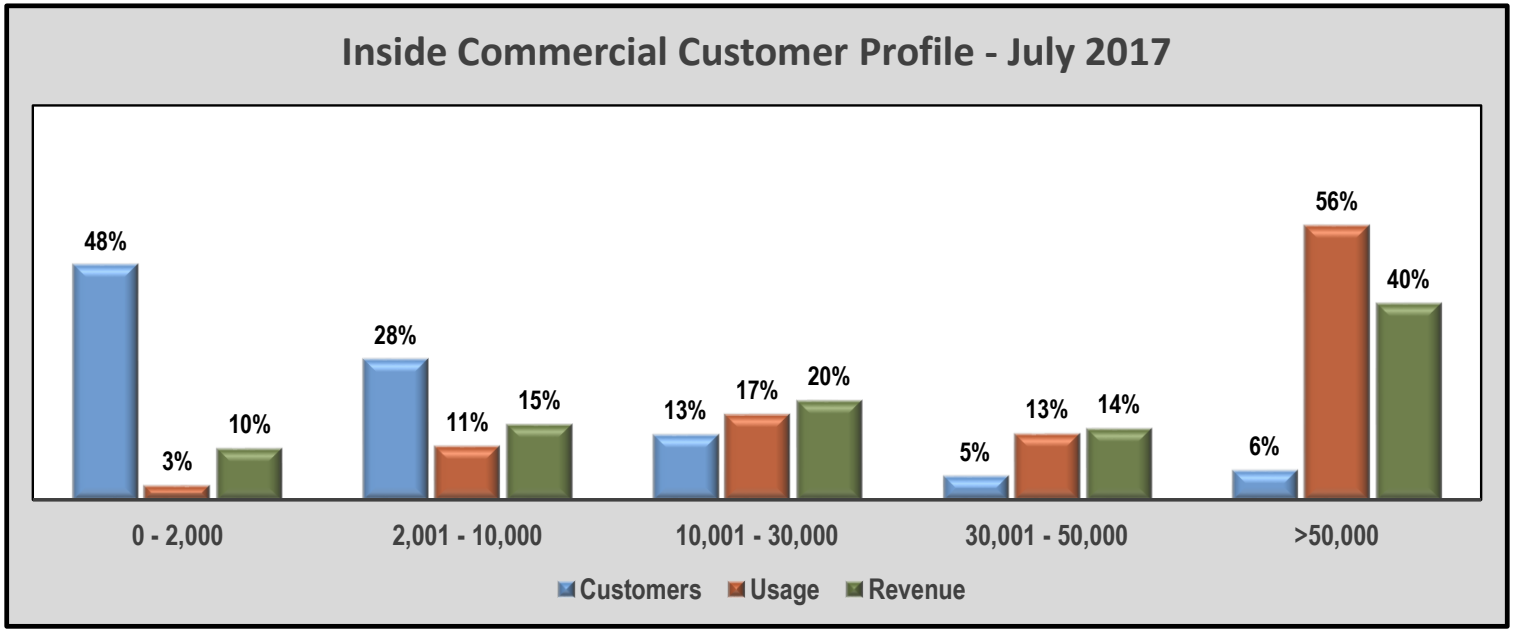
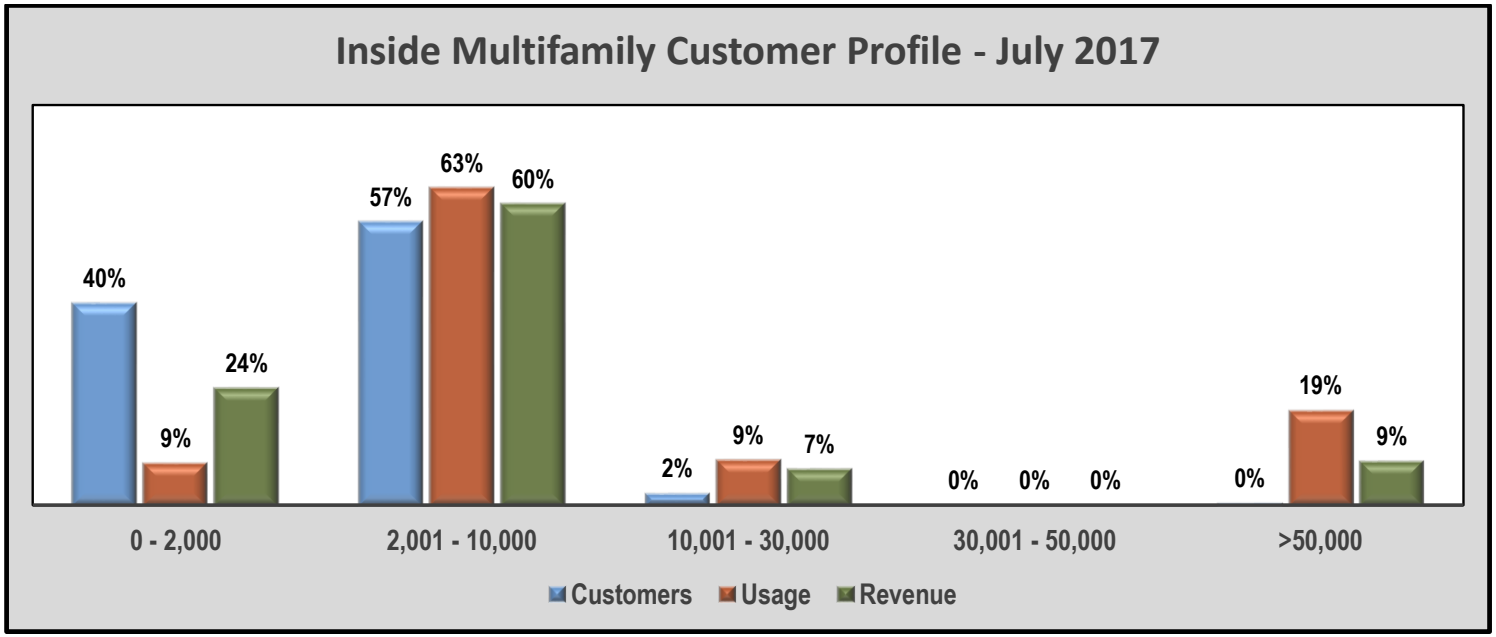

Inside Commercial Customer Profile - July 2017
48%
3%
10%
28%
11%
15%
13%
17%
20%
5%
13%
14%
6%
56%
40%
0 - 2,000
2,001 - 10,000
10,001 - 30,000
30,001 - 50,000
>50,000
Customers
Usage
Revenue

Figure 38


Inside Multifamily Customer Profile - July 2017
40%
9%
24%
57%
63%
60%
2%
9%
7%
0%
0%
0%
0%
19%
9%
0 - 2,000
2,001 - 10,000
10,001 - 30,000
30,001 - 50,000
>50,000
Customers
Usage
Revenue

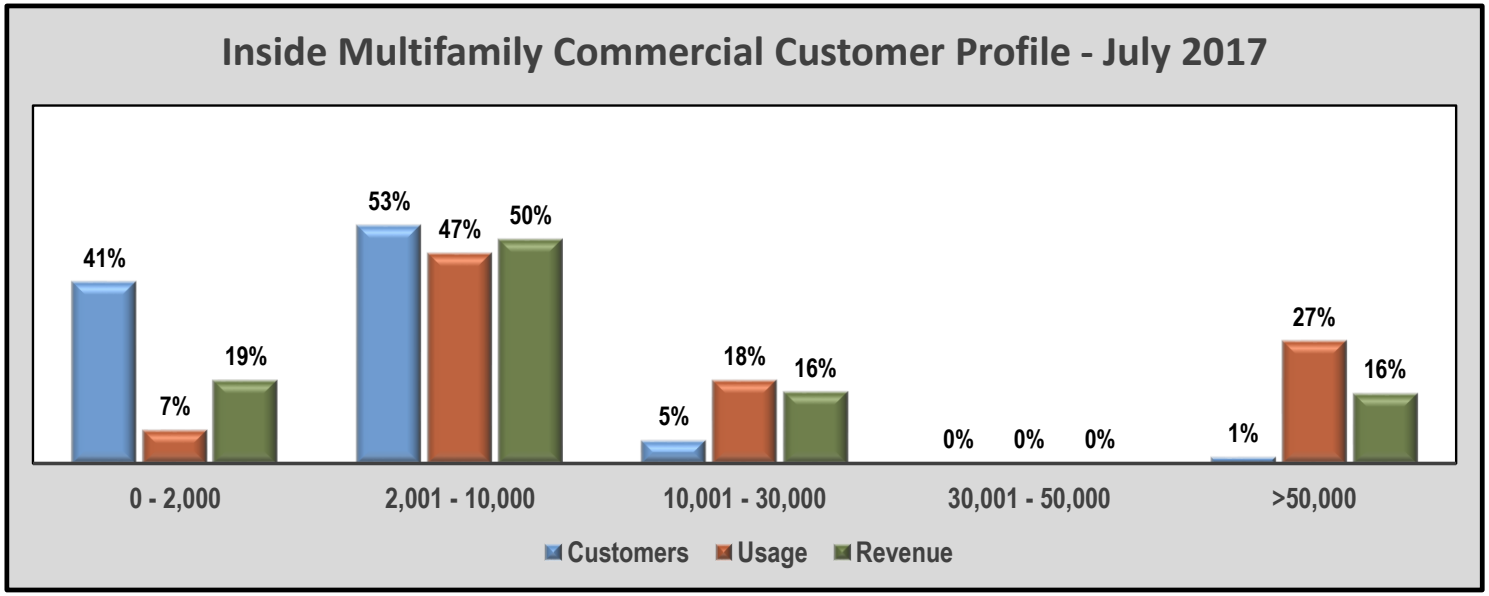
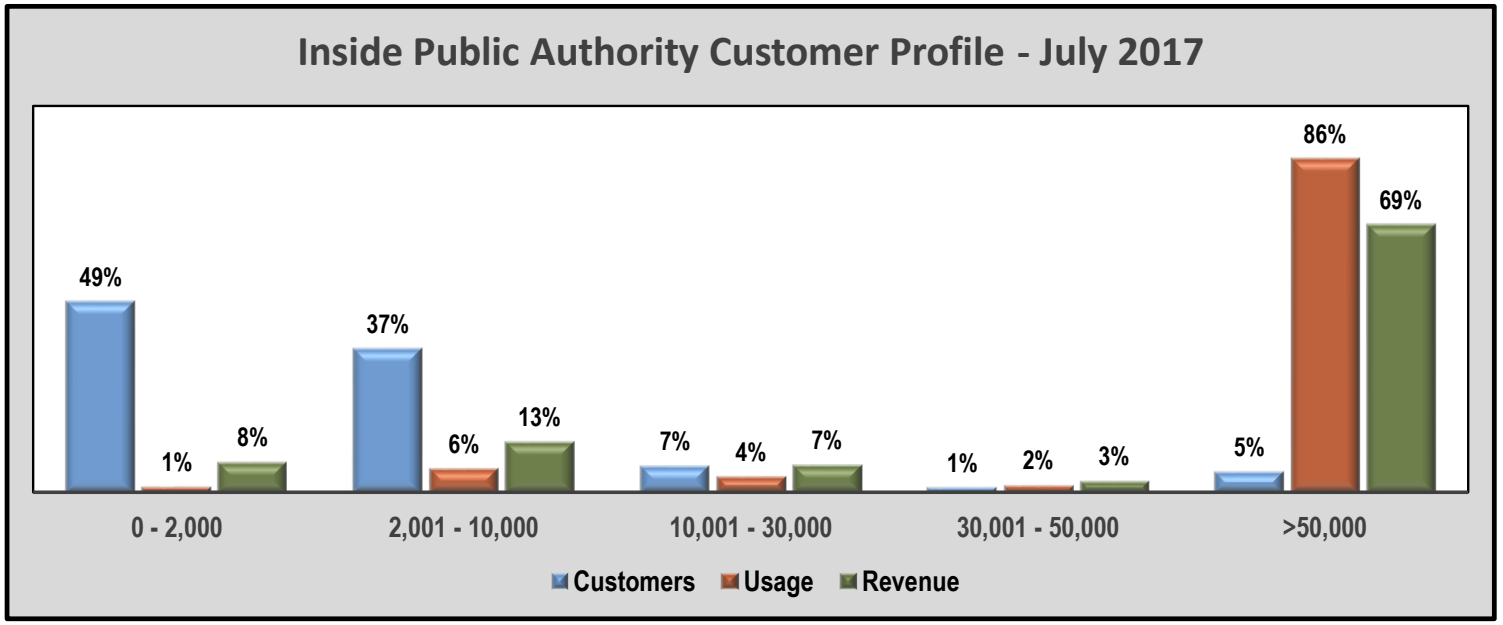

Inside Multifamily Commercial Customer Profile - July 2017
41%
7%
19%
53%
47%
50%
5%
18%
16%
0%
0%
0%
1%
27%
16%
0 - 2,000
2,001 - 10,000
10,001 - 30,000
30,001 - 50,000
>50,000
Customers
Usage
Revenue

Figure 39


Inside Public Authority Customer Profile - July 2017
49%
1%
8%
37%
6%
13%
7%
4%
7%
1%
2%
3%
5%
86%
69%
0 - 2,000
2,001 - 10,000
10,001 - 30,000
30,001 - 50,000
>50,000
Customers
Usage
Revenue

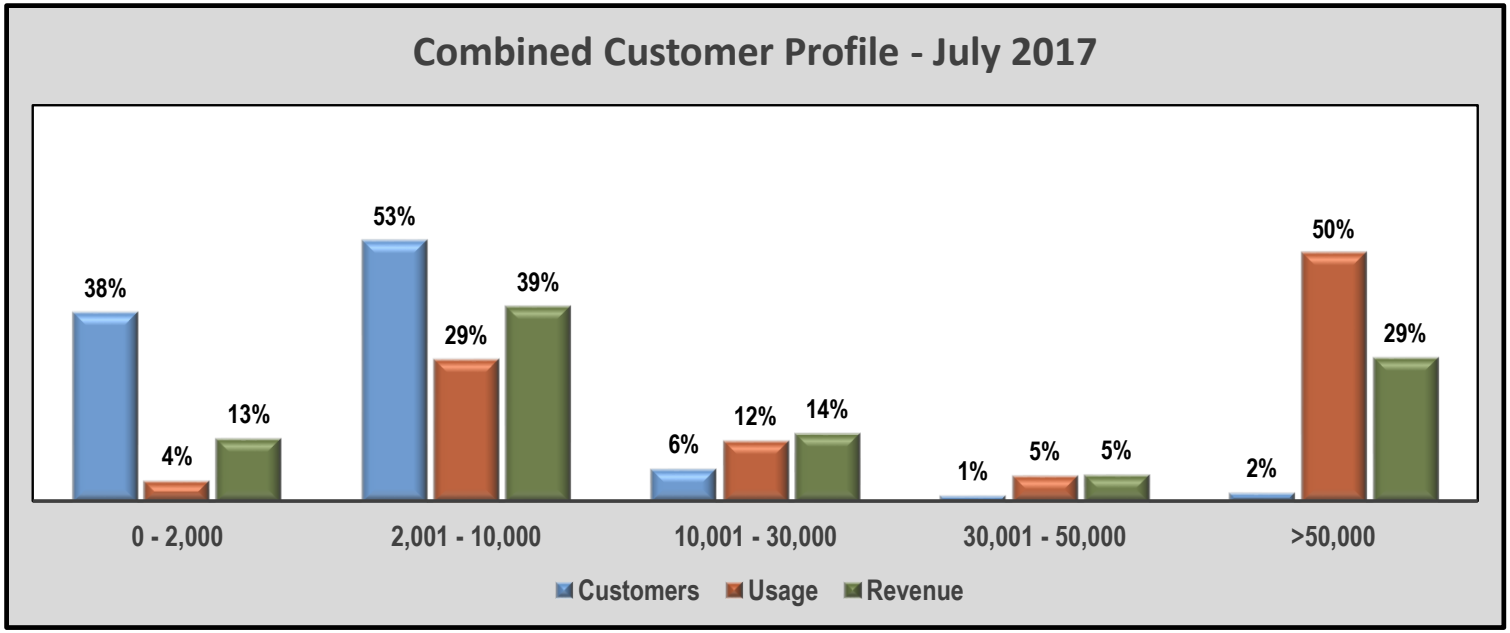

Combined Customer Profile - July 2017
38%
4%
13%
53%
29%
39%
6%
12%
14%
1%
5%
5%
2%
50%
29%
0 - 2,000
2,001 - 10,000
10,001 - 30,000
30,001 - 50,000
>50,000
Customers
Usage
Revenue

Figure 40

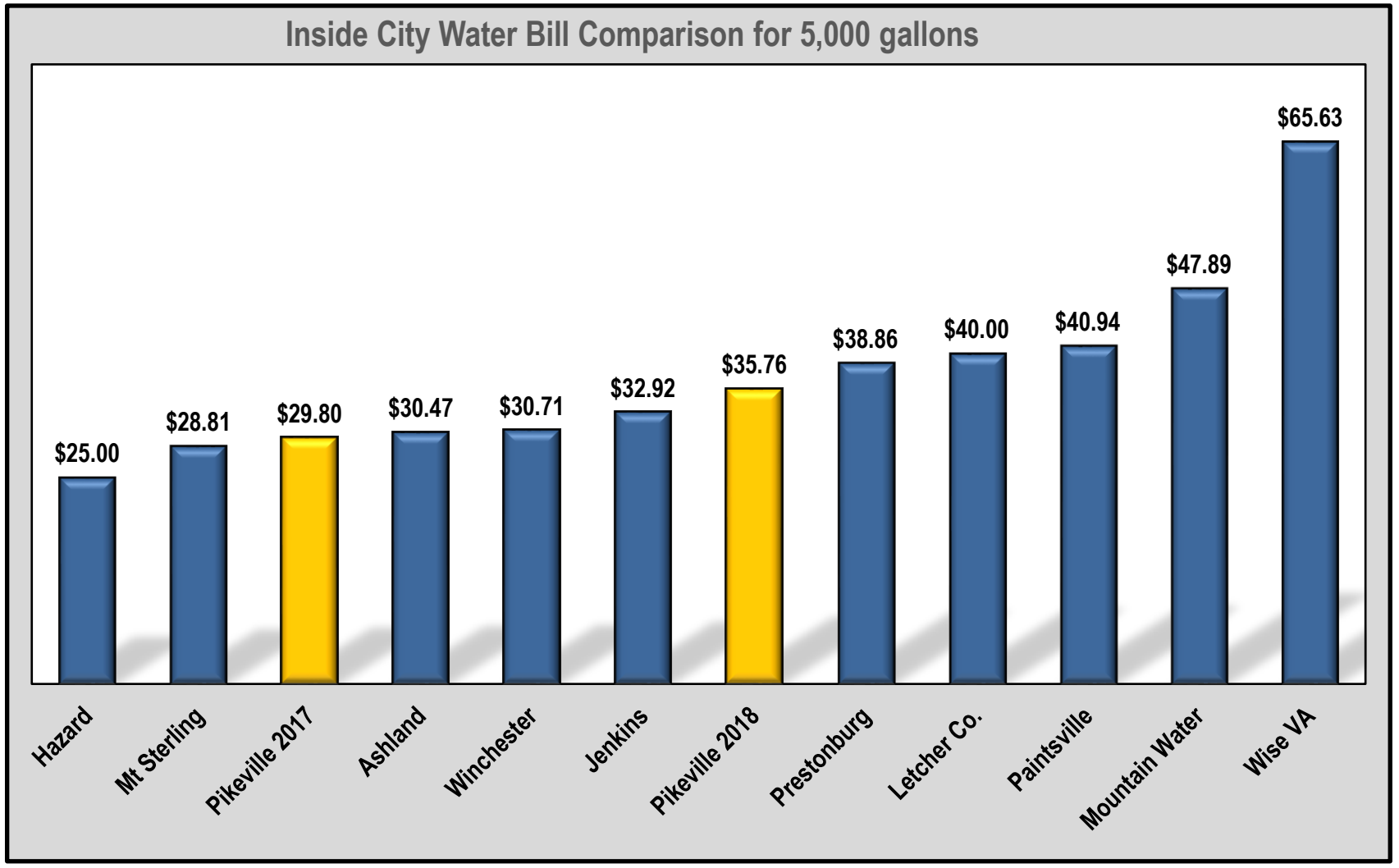

Inside City Water Bill Comparison for 5,000 gallons
$25.00
$28.81
$29.80
$30.47
$30.71
$32.92
$35.76
$38.86
$40.00
$40.94
$47.89
$65.63
Hazard
Mt Sterling
Pikeville 2017
Ashland
Winchester
Jenkins
Pikeville 2018
Prestonburg
Letcher Co.
Paintsville
Mountain Water
Wise VA

Figure 41

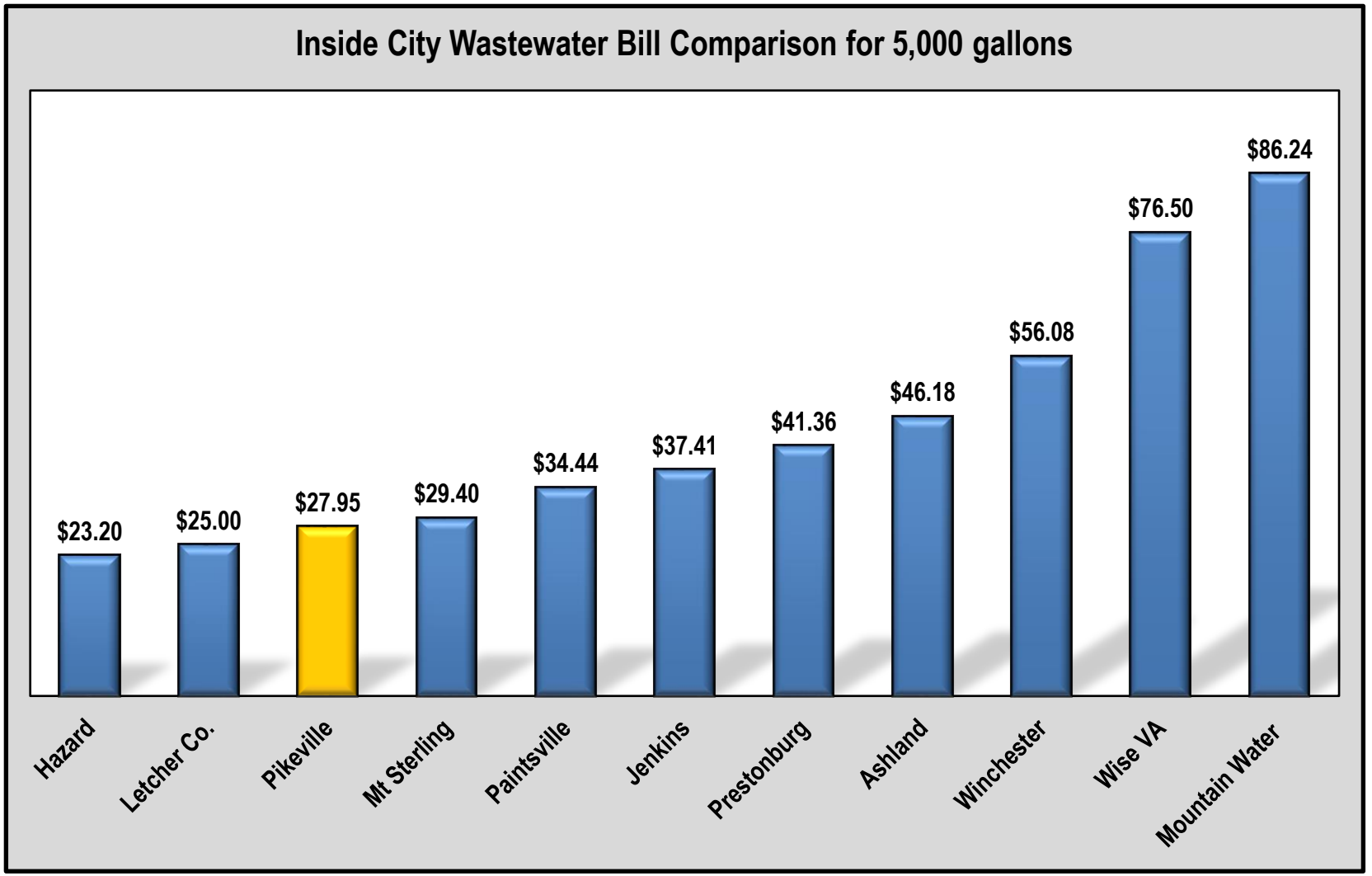

Inside City Wastewater Bill Comparison for 5,000 gallons
$23.20
$25.00
$27.95
$29.40
$34.44
$37.41
$41.36
$46.18
$56.08
$76.50
$86.24
Hazard
Letcher Co.
Pikeville
Mt Sterling
Paintsville
Jenkins
Prestonburg
Ashland
Winchester
Wise VA
Mountain Water

Figure 42

2017 Inside Water Rates and Recommended 2019 Increases

2017 Water Rates		
Gallons		Minimum
First	2,000	$11.20
		Per 1,000 gal.
Next	8,000	$6.20
Next	10,000	$3.98
Next	30,000	$3.95
Next	50,000	$3.85
Over	100,000	$1.90

Water Sold (Gallons)	Monthly Charge
2,000	$11.20
5,000	$29.80
10,000	$60.80
25,000	$120.35
50,000	$224.44
100,000	$411.60
150,000	$506.60

2019 Water Rates			
Gallons		Minimum	% Inc.
First	2,000	$12.32	10%
		Per 1,000 gal.	
Next	8,000	$6.82	10%
Next	10,000	$4.38	10%
Next	30,000	$4.35	10%
Next	50,000	$4.24	10%
Over	100,000	$2.09	10%

Water Sold (Gallons)	Monthly Charge	Percent Increase	Difference from 2017
2,000	$12.32	10%	$1.12
5,000	$32.78	10%	$2.98
10,000	$66.88	10%	$6.08
25,000	$132.39	10%	$12.04
50,000	$246.88	10%	$22.44
100,000	$452.76	10%	$41.16
150,000	$557.26	10%	$50.66

Figure 43

Wholesale Rates

Mountain Wt. Rates

2017 Water Rates			2017 Adjusted Water Rates					2019 Adjusted Water Rates				
Gallons		Minimum	Gallons		Minimum	% Inc.		Gallons		Minimum	% Inc.	
First	2,000	$11.20	First	2,000	$11.20	0%		First	2,000	$12.32	10%	
		Per 1,000 gal.			Per 1,000 gal.					Per 1,000 gal.		
Over	2,000	$1.58	Over	2,000	$2.05	30%		Over	2,000	$2.25	10%	
Water Sold (Gallons)		**Monthly Charge**	**Water Sold (Gallons)**		**Monthly Charge**	**Percent Increase**	**Difference**	**Water Sold (Gallons)**		**Monthly Charge**	**Percent Increase**	**Difference from 2017**
2,000		$11.20	2,000		$11.20	0%	$0.00	2,000		$12.32	10%	$1.12
1,000,000		$1,588	1,000,000		$2,057	30%	$469	1,000,000		$2,258	10%	$201
5,000,000		$7,908	5,000,000		$10,257	30%	$2,349	5,000,000		$11,258	10%	$1,001
10,000,000		$15,808	10,000,000		$20,507	30%	$4,699	10,000,000		$22,508	10%	$2,001
25,000,000		$39,508	25,000,000		$51,257	30%	$11,749	25,000,000		$56,258	10%	$5,001
50,000,000		$79,008	50,000,000		$102,507	30%	$23,499	50,000,000		$112,508	10%	$10,001

Southern Wt. Rates

2017 Water Rates			2017 Adjusted Water Rates					2019 Adjusted Water Rates				
Gallons		Minimum	Gallons		Minimum	% Inc.		Gallons		Minimum	% Inc.	
First	2,000	$11.20	First	2,000	$11.20	0%		First	2,000	$12.32	10%	
		Per 1,000 gal.			Per 1,000 gal.					Per 1,000 gal.		
Over	2,000	$1.72	Over	2,000	$2.05	19%		Over	2,000	$2.25	10%	
Water Sold (Gallons)		**Monthly Charge**	**Water Sold (Gallons)**		**Monthly Charge**	**Percent Increase**	**Difference**	**Water Sold (Gallons)**		**Monthly Charge**	**Percent Increase**	**Difference from 2017**
2,000		$11.20	2,000		$11.20	0%	$0.00	2,000		$12.32	10%	$1.12
1,000,000		$1,728	1,000,000		$2,057	19%	$329	1,000,000		$2,258	10%	$201
5,000,000		$8,608	5,000,000		$10,257	19%	$1,649	5,000,000		$11,258	10%	$1,001
10,000,000		$17,208	10,000,000		$20,507	19%	$3,299	10,000,000		$22,508	10%	$2,001
25,000,000		$43,008	25,000,000		$51,257	19%	$8,249	25,000,000		$56,258	10%	$5,001
50,000,000		$86,008	50,000,000		$102,507	19%	$16,499	50,000,000		$112,508	10%	$10,001

Figure 44

2017 Outside Water Rates and Recommended 2019 Increases

2017 Water Rates				2019 Water Rates					
Gallons		Minimum		Gallons		Minimum	% Inc.		
First	2,000	$22.50		First	2,000	$31.50	40%		
		Per 1,000 gal.				Per 1,000 gal.			
Next	8,000	$6.30		Next	8,000	$8.82	40%		
Next	10,000	$5.40		Next	10,000	$7.56	40%		
Next	30,000	$5.40		Next	30,000	$7.56	40%		
Next	50,000	$5.00		Next	50,000	$7.00	40%		
Over	100,000	$3.50		Over	100,000	$4.90	40%		
Water Sold (Gallons)		**Monthly Charge**		**Water Sold (Gallons)**		**Monthly Charge**	**Percent Increase**	**Difference from 2017**	
2,000		$22.50		2,000		$31.50	40%	$9.00	
5,000		$41.40		5,000		$57.96	40%	$16.56	
10,000		$72.90		10,000		$102.06	40%	$29.16	
15,000		$99.90		15,000		$139.86	40%	$39.96	
25,000		$153.90		25,000		$215.46	40%	$61.56	
50,000		$290.70		50,000		$406.98	40%	$116.28	
75,000		$359.90		75,000		$503.86	40%	$143.96	
100,000		$538.90		100,000		$754.46	40%	$215.56	
150,000		$713.90		150,000		$999.46	40%	$285.56	

Figure 45

14. Provide a working, electronic file of Pikeville's hydraulic model. The file should contain all tanks and booster pumping stations and the associated pipes sufficient to mimic the daily operation of the municipal water high service pumps and water distribution system. If any tank or pumping station is not included or operationally modeled, provide the following:

a. For a tank: overflow elevation; capacity; fill and drain piping configuration to included altitude valve settings; and, latitude and longitude.

b. For a pumping station: elevation of pump; suction head; total dynamic head (or pump curve); presence or absence of check valves; and, latitude and longitude.

Response: Pikeville does not have a hydraulic model of its system. Please find attached information available for storage tanks and pump stations associated used to serve Mountain.

WITNESSES: Grondall Potter

CASE NO. 2019-00080
CITY OF PIKEVILLE WHOLESALE WATER SERVICE RATES
RESPONSES TO MOUNTAIN WATER DISTRICT'S INITIAL DATA REQUESTS

Pikeville Booster Pump Stations – associated with service to Mountain Water District

Name	Voltage	Amperage	Phase	Motor Size	Pump Rating GPM	Pressure (PSI) Static Suction/Discharge	Pressure (PSI) Dynamic Suction/Discharge	Lat./Long.
Town Mountain	480v	400	3 Phase	150 HP	1100	80 / 181	46 / 203	37.490206, -82.501470
Bob Amos	480v	600	3 Phase	50 HP	400	34 / 119	26 / 124	37.474365, -82.540442
Cedar Gap/Nightingale	480v	200	3 Phase	50 HP	200	43 / 225	27 / 233	37.446061, -82.560264
Smiley Fork	480v	600	3 Phase	125 HP	500	82 / 313	65 / 340	37.432057, -82.515385
Tollage	240v	200	3 Phase	20 HP	1200	95 /97	90 / 105	37.510314, -82.542896
Cedar Creek	480v	200	3 Phase	50 HP	200	40 / 250	33 / 253	37.477911, -82.558088
Northmonte	240v	200	3 Phase	30 HP	200	42 / 152	37 / 164	37.485441, -82.536645
Peach Orchard	240v	200	3 Phase	5 HP	30	8 / 129	7 / 130	37.48293, -82.523773
Harold's Branch	240v	100	3 Phase	10 HP	100	36 / 71	32 /75	37.46944, -82.49179
Fox Croft	480v	200	3 Phase	25 HP	100	23 /256	20 / 258	37.46069, -82.499236
Chloe Ridge/Lovers Leap	240v	100	3 Phase	25 HP	130	76 / 280	65 / 300	37.475559, -82.515521
Quail Ridge	240v	100	3 Phase	7.5 HP	200	98 / 111	94 / 116	37.500027, -82.536525
Chloe/Walters Road	480v	200	3 Phase	40 HP	200	76 / 191	70 / 196	37.477224, -82.493981
Sandy Valley/Bowles	240v	200	3 Phase	25 HP	800	105 / 108	100 / 115	37.484099, -82.542519
Toler	480v	200	3 Phase	25 HP	250	45 / 140	35 / 143	37.457735, -82.573505

CASE NO. 2019-00080
CITY OF PIKEVILLE WHOLESALE WATER SERVICE RATES
RESPONSES TO MOUNTAIN WATER DISTRICT'S INITIAL DATA REQUESTS

Pikeville Water Storage Tanks – associated with service to Mountain

Name	Type	Size	Height	Operating Range	Overflow Elev.	Lat./Long.
Bob Billups	Glasslined	100,000 gallons	22'	10' – 18'	*	37.505816, -82.555393
Road Fork #1	Steel	600,000 gallons	40'	26' – 30'	888'	37.491507, -82.513153
Road Fork #2	Glasslined	1,000,000 gallons	40'	26' – 30'	888'	37.491502, -82.513378
Marion's Branch Tank	Glasslined	1,000,000 gallons	70'	N/A Range to be determined	1540'	37.419651, -82.536977
Bob Amos	Steel	100,000 gallons	24'	8' – 12'	*	37.467011, -82.542143
Cedar Gap/Nightingale	Steel	100,000 gallons	48'	24' – 30'	*	37.470821, -82.562697
Cedar Creek	Glasslined	200,000 gallons	35'	24' – 27'	*	37.487597, -82.564669
Northmonte	Glasslined	200,000 gallons	45'	21' – 22'	*	37.487195, -82.533101
Smith Hill #1	Steel	300,000 gallons	35'	12' – 30'	893'	37.482758, -82.523457
Smith Hill #2	Steel	300,000 gallons	35'	12' – 30'	893'	37.482706, -82.523317
Peach Orchard	Steel	100,000 gallons	24'	18' - 20'	1180.6'	37.477606, -82.529308
Harold's Branch	Steel	100,000 gallons	24'	18' – 22'	*	37.465753, -82.498961
Fox Croft	Steel	100,000 gallons	24'	17' – 20'	1530'	37.457867, -82.503287
Chloe Ridge/Lovers Leap	Steel	100,000 gallons	24'	15' – 16.5'	*	37.471981, -82.504508
Quail Ridge	Steel	30,000 gallons	42'	25' - 35'	944'	37.499719, -82.542402
Mullins	Steel	200,000 gallons	22'	10' – 18'	*	37.536982, -82.576641
Sandy Valley	Concrete	500,000 gallons	35'	12' – 17'	*	37.501485, -82.544208
Toler	Steel	200,000 gallons	32'	23' - 27'	*	37.449645, -82.589487

* = Information unavailable or unverified

15. Provide electric power costs per booster station.

Response: See chart below.

COST PER BOOSTER
FISCAL YEAR 2017

LOCATION	TOTAL COST FOR YEAR
SMILEY FORK	$ 1,605.10
CEDAR CREEK	$ 16,797.21
BOB AMOS DRIVE	$ 4,886.88
NORTHMONTE	$ 2,231.16
HAROLDS BRANCH	$ 1,669.44
CHLOE ROAD	$ 13,091.31
TOWN MTN ROAD	$ 57,685.76
PEACH ORCHARD	$ 1,974.80
BOWLES	$ 4,533.92
FOXCROFT	$ 3,516.19
QUAIL RIDGE	$ 653.64
NIGHTINGALE LANE	$ 3,716.76
TOLER	$ 28,786.88
CHLOE RIDGE	$ 3,875.56
TOLLAGE	$ 1,133.66

WITNESSES: Tonya Taylor; Grondall Potter

16. Provide chlorine boosting costs per booster station.

Response: Pikeville does not have chlorine boosting stations.

WITNESSES: Grondall Potter

17. Provide a map of the various pressure zones within the Pikeville system and for each pressure zone indicate the extent of the service area for that zone. Assign the appropriate tank(s) and booster pumping station(s) for each zone.

Response: There is not a pressure-zone map of the Pikeville system.

WITNESSES: Grondall Potter

18. Provide maintenance records to support the percentage of costs for line maintenance.

Response: The percentage of costs for line maintenance as shown in Figure 6 of the cost-of-service study is the product of the collaborative process discussed in Item 10 above.

WITNESSES: Grondall Potter; Samuel Petty

19. Provide maintenance and materials costs on transmission lines separate from distribution lines.

Response: Pikeville does not separate costs between transmission and distribution. Any cost for water lines can be found in 2017 general ledger pages 605-622 account 210.10.610.99 and pages 623-625 210.10.630.00, as well as page 393 account 210.00.165.00.

WITNESSES: Grondall Potter; Tonya Taylor

20. Provide maintenance records and costs for each tank, separately.

Response: Any cost for lines and tank can be found in 2017 general ledger pages 605-622 account 210.10.610.99 and pages 623-625 210.10.630.00, as well as page 393 account 210.00.165.00.

WITNESSES: Grondall Potter; Tonya Taylor

21. Provide total storage volume per tank, the overflow elevations (msl), and the operating range.

Response: Please see response to Item 14 above.

WITNESSES: Grondall Potter

22. Provide operational records to justify the percentage of costs allocated for service calls.

Response: The information requested is not relevant because no costs for service calls were allocated to MWD.

WITNESSES: Samuel Petty

23. Provide meter inventory by size and by type of all customers, direct and wholesale, city and outside city. Include all meters in operation except those used in production at the water treatment plant.

Response: Pikeville's billing system does not track meters by inventory, size, and classification of customer. The following chart identifies the water meters serving MWD and the remainder in Pikeville's system.

MWD			
Meter Size	Number	Res Meter Equiv. Ratio	Total Equiv. Residential
5/8"			
1			
2	3	8	24
4	4	25	100
6	1	65	65
8	1	140	140
			329

Pikeville			
Meter Size	Number	Res Meter Equiv. Ratio	Total Equiv. Residential
5/8"	3,024		3,024
1	150	2	300
2	121	8	968
4	11	25	275
6	2	65	130
8	0	140	0
			4,697
		Percent MWD	7.0%

WITNESSES: Tonya Taylor; Grondall Potter; Samuel Petty

24. Provide the number of hydrants within the Pikeville water system.

Response: 560 fire hydrants

WITNESSES: Philip Elswick

25. Provide the hydrant flow test records for the test year.

Response: Please see attached report.

WITNESSES: Philip Elswick

Hydrant Flow Test Records

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
1	**Sect. No.**	**Hyd. No.**	**Location**		Flow	Static	Residual
2							
3	2	1	189 MARIONS BR. @ WATER PLANT		1115	100	95
4							
5	2	2	282 Marions Branch (1 ST FROM WATER PLANT)				
6							
7	2	3	458 Marions Branch		250	90	15
8							
9	2	4	534 Marions Branch		250	90	
10							
11	2	5	304 Island Cr. @ station 2		1220	100	85
12							
13	2	6	207 Island Cr. @ Dye Residence				
14							
15	2	7	156 Island Cr. @ Medical Bldg.				
16							
17	2	8	719 Island Cr. Across from UPS		1155	90	
18							
19	2	9	Between Island Creek and Raw Water Intake				
20							
21	2	10	112 Mayo Circle @ Trail Blazers		1220	100	70
22							
23	2	11	442 Mayo Circle @ Uniform Shoppe				
24							
25	2	12	158 Holly Tree Court		1220	115	90
26							
27	2	13	190 Mayo Circle @ Wrightway Equip.				
28							

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
29	2	14	US 23 @ Kris Eletric Storager Lot		1115	115	90
30							
31	2	15	U S 23 @ Vacant Lot Past Kris Elect.				
32							
33	2	16	Glam Salon and Spa		1120	100	80
34							
35	2	17	North Campus Dormatory				
36							
37	2	18	1060 S Mayo Trail Hatfield McCoy Lodge		1120	120	80
38							
39	2	19	1098 S. Mayo @ Grace W Call Bldg				
40							
41	2	20	1134 US 23 S		1120	120	90
42							
43	2	21	1162 @ Douglas Street				
44							
45	2	22	1208 @ Damron Furniture		1120	115	65
46							
47	2	23	US 23 @ Fastenal				
48							
49	2	24	1105 @ Industrial Park Bridge		1120	100	
50							
51	2	25	Marions Branch Industrial Park on left		1115	90	
52							
53	2	26	Marions Branch Industrial Park Near Water Tank on left			No water on hydrand around silver lir	
54							
55	2	27	Marions Branch Industrial Park End of Blacktop				

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
56							
57	2	28	Marions Branch Industrial Park at End of Dirt Road				
58							
59	2	29	Marions Branch Industrial Park on End Right Side End of Road				
60							
61	2	30	1370 US 23 @ PMC Warehouse		1115	120	75
62							
63	2	31	US 23 @ 105 Rainbow Ln.		1120	120	80
64							
65	2	32	1476 US 23 @ Premier Pond & Spa				
66							
67	2	33	US 23 @ Carpet Mine				
68							
69	2	34	US 23 @ Branhams Wrecker		1225	115	85
70							
71	2	35	1904 US 23 @ Ira Ratliff Bldg.				
72							
73	2	36	1946 Old US 23 @ Anpat Bldg.		1058	120	85
74							
75	2	37	1978 Old US 23 @ Jubillee Church				
76							
77	2	38	2010 Old US 23 South				
78							
79	2	39	2032 Old US 23 South		1015	120	85
80							
81	2	40	2074 Old US 23 @ Food City S @ Upper Parking Access				
82							
83	2	41	2088 US 23 @ Food City South		1115	120	85
84							

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
85	2	42	1028 Old S. Mayo Trail @ Gas n Go				
86							
87	2	43	2142 World Wide Equipment		1000	110	40
88							
89	2	44	126 Indian Hills Drive				
90							
91	2	45	Kelley Wholesale Bldg.				
92							
93	2	46	2170 Old US 23				
94							
95	2	47	109 Shawnee Trail		750	110	
96							
97	2	48	140 SHAWNEE TRAIL				
98							
99	2	49	2176 S Mayo Trail @ Pump Station				
100							
101	2	50	287 Fox Croft				
102							
103	2	51	2nd Hyd. Fox Croft				
104							
105	2	52	3rd Hyd. Fox Croft				gate broke
106							
107	2	53	Water tank 2nd Fox Croft				gate broke
108							
109	2	54	235 FoxCroft		750	100	
110							
111	2	55	145 Fox Croft @ Dr. So res.		750	110	85
112							
113	2	56	358 Yorkwood Forest, top of hill				
114							
115	2	57	276 Yorkwood, 6th House		900	200	200

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
116							
117	2	58	143 Yorkwood Forest				
118							
119	2	59	150 Yorkwood 2nd House up		500	35	
120							
121	2	60	Tri State Lab Service Front				
122							
123	2	61	359 Lanks Br @ Whayne Supply				
124							
125	2	62	Whayne Supply Rear				
126							
127	2	63	Holliday Inn Express / blood cntr		1250	120	120
128							
129	2	64	Capt."D" S. Mayo Tr.				
130							
131	2	65	Walters Plaza , S. Mayo Tr.		1250	120	115
132							
133	2	66	368 South Mayo @ Harley Drive				
134							
135	2	67	316 S Mayo @ Pike Co. BOE		1275		
136							
137	2	68	228 South Mayo Trail (Bruce Walters Ford) Collision Repair Front		950	120	115
138							
139	2	69	274 South Mayo Trail		1110	100	100
140							
141	2	70	260 South Mayo Trail.		950	120	100
142							
143	1	71	234 South Mayo Trail @ Pinnacle Bnk		1175	120	100
144							

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
145	1	72	164 S Mayo Rear of Building (White)		1075	120	100
146							
147	1	73	190 S. Mayo Trl. (Landmark Inn)		1175	120	100
148							
149	1	74	130 S. Mayo Trl. (PMC Maint.)		1075	120	100
150							
151	1	75	164 S Mayo Rear Parking (white)		1075	120	100
152							
153	1	76	110 S. Mayo Tr (Ky. Fried Chicken)		1075	120	100
154							
155	1	77	By - Pass Church of God		1175	120	100
156							
157	1	78	PMC Pain Mgt Clinic on Left				Will not open
158							
159	1	79	PMC Diagnostic Center		1000	120	75
160							
161	1	80	PMC Neuro Surgery/Rehab		1220	120	100
162							
163	1	81	Rear Parking Pike Co.Health Dept.		1175	110	110
164							
165	1	82	Rear PMC Dbl Steamer		1075	120	100
166							
167	1	83	242 Carter Dr. 2 1/ 2 blow off		0	0	0
168							
169	1	84	198 Carter Dr.		450	50	50
170							
171	1	85	140 Carter Drive				
172							
173	1	86	474 Harolds Br. And Carter Dr.		600	50	50
174							
175	1	87	1004 L. Fork of Harolds Br.		450	40	10

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
176							
177	1	88	997 L. Fork of Harolds Br.				
178							
179	1	89	927 Left Fork of Harolds Br.		500	50	40
180							
181	1	90	680 Harolds Br. Rd.		500	75	40
182							
183	1	91	124 Johnson Hollow, Up from Johnson Res.		710	50	50
184							
185	1	92	626 Harolds Br. Rd.				
186							
187	1	93	Harolds Branch @ Stone Drive		500	60	60
188							
189	1	94	591 Harolds Br. Rd.				
190							
191	1	95	557 Harolds Br. Rd. / Maple Hills		1210	70	100
192							
193	1	96	290 Granite Drive @ Lot #8				
194							
195	1	97	517 Harolds Branch		500	100	70
196							
197	1	98	269 Harolds Br. Rd. (Past Sandstone Hill on left)				
198							
199	1	99	400 Harolds Br. Rd. (foot of hill)		800	120	90
200							
201	1	100	375 Harolds Br. (Trailer Park)				
202							
203	1	101	347 Harolds Branch, Vacant lot.(behind eletric Gate @ tree)		885	130	100
204							
205	1	102	309 Harolds Branch				

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
206							
207	1	103	285 Harolds Branch @ Branch Apts		1000	140	120
208							
209	1	104	273 Harolds Branch Past Coleman Court on left				
210							
211	1	105	911 By Pass @ Hospital Entrance		1000	160	150
212							
213	1	106	Warehouse Loading Dock dbl Steamer Port				
214							
215	1	107	911 Bypass Rear @ Construction				
216							
217	1	108	911 Bypass @ Entrnce Physician Parking		900	100	70
218							
219	1	109	911 Bypass @ Phys.Prk Lane rt.		865	100	70
220							
221	1	110	Bypass Rd Mile Mrk 6		1000	150	150
222							
223	1	111	131 SUMMIT DRIVE		1000	130	110
224							
225	1	112	Lot # 18 Chloe Ridge (Valley View)		865	130	110
226							
227	1	113	195 W Chloe Ridge		865	145	120
228							
229	1	114	219 West Chloe Ridge @lt #17				UTL
230							
231	1	115	Lot # 14 Chloe Ridge (219 W. CHLOE RIDGE RD.)				UTL
232							

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
233	1	116	216 West Chloe Ridge				In Hedge Bush
234							
235	1	117	416 Summit Drive @ Rasnick Res.				
236							
237	1	118	Lot # 12 Chloe Ridge (267 W. CHLOE RIDGE RD.)				Unable get in gate
238							
239	1	119	Lot # 01 Chloe Ridge (267 W.CHLOE RIDGE RD.)		865	120	90
240							
241	1	120	Chloe Ridge, 1st on L. to tank (EAST RIDGE RD.)				
242							
243	1	121	Across from 164 E Chloe Ridge		600	70	70
244							
245	1	122	219 E Chloe Ridge		600	70	70
246							
247	1	123	Chloe Ridge & Mountain View Ct.		500	40	40
248							
249	1	124	159 E Chloe Ridge		500	40	40
250							
251	1	125	105 Mtn View Court				
252							
253	1	126	352 Chloe Ridge New Section		710	85	85
254							
255	1	127	808 Chloe Ridge vacant lot		710	80	80
256							
257	1	128	107 North Ridge Lane		710	85	85
258							
259		129	1st House, Left North Ridge Lane		710	85	85
260							
261	1	130	Top of Chloe Hill				No Water

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
262							
263	1	131	890 Chloe Rd.		600	80	80
264							
265	1	132	836 Chloe Road, (Mouth of Fife Fork)				
266							
267	1	133	351 Fife Fork Rd. (Head of Fife Fork)		500	80	80
268							
269	1	134	271 Fife Fork				
270							
271	1	135	203 Fife Fork		500	80	80
272							
273	1	136	138 Fife Fork Ratliff Apts.				
274							
275	1	137	800 Chloe Rd.		600	80	80
276							
277	1	138	735 Chloe Rd.				
278							
279	1	139	624 Chloe Rd.		600	80	80
280							
281	1	140	501 Walters Rd.				
282							
283	1	141	479 Walters Rd.		450	70	70
284							
285	1	142	451 Walters Rd.		650	125	40
286							
287	1	143	407 Walters Rd.		710	160	40
288							
289	1	144	387 Walters Rd.		750	160	40
290							
291	1	145	270 Walters Rd.		865	160	40
292							

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
293	1	146	248 Walters Road		900	160	40
294							
295	1	147	Walters Road @ Starnes Drive		925	160	40
296							
297	1	148	300 Walters Road		975	175	60
298							
299	1	149	111 Walters Road @ Trlr		1115	200	80
300							
301	1	150	Chloe Rd. @ Pump Station		1135	210	85
302							
303	1	151	Lancelot Court Apt. 7		575	80	80
304							
305	1	152	583 Chloe Rd.		650	80	60
306							
307	1	153	107 Biliter Drive		710	80	40
308							
309	1	154	473 Chloe Rd. @ Sycks Tr. Ct.		865	80	40
310							
311	1	155	415 Chloe Rd.		865	80	40
312							
313	1	156	397 Chloe Rd.		865	80	40
314							
315	1	157	Last up Melvina Dr.		865	80	40
316							
317	1	158	Mouth of Melvina Dr.		865	80	60
318							
319	1	159	361 Chloe Rd.		865	90	60
320							
321	1	160	Justice Res. In Hollow		865	90	60
322							
323	1	161	313 Chloe Rd. @ 1st Christian Church		900	90	60
324							

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
325	1	162	289 Chloe Rd.		900	90	60
326							
327	1	163	Elliot drive		600	75	75
328							
329	1	164	Elliot drive		600	75	75
330							
331	1	165	Elliot drive		600	75	75
332							
333	1	166	Pike Elementary in Parking Lot		900	100	80
334							
335	1	167	247 Chloe Rd. @ Stanford Studio		950	90	80
336							
337	1	168	185 Chloe Rd. (Coleman Res)		1000	90	80
338							
339	1	169	122 Chloe Rd. @ PFD Training Center		950	100	80
340							
341	1	170	104 Chloe Road @ PFS Sta. 1		1000	100	80
342							
343	1	171	669 bypass Rd. Across from Dorsies Dairy Bar		1175	100	80
344							
345	1	172	616 Bypass Rd.		1175	100	80
346							
347	1	173	750 Town Mountain Rd.		200	30	5
348							
349	1	174	396 Williams Hollow				
350							
351	1	175	370 Williams Hollow				
352							
353	1	176	329 Williams Hollow		400	90	40
354							
355	1	177	286 Williams Hollow				

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
356							
357	1	178	244 Williams Hollow		550	120	80
358							
359	1	179	206 Williams Hollow				
360							
361	1	180	170 Williams Hollow		850	140	120
362							
363	1	181	144 Williams Hollow				
364							
365	1	182	134 Williams Hollow 1st on Right		700	120	80
366							
367	1	183	Elkins Road & Town Mtn.				
368							
369	1	184	564 Town Mtn. Rd.		865	120	80
370							
371	1	185	532 Town Mtn. Rd.				
372							
373	1	186	512 Town Mtn. Rd.		850	120	80
374							
375	1	187	478 Town Mtn. Rd. @ Community Action Building		865	120	80
376							
377	1	188	191 Mays Branch		500	75	
378							
379	1	189	185 Mays Branch				
380							
381	1	190	Mays Br. @ BSMRE office		750	120	80
382							
383	1	191	Town Mtn.Rd. @ Fields Apts. / Pump Station				
384							
385	1	192	Town Mtn. Rd. @ Pikeville Medical Bldg		685	60	40

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
386							
387	1	193	Town Mtn. Rd. @ old L.Keens lot				
388							
389	1	194	Town Mtn Rd. @ old L.Keens		865	60	40
390							
391	1	195	140 Bill King Hollow		880	65	40
392							
393	1	196	Bill King Hollow Rd. on Right				
394							
395	1	197	Bill King Hollow Behind LarryKeens		865	60	40
396							
397	1	198	Town Mtn. Rd. @ Family drug				
398							
399	1	199	Town Mtn. Rd. @ Save a Dollar		1115	90	85
400							
401	1	200	220 North Gate Dr.		665	65	50
402							
403	1	201	168 North Gate				
404							
405	1	202	138 North Gate		750	80	
406							
407	1	203	Town and Country Center, Town Mtn. Rd				
408							
409	1	204	Town Mtn. Rd. @ Sears		1120	100	95
410							
411	1	205	127 Ferguson Lane		1000	95	85
412							
413	1	206	By-Pass Rd. @ Exxon Station				
414							
415	1	207	ByPass Rd. @ Swinging Bridge		1000	90	85
416							

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
417	1	208	By Pass Rd.@ Fairview Elderly Section				
418							
419	1	209	By Pass @ Church of God		1000	90	
420							
421	1	210	915 Owens Dr.				
422							
423	1	211	In front of Fairview		710	95	80
424							
425	1	212	Fairview, Behind on Right				
426							
427	1	213	Fairview, Behinf on Left		710	95	
428							
429	1	214	Owens Dr. @ Rons Eletronics				
430							
431	1	215	By Pass @ KDOT offices		865	95	85
432							
433	1	216	By Pass @ Paul Patton Res.				
434							
435	4	217	152 East Cedar Dr.		700	95	55
436							
437	4	218	194 East Cedar Dr.& Oak Ln.				
438							
439	4	219	223 East Cedar Dr.		710	85	75
440							
441	4	220	196 Walnut Dr.				
442							
443	4	221	146 Walunt Dr.		865	90	85
444							
445	4	222	100 Walnut Dr. & ByPass Rd.				
446							
447	4	223	170 Oak Lane		710	90	80
448							

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
449	4	224	121 Chestnut		710	90	80
450							
451	4	225	146 Chestnut Dr		710	95	
452							
453	4	226	145 Cedar Dr. 4 Lane Side				
454							
455	4	227	1121North Mon Ridge left		710	65	40
456							
457	4	228	North Mont Woods, End of Road				
458							
459	4	229	433 North Mont Woods		500	150	100
460							
461	4	230	Northmont Woods @ ft of Northridge drive				
462							
463	4	231	505 North Mont Woods		710	90	90
464							
465	4	232	288 Northmont Drive				
466							
467	4	234	269 Northmont dr		865	160	
468							
469	4	235	318 Northmont Point				
470							
471	4	236	869 Northmont Court		500	50	
472							
473	4	237	192 Bowles Park & North Mont				
474							
475	4	238	218 Bowles Park		865	95	
476							
477	4	239	120 Hickory & Cherry Ln.				
478							
479	4	240	140 Chery Ln.		250	95	80 hard to turn on
480							

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
481	4	241	154 W Cedar Dr & Cherry Ln.				
482							
483	4	242	107 W Cedar Dr.		500	95	
484							
485	4	243	232 Adams lane				
486							
487	4	244	220 Adams Lane		710	90	75
488							
489	4	245	198 Adams Lane				
490							
491	4	246	357 N Mayo Trail @City Pool		865	90	75
492							
493	4	247	Front of Pikeville High & By-Pass RD				
494							
495	4	248	Front Lot PHS		865	95	75
496							
497	4	249	Rear Lot PHS				
498							
499	4	250	Rear Lot PHS		710	95	75
500							
501	4	251	KDOT Highway Garage				
502							
503	4	252	Walters Chevrolet (used car lot)		865	95	75
504							
505	4	253	N. Fletcher and Halls				
506							
507	4	254	Stewart and Staffords		710	95	75
508							
509	4	255	337 N. Mayo Tr.(Collins and Love)				
510							
511	4	256	Redd Brown and Williams		710	95	75
512							

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
513	4	257	MSHA , Front Hydrant				
514							
515	4	258	MSHA Bldg, Rear Hydrant		710	95	
516							
517	4	259	180 Dark Hollow				
518							
519	4	260	102 Dark Hollow (Entrance)		710	100	
520							
521	4	261	143 Dark Hollow				
522							
523	4	262	149 East Keyser Heights		500	40	
524							
525	4	263	111 East Keyser Heights				
526							
527	4	264	128 West Keyser Heights		500	50	
528							
529	4	265	160 West Keyser Heights				
530							
531	4	266	115 Sandy Street		500	95	75
532							
533	4	267	106 Walnut Street				
534							
535	4	268	Corner Walnut St. and Dogwood		500	95	75
536							
537	4	269	Beech and Dogwood				
538							
539	4	270	Vine St. & Walnut		500	95	
540							
541	4	271	103 Phillips Dr.				
542							
543	4	272	438 Billups Court		965	95	80
544							
545	4	273	108 Bryant St.				

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
546							
547	4	274	Bryant St. @ Catholic School		710	95	
548							
549	4	275	121 Keel St.				
550							
551	4	276	107 Lee Ave		1150	100	75
552							
553	4	277	132 Lee Ave @ Pike Co Library		1150	100	80
554							
555	4	278	158 Lee Ave				
556							
557	4	279	Alexandria Drive @ Buffalo Wild Wings		1150	100	85
558							
559	4	280	Alexandria @ Tractor Supply				
560							
561	4	281	Lowes front of Bldg.		1115	100	85
562							
563	4	282	Behind Food City North				
564							
565	4	283	Thompson Road @Biscuits Lingerie		1220	95	85
566							
567	4	284	Behind Mr. Gatti's				
568							
569	4	285	Cassidy Blvd.(middle front wal-mart)		1150	100	80
570							
571	4	286	Cassidy Blvd.(Wal-mart, Right front)				
572							
573	4	287	Cassidy blvd. (R. reat Wal-mart)		1115	100	85
574							

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
575	4	288	Cassidy Blvd. (Middle rear, Wal-Mart)				
576							
577	4	289	Cassidy Blvd.(L. Rear Wal-Mart)		1220	100	85
578							
579	4	290	Service Corridor Pikeville Commons				
580							
581	4	291	Pikeville Commons @ Marshalls		1220	100	90
582							
583	4	292	111 Pikeville Commons Suite 115				
584							
585	4	293	Rear Pikeville Commons Parking		1115	100	85
586							
587	4	294	Vacant Lot Behind Pikeville Commons		1115	100	80
588	4	295	Justice Way @ Texas RoadHouse Front		1115	100	
589							
590	4	296	Justice Way @ Texas Roadhouse Rear				
591							
592	4	297	Riverview Plaza @ Penn Station		1220	100	85
593							
594	4	298	Riverview Plaza @ Steak n Shake				
595							
596	4	299	Riverview Plaza @ Arbys		1220	100	
597							
598	4	300	171 Pheasant Dr.				
599							
600	4	301	157 Pheasant Dr.		1000	75	70
601							
602	4	302	101 natures Cove				

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
603							
604	4	303	138 Natures Cove		865	70	
605							
606	4	304	497 Thompson Rd. Behind Brookshire Dbl Steamer				
607							
608	4	305	106 Lakeview Dr.		1115	100	90
609							
610	4	306	134 Lakeview Dr.				
611							
612	4	307	147 Doe Run @ water tank		250	10	10
613							
614	4	308	121 Stonehinge @Clark Res.				
615							
616	4	309	176 Heather Lane		710	65	
617							
618	4	310	200 heather lane				
619							
620	4	311	119 Grouse Ridge		600	40	30
621							
622	4	312	238 Quail Walk				
623							
624	4	313	101 Hickory Knoll & Quail Walk		865	85	
625							
626	4	314	Fox Furrow				
627							
628	4	315	180 Quail Walk		710	80	
629							
630	4	316	152 Quail Walk				
631							
632	4	317	114 Popular Grove (Entrance)		1050	120	
633							
634	4	318	210 Meadow View				

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
635							
636	4	319	Hellen brown bridge		1115	100	
637							
638	4	320	Lykens Creek				
639							
640	4	321	Lykens Creek		710	95	50
641							
642	4	322	Lykens Creek				
643							
644	4	323	Lykens Creek		650	70	
645							
646	4	324	Lykens Creek				
647							
648	5	325	122 Ivy Ct.		5	0	0
649							
650	5	326	Top of Bob Amos Dr.		710	40	20
651							
652	5	327	Bob Amos Drive @YMCA				
653							
654	5	328	Bob Amos Dr @Camper/Tralier Park		865	49	29
655							
656	5	329	Clair & Pike Villa				
657							
658	5	330	Bob Amos Dr @ Parks Office		500	40	20
659							
660	5	331	130 Evan St.		250	10	10
661							
662	5	332	149 Summer St.		500	40	20
663							
664	5	333	Dr. Mullikan Res.				
665							
666	5	334	291 Summer St.		500	40	20

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
667							
668	5	335	309 Summer St.				
669							
670	5	336	323 Cedar Gap		865	100	60
671							
672	5	337	101 King Ln. & Cedar Gap				
673							
674	5	338	164 Nightingale Ln. (Nitingale Ln. & Nightgale Ct).				
675							
676	5	339	267 Cedar Hills		600	200	80
677							
678	5	340	165 Cedar Hills & Peach Tree		700	100	80
679							
680	5	341	143 Peachtree St.				
681							
682	5	342	131 Peachtree St.				
683							
684	5	343	165 Peachtree Dr. (Peachtree Dr. & Cedar Hill St.)				will not turn.
685							
686	5	344	103 Apple Ct.(Apple Court & Cedar Hill St.)				
687							
688	5	345	111 Apple Ct.		710	200	120
689							
690	5	346	245 Cedar Hills Rd.				
691							
692	5	347	153 Cedar Hills St.		710	200	120
693							
694	5	348	438 Cedar Creek				
695							

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
696	5	349	Cedar @ intersection (398 Cedar Hill St.)		1350	200	200
697							
698	5	350	454 Cedar Hills		1000	200	180
699							
700	5	351	131 Cedar Hills Rd.				
701							
702	5	352	207 Cedar Hills				
703							
704	5	353	969 Cedar Creek Last on Cedar Cr.		1000	200	180
705							
706	5	354	626 Cedar Creek				
707							
708	5	355	602 Cedar Creek		1000	200	180
709							
710	5	356	571 Cedar Creek				
711							
712	5	357	545 Cedar Creek		1000	200	180
713							
714	5	358	540 Cedar Creek		1000	200	180
715							
716	5	359	531 Cedar Creek (Apt 10)				
717							
718	5	360	501 Cedar Creek		1000	200	180
719							
720	5	361	140 Cottonwood Court		865	100	
721							
722	5	362	Corner of Cottonwood & Winston Dr.		865	160	80
723							
724	5	363	Corner of Redbud Ln &Winston Dr.				

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
725							
726	5	364	Near end of Redbud Lane				
727							
728	5	365	Middle of Redbud Lane over bank				utl
729							
730	5	366	132 Locust Drive		1000	200	
731							
732	5	367	124 Magnolia Drive				
733							
734	5	368	160 Magnolia Drive		865	200	
735							
736	5	369	Corner of Locust & Hemlock				
737							
738	5	370	Vacant lot @ Cedar Assisted Living		1000	200	180
739							
740	5	371	Vacant lot Before Cedar Assisted Living				
741							
742	5	372	End of Honeysuckle Ln.		500	65	
743							
744	5	373	147 Honeysuckle Ln.				
745							
746	5	374	119 Honeysuckle Ln.		600	55	30
747							
748	5	375	132 Laurel Ln. & Cedar Creek		650	55	45
749							
750	5	376	134 Laurel Ln.				
751							
752	5	377	377 Cedar Cr.		500	55	40
753							
754	5	378	341 Cedar Cr.				
755							

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
756	5	379	291 Cedar Cr.		710	80	
757							
758	5	380	249 Cedar Cr.				
759							
760	5	381	130 Evan St.				
761							
762	5	382	1st @ Mulberry				
763							
764	5	383	2nd @ Mulberry		1650		Valve bypassing
765							
766	5	384	751 Cedar Creek@ Spruce				want open
767							
768	5	385	140 Spruce				
769							
770	5	386	122 Ivy Court		5		
771							
772	5	387	128 Cedar Creek Towne Homes B		605	80	40
773							
774	5	388	128Cedar Creek Towne Homes A		605	80	40
775							
776	5	389	138 Cedar Creek @ Guard Rail end		605	80	40
777							
778	5	390	PFD Station 3		930	100	80
779							
780	6	391	Apt E1 @ Fields Way (top)		710	80	Leak under ground
781							
782	6	392	Renee Drive Fields Way				has no water
783							
784	6	393	Louise Lane Fields Way				in flower bed
785							
786	6	394	Fields Way @ Cornerstone Church		865	100	80

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
787							
788	6	395	Right Rear Parking Tudors Biscuit		865	100	80
789							
790	6	396	240 Hambley Blvrd @Ky Nat'l Bank		865	100	80
791							
792	6	397	1322 Hambley Blvd.		1000	100	80
793							
794	6	398	105 Riverview Dr.		1115	100	90
795							
796	6	399	1212 Riverview & St. Clair St.		1000	100	90
797							
798	6	400	135 Myra Barnes & Steel St.		1115	110	110
799							
800	6	401	1125 Myra Barnes Ave		1115	110	100
801							
802	6	402	May Alley &121 Central Ave.		1115	110	
803							
804	6	403	405 Hambley Blvd.		1220	100	90
805							
806	6	404	469 Hambley Blvd.		1220	100	100
807							
808	6	405	513 Hambley Blvd. @ United Carpet		1115	110	
809							
810	6	406	Hambley Blvd.@ Sunrise Plaza		1115	110	
811							
812	6	407	124 Jay St.		865	50	50
813							
814	6	408	104 Mt. Martha Dr.		1220	110	100
815							
816	6	409	149 Mt. Martha Dr.		1115	110	100
817							

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
818	6	410	116 Mt. Martha Dr.				
819							
820	6	411	140 Amba St.		1115	80	60
821							
822	6	412	152 Garrett St.		1115	80	60
823							
824	6	413	134 Mtn Chase@ Turntable Con.				
825							
826	6	414	155 Mtn Chase @ Apt 1500		710	60	60
827							
828	6	415	108 Mildred Street				
829							
830	6	416	111 Mildred St.		865	80	70
831							
832	6	417	192 Mildred &Perry St. i				
833							
834	6	418	132 Perry St.		710	70	50
835							
836	6	419	3rd Hydrant up Coal Hollow				
837							
838	6	420	2nd Hydrant up Coal Hollow				
839							
840	6	421	1st Hydrant up Coal Hollow		1000	110	100
841							
842	7	422	308 Poplar St.		865	100	80
843							
844	7	423	140 Poplar St.				
845							
846	7	424	Peach Orchard @ BlankenshipResidence		710	50	40
847							
848	7	425	Peach Orchard @ Hobs res.				
849							

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
850	7	426	208 Peach Orchard Raido Drive		710	50	40
851							
852	7	427	348 Peach Orchard		500	50	40
853							
854	7	428	291 Peach Orchard				
855							
856	7	429	103 Smith Hill (top)		1000	100	80
857							
858	7	430	Hydrant above Water Tanks				
859							
860	7	431	135 Smith Hillt @water tanks		1000	100	80
861							
862	7	432	190 Smith Hill				
863							
864	7	433	197 Popular St.		1000	60	40
865							
866	7	434	163 Poplar & Willow St.				
867							
868	7	435	217Julius Ave		10		new hydrant
869							
870	7	436	183 Julius Ave.				
871							
872	7	437	159 Julius Ave				
873							
874	7	438	131 Julius Ave.		10		
875							
876	7	439	102 South College St.		1000	60	4
877							
878	7	440	137 Jefferson St.				
879							
880	7	441	159 Jefferson St.		5	0	0
881							

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
882	7	442	104 Derby Street and Jefferson Street				
883							
884	7	443	213 Julius Ave.& Jefferson		5	0	0
885							
886	7	444	229 S College St @ Haymes Court		865	60	40
887							
888	7	445	208 S.College St @ Haymes Court				
889							
890	7	446	190 S.College St.@ Haymes Court		1000	90	90
891							
892	7	447	152 South College st.				
893							
894	7	448	124 South College St.		1115	100	90
895							
896	7	449	133 Elm St.		710	50	50
897							
898	7	450	Top of Elm St.		710	60	50
899							
900	7	451	226 Sycamore St.		500	30	20
901							
902	7	452	233 Sycamore St.		500	30	10
903							
904	7	453	241 Sycamore St. (bottom)		1000	80	70
905							
906	7	454	269 Sycamore St.		1000	90	70
907							
908	7	456	KY Ave. @ Science Bldg				
909							
910	7	457	116 Smith Street		1000	100	

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
911							
912	7	458	121 Ky Ave				
913							
914	7	459	141 Ky. Ave.		875	60	40
915							
916	7	460	178 Ky.Ave				
917							
918	7	461	1st Hyd. on High St.		710	40	70
919							
920	7	462	2nd on High St.				
921							
922	7	463	High St.		1150	100	80
923							
924	7	464	Saad Ave.@ Scholar House				
925							
926	7	465	112 Auxier Ave.		1150	100	80
927							
928	7	466	142 Saad Ave @ Ridge Cliff				
929							
930	7	467	748 Hambley Blvd Myers Towers		1150	110	100
931							
932	7	468	Myers Towers Parking Lot				
933							
934	7	469	806 Hambley Blvd @ Foot of 99				
935							
936	8	470	8th and 579 Hambley Blvd.		1320	110	
937							
938	8	471	103 6th and Hambley Blvd.				
939							
940	8	472	106 4th and Hambley Blvd.		1150	110	100
941							
942	8	473	Huffman Ave. & Hambley Blvd.				
943							

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
944	8	474	240 Scott Ave & 7th St.		1115	110	100
945							
946	8	475	112 7th St. & Robinson Alley				
947							
948	8	476	212 Scott Ave & 6th St.				want turn
949							
950	8	477	160 4th St. @ Pond Ramp				
951							
952	8	478	174 Scott Ave. & 4th St.		1115	110	100
953							
954	8	479	190 3rd St.@ end				
955							
956	8	480	156 3rd St. & Scott Ave.		1115	110	100
957							
958	8	481	137 3rd St. @ Church				
959							
960	8	482	3rd St. and Pike				want turn
961							
962	8	483	118 2nd St.				
963							
964	8	484	139 2nd St. & Scott Ave.				want turn
965							
966	8	485	157 2nd St. & Wells Alley				
967							
968	8	486	2nd St. & 130 Pike St.		1115	110	100
969							
970	8	487	2nd St.@ Pike Co Judicial Cntr				
971							
972	8	488	2nd St. &122 Division St.		1115	110	100
973							
974	8	489	2nd St. & 123 Caroline Ave.				
975							
976	8	490	773 Hambley @ Roasted Café		1115	110	100

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
977							
978	8	491	126 Trivett Dr @ Uniplex bldg				
979							
980	8	492	148 Trivette Dr @ Pike Co. Hsg.		1115	110	100
981							
982	8	493	229 Main St. & Scott Ave.				
983							
984	8	494	211 Main St. & Wells Alley				top nut broke
985							
986	8	495	177 Main St. & Pike St.				
987							
988	8	496	Main St. & Division St.		1115	110	100
989							
990	8	497	Division St. & Pike Co. Jail				
991							
992	8	498	Division St. @ Jail rear		1000	110	100
993							
994	8	499	Huffman and 2nd Street				utl
995							
996	8	500	Cinema 10 in Riverfill				hooked up for drag races
997							
998	8	501	113 Main St. & Grace Ave.				
999							
1000	8	502	116 Main St.		1150	100	100
1001							
1002	8	503	104 Main St. @ Post Office		1150	110	100
1003							
1004	8	504	160 College St. @ Whitman Apts.		600	110	90
1005							
1006	8	505	124 Hatcher Courrt Rear Hampton Inn				
1007							
1008	8	506	158 Bank Street				

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
1009							
1010	8	507	229 Bank St @ Hollyhoch Alley		1000	110	85
1011							
1012	8	508	115 Bank St. @ Upike Gym				
1013							
1014	8	509	116 Park Street		710	110	85
1015							
1016	8	510	127 Park St. & Williamson St				
1017							
1018	8	511	146 Park Street		1175	110	85
1019							
1020	8	512	153 Hibbard Street		1175	95	85
1021							
1022	8	513	171 Hibbard St. @ Wilanna Court				
1023							
1024	8	514	207 Hibbard St.@ Damron Furniture		1115	90	
1025							
1026	8	515	101 Baird Ave @ Mc Donalds				
1027							
1028	9	516	Hatcher Field @ Kinzer/Johnson Hangers		500	40	
1029							
1030							
1031	8	517	Hatcher Ct.				
1032							
1033	8	518	Bank St. @ Dr. Hambley Res.				
1034							
1035	8	519	Bank St.& Elm St.				
1036							
1037	8	520	Bank St. @ Upike Fitness Cntr				
1038							
1039	8	521	Park St. & College Gym				

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
1040							
1041	8	522	Pike Co. Health Dept.				
1042							
1043	8	523	Park St. & Williamson St.				
1044							
1045	8	524	133 Park St.				
1046							
1047	8	525	Hibbard St. (Dr. Smith)				
1048							
1049	8	526	Hibbard St.@ Wilanna Court				
1050							
1051	8	527	Hibbard St. @ Goff Apts.				
1052							
1053	8	528	Baird Ave @ McDonalds				
1054							
1055	9	529	291 Summer Street				
1056							
1057	9	530	309 Summer Street				
1058							
1059	9	531	101 King Lane				
1060							
1061	9	532	164 Nightingale Lane		1200	200	
1062							
1063	9	533	273 Cedar Hills				
1064							
1065	9	534	Peachtree and Cedar Hills				
1066							
1067	9	535	103 Apple Court				
1068							
1069	9	536	111 Apple Court				
1070							
1071	9	537	245 Cedar Hills Dr				
1072							

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
1073	9	538	153 Cedar Hills Dr				
1074							
1075	10	539	508 Cedar Creek Rd & Cecil Hills				
1076							
1077	10	540	143 Cecil Hills Dr		1475	200	175
1078							
1079	10	541	159 Cecil Hills Dr				
1080							
1081	10	542	176 Cecil Hills Dr		1450	200	
1082							
1083	10	543	544 Cedar Creek				
1084							
1085	10	544	668 Cedar Creek		1730	200	180
1086							
1087	10	545	696 Cedar Creek				
1088							
1089	10	546	722 Cedar Creek		1730	250	180
1090							
1091	10	547	Cedar Creek & Winston Dr		1730	250	180
1092							
1093	10	548	2nd up Winston Drive		1730	250	180
1094	10	549	156 Winston Dr				
1095							
1096	10	550	Locust Dr and Hemlock		1495	250	180
1097							
1098	10	551	End of Locust		1575	250	
1099							
1100	10	552	1st @ Magnolia Dr.				
1101							
1102	10	553	2nd @ Magnolia Dr.				
1103							
1104	10	554	531 Cedar Creek				
1105							

Pikeville Fire Department
Hydrant Master

	A	B	C	D	E	F	G
1106	10	555	517 Cedar Creek				
1107							
1108	10	556	475 Cedar Creek				
1109							
1110	10	557	469 Cedar creek				
1111							
1112	10	558	Cedar creek and Cedar creek Int.				
1113							
1114	10	559	CottonWood Court right				
1115							
1116	10	560	CottonWood Court left				

Pikeville Fire Department
Hydrant Master

	H
1	
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12	
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28	

26. Provide the number of responses to house or building fires in the test year.

Response: There were 9 responses to structure fires.

WITNESSES: Philip Elswick

27. Provide the estimated volume of water used in firefighting in the test year.

Response: The estimated volume of water used was 200,000 gallons.

WITNESSES: Philip Elswick

28. Provide the latest ISO Report for the Pikeville Fire Department.

Response: See attached.

WITNESSES: Tonya Taylor

ISO Report

1000 Bishops Gate Blvd. Ste. 300
Mt. Laurel NJ 08054-5404

t 1.800.444.4554 Opt 2
f 1.800.777.3929

April 25, 2016

Mr. Donovan Blackburn, City Manager, Village Manager an
Pikeville
243 Main St
Pikeville, Kentucky, 51501

RE: Pikeville, Pike County, Kentucky
Public Protection Classification: 02/2X
Effective Date: August 01, 2016

Dear Mr. Donovan Blackburn,

We wish to thank you Mr. Donnie Sloan and Chief Ronald Conn for your cooperation during our recent Public Protection Classification (PPC) survey. ISO has completed its analysis of the structural fire suppression delivery system provided in your community. The resulting classification is indicated above.

If you would like to know more about your community's PPC classification, or if you would like to learn about the potential effect of proposed changes to your fire suppression delivery system, please call us at the phone number listed below.

ISO's Public Protection Classification Program (PPC) plays an important role in the underwriting process at insurance companies. In fact, most U.S. insurers – including the largest ones – use PPC information as part of their decision- making when deciding what business to write, coverage's to offer or prices to charge for personal or commercial property insurance.

Each insurance company independently determines the premiums it charges its policyholders. The way an insurer uses ISO's information on public fire protection may depend on several things – the company's fire-loss experience, ratemaking methodology, underwriting guidelines, and its marketing strategy.

Through ongoing research and loss experience analysis, we identified additional differentiation in fire loss experience within our PPC program, which resulted in the revised classifications. We based the differing fire loss experience on the fire suppression capabilities of each community. The new classifications will improve the predictive value for insurers while benefiting both commercial and residential property owners. We've published the new classifications as "X" and "Y" — formerly the "9" and "8B" portion of the split classification, respectively. For example:

- A community currently graded as a split 6/9 classification will now be a split 6/6X classification; with the "6X" denoting what was formerly classified as "9."
- Similarly, a community currently graded as a split 6/8B classification will now be a split 6/6Y classification, the "6Y" denoting what was formerly classified as "8B."
- Communities graded with single "9" or "8B" classifications will remain intact.
- Properties over 5 road miles from a recognized fire station would receive a class 10.

PPC is important to communities and fire departments as well. Communities whose PPC improves may get lower insurance prices. PPC also provides fire departments with a valuable benchmark, and is used by many departments as a valuable tool when planning, budgeting and justifying fire protection improvements.

ISO appreciates the high level of cooperation extended by local officials during the entire PPC survey process. The community protection baseline information gathered by ISO is an essential foundation upon which determination of the relative level of fire protection is made using the Fire Suppression Rating Schedule.

The classification is a direct result of the information gathered, and is dependent on the resource levels devoted to fire protection in existence at the time of survey. Material changes in those resources that occur after the survey is completed may affect the classification. Although ISO maintains a pro-active process to keep baseline information as current as possible, in the event of changes please call us at 1-800-444-4554, option 2 to expedite the update activity.

ISO is the leading supplier of data and analytics for the property/casualty insurance industry. Most insurers use PPC classifications for underwriting and calculating premiums for residential, commercial and industrial properties. The PPC program is not intended to analyze all aspects of a comprehensive structural fire suppression delivery system program. It is not for purposes of determining compliance with any state or local law, nor is it for making loss prevention or life safety recommendations.

If you have any questions about your classification, please let us know.

Sincerely,

Dominic Santanna

Dominic Santanna
Manager -National Processing Center

cc: Mr. Donnie Sloan, Water Superintendent, Pikeville Water
Chief Ronald Conn, Chief, Pikeville Fire Department
Mr. Paul Maynard, Director, Pikeville Fire Dispatch

Public Protection Classification

(PPC™)

Summary Report

Pikeville

KENTUCKY

Prepared by

Insurance Services Office, Inc.
1000 Bishops Gate Blvd., Ste. 300
P.O. Box 5404
Mt. Laurel, New Jersey 08054-5404
1-800-444-4554

April 2016

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Background Information

Introduction

ISO collects and evaluates information from communities in the United States on their structure fire suppression capabilities. The data is analyzed using our Fire Suppression Rating Schedule (FSRS) and then a Public Protection Classification (PPC™) grade is assigned to the community. The surveys are conducted whenever it appears that there is a possibility of a PPC change. As such, the PPC program provides important, up-to-date information about fire protection services throughout the country.

The FSRS recognizes fire protection features only as they relate to suppression of first alarm structure fires. In many communities, fire suppression may be only a small part of the fire department's overall responsibility. ISO recognizes the dynamic and comprehensive duties of a community's fire service, and understands the complex decisions a community must make in planning and delivering emergency services. However, in developing a community's PPC grade, only features related to reducing property losses from structural fires are evaluated. Multiple alarms, simultaneous incidents and life safety are not considered in this evaluation. The PPC program evaluates the fire protection for small to average size buildings. Specific properties with a Needed Fire Flow in excess of 3,500 gpm are evaluated separately and assigned an individual PPC grade.

A community's investment in fire mitigation is a proven and reliable predictor of future fire losses. Statistical data on insurance losses bears out the relationship between excellent fire protection – as measured by the PPC program – and low fire losses. So, insurance companies use PPC information for marketing, underwriting, and to help establish fair premiums for homeowners and commercial fire insurance. In general, the price of fire insurance in a community with a good PPC grade is substantially lower than in a community with a poor PPC grade, assuming all other factors are equal.

ISO is an independent company that serves insurance companies, communities, fire departments, insurance regulators, and others by providing information about risk. ISO's expert staff collects information about municipal fire suppression efforts in communities throughout the United States. In each of those communities, ISO analyzes the relevant data and assigns a PPC grade – a number from 1 to 10. Class 1 represents an exemplary fire suppression program, and Class 10 indicates that the area's fire suppression program does not meet ISO's minimum criteria.

ISO's PPC program evaluates communities according to a uniform set of criteria, incorporating nationally recognized standards developed by the National Fire Protection Association and the American Water Works Association. A community's PPC grade depends on:

- **Needed Fire Flows**, which are representative building locations used to determine the theoretical amount of water necessary for fire suppression purposes.
- **Emergency Communications**, including emergency reporting, telecommunicators, and dispatching systems.
- **Fire Department**, including equipment, staffing, training, geographic distribution of fire companies, operational considerations, and community risk reduction.
- **Water Supply**, including inspection and flow testing of hydrants, alternative water supply operations, and a careful evaluation of the amount of available water compared with the amount needed to suppress fires up to 3,500 gpm.

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Data Collection and Analysis

ISO has evaluated and classified over 48,000 fire protection areas across the United States using its FSRS. A combination of meetings between trained ISO field representatives and the dispatch center coordinator, community fire official, and water superintendent is used in conjunction with a comprehensive questionnaire to collect the data necessary to determine the PPC grade. In order for a community to obtain a grade better than a Class 9, three elements of fire suppression features are reviewed. These three elements are Emergency Communications, Fire Department, and Water Supply.

A review of the **Emergency Communications** accounts for 10% of the total classification. This section is weighted at **10 points**, as follows:

- Emergency Reporting 3 points
- Telecommunicators 4 points
- Dispatch Circuits 3 points

A review of the **Fire Department** accounts for 50% of the total classification. ISO focuses on a fire department's first alarm response and initial attack to minimize potential loss. The fire department section is weighted at **50 points**, as follows:

- Engine Companies 6 points
- Reserve Pumpers 0.5 points
- Pump Capacity 3 points
- Ladder/Service Companies 4 points
- Reserve Ladder/Service Trucks 0.5 points
- Deployment Analysis 10 points
- Company Personnel 15 points
- Training 9 points
- Operational considerations 2 points
- Community Risk Reduction 5.5 points (in addition to the 50 points above)

A review of the **Water Supply** system accounts for 40% of the total classification. ISO reviews the water supply a community uses to determine the adequacy for fire suppression purposes. The water supply system is weighted at **40 points**, as follows:

- Credit for Supply System 30 points
- Hydrant Size, Type & Installation 3 points
- Inspection & Flow Testing of Hydrants 7 points

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There is one additional factor considered in calculating the final score – **Divergence**.

Even the best fire department will be less than fully effective if it has an inadequate water supply. Similarly, even a superior water supply will be less than fully effective if the fire department lacks the equipment or personnel to use the water. The FSRS score is subject to modification by a divergence factor, which recognizes disparity between the effectiveness of the fire department and the water supply.

The Divergence factor mathematically reduces the score based upon the relative difference between the fire department and water supply scores. The factor is introduced in the final equation.

PPC Grade

The PPC grade assigned to the community will depend on the community's score on a 100-point scale:

PPC	Points
1	90.00 or more
2	80.00 to 89.99
3	70.00 to 79.99
4	60.00 to 69.99
5	50.00 to 59.99
6	40.00 to 49.99
7	30.00 to 39.99
8	20.00 to 29.99
9	10.00 to 19.99
10	0.00 to 9.99

The classification numbers are interpreted as follows:

- Class 1 through (and including) Class 8 represents a fire suppression system that includes an FSRS creditable dispatch center, fire department, and water supply.
- Class 8B is a special classification that recognizes a superior level of fire protection in otherwise Class 9 areas. It is designed to represent a fire protection delivery system that is superior except for a lack of a water supply system capable of the minimum FSRS fire flow criteria of 250 gpm for 2 hours.
- Class 9 is a fire suppression system that includes a creditable dispatch center, fire department but no FSRS creditable water supply.
- Class 10 does not meet minimum FSRS criteria for recognition, including areas that are beyond five road miles of a recognized fire station.

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New PPC program changes effective July 1, 2014

We have revised the PPC program to capture the effects of enhanced fire protection capabilities that reduce fire loss and fire severity in Split Class 9 and Split Class 8B areas (as outlined below). This new structure benefits the fire service, community, and property owner.

New classifications

Through ongoing research and loss experience analysis, we identified additional differentiation in fire loss experience within our PPC program, which resulted in the revised classifications. We based the differing fire loss experience on the fire suppression capabilities of each community. The new PPC classes will improve the predictive value for insurers while benefiting both commercial and residential property owners. Here are the new classifications and what they mean.

Split classifications

When we develop a split classification for a community — for example 5/9 — the first number is the class that applies to properties within 5 road miles of the responding fire station and 1,000 feet of a creditable water supply, such as a fire hydrant, suction point, or dry hydrant. The second number is the class that applies to properties within 5 road miles of a fire station but beyond 1,000 feet of a creditable water supply. We have revised the classification to reflect more precisely the risk of loss in a community, replacing Class 9 and 8B in the second part of a split classification with revised designations.

What's changed with the new classifications?

We've published the new classifications as "X" and "Y" — formerly the "9" and "8B" portion of the split classification, respectively. For example:

- A community currently displayed as a split 6/9 classification will now be a split 6/6X classification; with the "6X" denoting what was formerly classified as "9".
- Similarly, a community currently graded as a split 6/8B classification will now be a split 6/6Y classification, the "6Y" denoting what was formerly classified as "8B".
- Communities graded with single "9" or "8B" classifications will remain intact.

Prior Classification	New Classification
1/9	1/1X
2/9	2/2X
3/9	3/3X
4/9	4/4X
5/9	5/5X
6/9	6/6X
7/9	7/7X
8/9	8/8X
9	9

Prior Classification	New Classification
1/8B	1/1Y
2/8B	2/2Y
3/8B	3/3Y
4/8B	4/4Y
5/8B	5/5Y
6/8B	6/6Y
7/8B	7/7Y
8/8B	8/8Y
8B	8B

What's changed?
As you can see, we're still maintaining split classes, but it's how we represent them to insurers that's changed. The new designations reflect a reduction in fire severity and loss and have the potential to reduce property insurance premiums.

Benefits of the revised split class designations

- To the fire service, the revised designations identify enhanced fire suppression capabilities used throughout the fire protection area
- To the community, the new classes reward a community's fire suppression efforts by showing a more reflective designation
- To the individual property owner, the revisions offer the potential for decreased property insurance premiums

New water class
Our data also shows that risks located more than 5 but less than 7 road miles from a responding fire station with a creditable water source within 1,000 feet had better loss experience than those farther than 5 road miles from a responding fire station with no creditable water source. We've introduced a new classification —10W — to recognize the reduced loss potential of such properties.

What's changed with Class 10W?
Class 10W is property-specific. Not all properties in the 5-to-7-mile area around the responding fire station will qualify. The difference between Class 10 and 10W is that the 10W-graded risk or property is within 1,000 feet of a creditable water supply. Creditable water supplies include fire protection systems using hauled water in any of the split classification areas.

What's the benefit of Class 10W?
10W gives credit to risks within 5 to 7 road miles of the responding fire station and within 1,000 feet of a creditable water supply. That's reflective of the potential for reduced property insurance premiums.

What does the fire chief have to do?
Fire chiefs don't have to do anything at all. The revised classifications went in place automatically effective July 1, 2014 (July 1, 2015 for Texas).

What if I have additional questions?
Feel free to contact ISO at 800.444.4554 or email us at PPC-Cust-Serv@iso.com.

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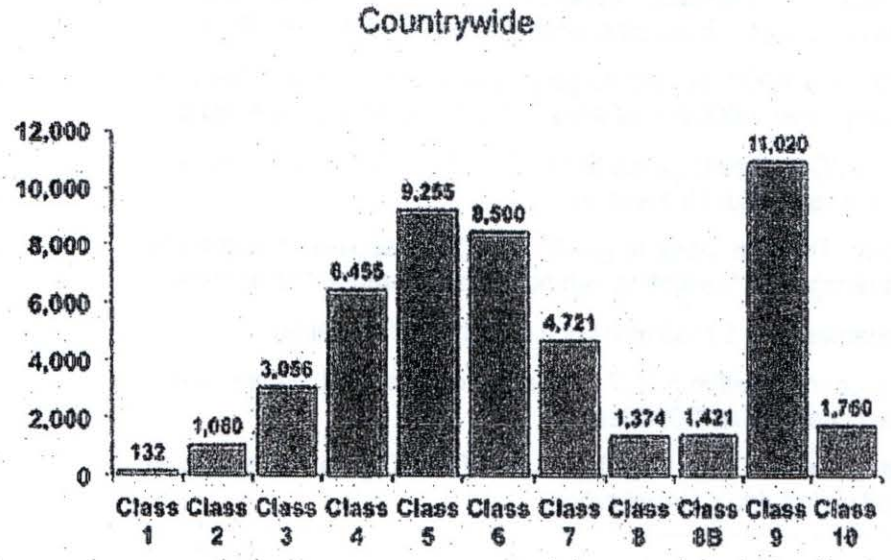
Distribution of PPC Grades

The 2015 published countrywide distribution of communities by the PPC grade is as follows:



Assistance

The PPC program offers help to communities, fire departments, and other public officials as they plan for, budget, and justify improvements. ISO is also available to assist in the understanding of the details of this evaluation.

The PPC program representatives can be reached by telephone at (800) 444-4554. The technical specialists at this telephone number have access to the details of this evaluation and can effectively speak with you about your questions regarding the PPC program. What's more, we can be reached via the internet at www.isomitigation.com/talk/.

We also have a website dedicated to our Community Hazard Mitigation Classification programs at www.isomitigation.com. Here, fire chiefs, building code officials, community leaders and other interested citizens can access a wealth of data describing the criteria used in evaluating how cities and towns are protecting residents from fire and other natural hazards. This website will allow you to learn more about the PPC program. The website provides important background information, insights about the PPC grading processes and technical documents. ISO is also pleased to offer Fire Chiefs Online — a special, secured website with information and features that can help improve your PPC grade, including a list of the Needed Fire Flows for all the commercial occupancies ISO has on file for your community. Visitors to the site can download information, see statistical results and also contact ISO for assistance.

In addition, on-line access to the FSRS and its commentaries is available to registered customers for a fee. However, fire chiefs and community chief administrative officials are given access privileges to this information without charge.

To become a registered fire chief or community chief administrative official, register at www.isomitigation.com.

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PPC Review

ISO concluded its review of the fire suppression features being provided for Pikeville. The resulting community classification is **Class 02/2X**.

If the classification is a single class, the classification applies to properties with a Needed Fire Flow of 3,500 gpm or less in the community. If the classification is a split class (e.g., 6/XX):

- The first class (e.g., "6" in a 6/XX) applies to properties within 5 road miles of a recognized fire station and within 1,000 feet of a fire hydrant or alternate water supply.
- The second class (XX or XY) applies to properties beyond 1,000 feet of a fire hydrant but within 5 road miles of a recognized fire station.
- Alternative Water Supply: The first class (e.g., "6" in a 6/10) applies to properties within 5 road miles of a recognized fire station with no hydrant distance requirement.
- Class 10 applies to properties over 5 road miles of a recognized fire station.
- Class 10W applies to properties within 5 to 7 road miles of a recognized fire station with a recognized water supply within 1,000 feet.
- Specific properties with a Needed Fire Flow in excess of 3,500 gpm are evaluated separately and assigned an individual classification.

FSRS Feature	Earned Credit	Credit Available
Emergency Communications		
414. Credit for Emergency Reporting	2.40	3
422. Credit for Telecommunicators	3.98	4
432. Credit for Dispatch Circuits	2.25	3
440. Credit for Emergency Communications	8.63	10
Fire Department		
513. Credit for Engine Companies	6.00	6
523. Credit for Reserve Pumpers	0.00	0.50
532. Credit for Pump Capacity	3.00	3
549. Credit for Ladder Service	4.00	4
553. Credit for Reserve Ladder and Service Trucks	0.50	0.50
561. Credit for Deployment Analysis	7.52	10
571. Credit for Company Personnel	7.71	15
581. Credit for Training	6.35	9
730. Credit for Operational Considerations	2.00	2
590. Credit for Fire Department	37.08	50
Water Supply		
616. Credit for Supply System	28.10	30
621. Credit for Hydrants	3.00	3
631. Credit for Inspection and Flow Testing	7.00	7
640. Credit for Water Supply	38.10	40
Divergence	-4.22	–
1050. Community Risk Reduction	5.12	5.50
Total Credit	84.71	105.50

Emergency Communications

Ten percent of a community's overall score is based on how well the communications center receives and dispatches fire alarms. Our field representative evaluated:

- Communications facilities provided for the general public to report structure fires
- Enhanced 9-1-1 Telephone Service including wireless
- Computer-aided dispatch (CAD) facilities
- Alarm receipt and processing at the communication center
- Training and certification of telecommunicators
- Facilities used to dispatch fire department companies to reported structure fires

	Earned Credit	Credit Available
414. Credit Emergency Reporting	2.40	3
422. Credit for Telecommunicators	3.98	4
432. Credit for Dispatch Circuits	2.25	3
Item 440. Credit for Emergency Communications:	**8.63**	**10**

Item 414 - Credit for Emergency Reporting (3 points)

The first item reviewed is Item 414 "Credit for Emergency Reporting (CER)". This item reviews the emergency communication center facilities provided for the public to report fires including 911 systems (Basic or Enhanced), Wireless Phase I and Phase II, Voice over Internet Protocol, Computer Aided Dispatch and Geographic Information Systems for automatic vehicle location. ISO uses National Fire Protection Association (NFPA) 1221, *Standard for the Installation, Maintenance and Use of Emergency Services Communications Systems* as the reference for this section.

Item 410. Emergency Reporting (CER)	Earned Credit	Credit Available
A./B. Basic 9-1-1, Enhanced 9-1-1 or No 9-1-1 For maximum credit, there should be an Enhanced 9-1-1 system, Basic 9-1-1 and No 9-1-1 will receive partial credit.	20.00	20
1. E9-1-1 Wireless Wireless Phase I using Static ALI (automatic location identification) Functionality (10 points); Wireless Phase II using Dynamic ALI Functionality (15 points); Both available will be 25 points	10.00	25
2. E9-1-1 Voice over Internet Protocol (VoIP) Static VoIP using Static ALI Functionality (10 points); Nomadic VoIP using Dynamic ALI Functionality (15 points); Both available will be 25 points	25.00	25
3. Computer Aided Dispatch Basic CAD (5 points); CAD with Management Information System (5 points); CAD with Interoperability (5 points)	10.00	15
4. Geographic Information System (GIS/AVL) The PSAP uses a fully integrated CAD/GIS management system with automatic vehicle location (AVL) integrated with a CAD system providing dispatch assignments.	15.00	15
Review of Emergency Reporting total:	80.00	100

Item 422- Credit for Telecommunicators (4 points)

The second item reviewed is Item 422 "Credit for Telecommunicators (TC)". This item reviews the number of Telecommunicators on duty at the center to handle fire calls and other emergencies. All emergency calls including those calls that do not require fire department action are reviewed to determine the proper staffing to answer emergency calls and dispatch the appropriate emergency response. NFPA 1221, *Standard for the Installation, Maintenance and Use of Emergency Services Communications Systems*, recommends that ninety-five percent of emergency calls shall be answered within 15 seconds and ninety-nine percent of emergency calls shall be answered within 40 seconds. In addition, NFPA recommends that ninety percent of emergency alarm processing shall be completed within 60 seconds and ninety-nine percent of alarm processing shall be completed within 90 seconds of answering the call.

To receive full credit for operators on duty, ISO must review documentation to show that the communication center meets NFPA 1221 call answering and dispatch time performance measurement standards. This documentation may be in the form of performance statistics or other performance measurements compiled by the 9-1-1 software or other software programs that are currently in use such as Computer Aided Dispatch (CAD) or Management Information System (MIS).

Item 420. Telecommunicators (CTC)	Earned Credit	Credit Available
A1. Alarm Receipt (AR) Receipt of alarms shall meet the requirements in accordance with the criteria of NFPA 1221	19.47	20
A2. Alarm Processing (AP) Processing of alarms shall meet the requirements in accordance with the criteria of NFPA 1221	20.00	20
B. Emergency Dispatch Protocols (EDP) Telecommunicators have emergency dispatch protocols (EDP) containing questions and a decision-support process to facilitate correct call categorization and prioritization.	20.00	20
C. Telecommunicator Training and Certification (TTC) Telecommunicators meet the qualification requirements referenced in NFPA 1061, *Standard for Professional Qualifications for Public Safety Telecommunicator,* and/or the Association of Public-Safety Communications Officials - International (APCO) *Project 33.* Telecommunicators are certified in the knowledge, skills, and abilities corresponding to their job functions.	20.00	20
D. Telecommunicator Continuing Education and Quality Assurance (TQA) Telecommunicators participate in continuing education and/or in-service training and quality-assurance programs as appropriate for their positions	20.00	20
Review of Telecommunicators total:	99.47	100

Item 432 - Credit for Dispatch Circuits (3 points)

The third item reviewed is Item 432 "Credit for Dispatch Circuits (CDC)". This item reviews the dispatch circuit facilities used to transmit alarms to fire department members. A "Dispatch Circuit" is defined in NFPA 1221 as "A circuit over which an alarm is transmitted from the communications center to an emergency response facility (ERF) or emergency response units (ERUs) to notify ERUs to respond to an emergency". All fire departments (except single fire station departments with full-time firefighter personnel receiving alarms directly at the fire station) need adequate means of notifying all firefighter personnel of the location of reported structure fires. The dispatch circuit facilities should be in accordance with the general criteria of NFPA 1221. "Alarms" are defined in this Standard as "A signal or message from a person or device indicating the existence of an emergency or other situation that requires action by an emergency response agency".

There are two different levels of dispatch circuit facilities provided for in the Standard – a primary dispatch circuit and a secondary dispatch circuit. In jurisdictions that receive 730 alarms or more per year (average of two alarms per 24-hour period), two separate and dedicated dispatch circuits, a primary and a secondary, are needed. In jurisdictions receiving fewer than 730 alarms per year, a second dedicated dispatch circuit is not needed. Dispatch circuit facilities installed but not used or tested (in accordance with the NFPA Standard) receive no credit.

The score for Credit for Dispatch Circuits (CDC) is influenced by monitoring for integrity of the primary dispatch circuit. There are up to 0.90 points available for this Item. Monitoring for integrity involves installing automatic systems that will detect faults and failures and send visual and audible indications to appropriate communications center (or dispatch center) personnel. ISO uses NFPA 1221 to guide the evaluation of this item. ISO's evaluation also includes a review of the communication system's emergency power supplies.

Item 432 "Credit for Dispatch Circuits (CDC)" = 2.25 points

Fire Department

Fifty percent of a community's overall score is based upon the fire department's structure fire suppression system. ISO's field representative evaluated:

- Engine and ladder/service vehicles including reserve apparatus
- Equipment carried
- Response to reported structure fires
- Deployment analysis of companies
- Available and/or responding firefighters
- Training

	Earned Credit	Credit Available
513. Credit for Engine Companies	6.00	6
523. Credit for Reserve Pumpers	0.00	0.5
532. Credit for Pumper Capacity	3.00	3
549. Credit for Ladder Service	4.00	4
553. Credit for Reserve Ladder and Service Trucks	0.50	0.5
561. Credit for Deployment Analysis	7.52	10
571. Credit for Company Personnel	7.71	15
581. Credit for Training	6.35	9
730. Credit for Operational Considerations	2.00	2
Item 590. Credit for Fire Department:	37.08	50

Basic Fire Flow

The Basic Fire Flow for the community is determined by the review of the Needed Fire Flows for selected buildings in the community. The fifth largest Needed Fire Flow is determined to be the Basic Fire Flow. The Basic Fire Flow has been determined to be 3500 gpm.

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Item 513 - Credit for Engine Companies (6 points)

The first item reviewed is Item 513 "Credit for Engine Companies (CEC)". This item reviews the number of engine companies, their pump capacity, hose testing, pump testing and the equipment carried on the in-service pumpers. To be recognized, pumper apparatus must meet the general criteria of NFPA 1901, *Standard for Automotive Fire Apparatus* which include a minimum 250 gpm pump, an emergency warning system, a 300 gallon water tank, and hose. At least 1 apparatus must have a permanently mounted pump rated at 750 gpm or more at 150 psi.

The review of the number of needed pumpers considers the response distance to built-upon areas; the Basic Fire Flow; and the method of operation. Multiple alarms, simultaneous incidents, and life safety are not considered.

The greatest value of A, B, or C below is needed in the fire district to suppress fires in structures with a Needed Fire Flow of 3,500 gpm or less: **3 engine companies**

a) **3 engine companies** to provide fire suppression services to areas to meet NFPA 1710 criteria or within 1½ miles.

b) **3 engine companies** to support a Basic Fire Flow of 3500 gpm.

c) **3 engine companies** based upon the fire department's method of operation to provide a minimum two engine response to all first alarm structure fires.

The FSRS recognizes that there are **3 engine companies** in service.

The FSRS also reviews Automatic Aid. Automatic Aid is considered in the review as assistance dispatched automatically by contractual agreement between two communities or fire districts. That differs from mutual aid or assistance arranged case by case. ISO will recognize an Automatic Aid plan under the following conditions:

- It must be prearranged for first alarm response according to a definite plan. It is preferable to have a written agreement, but ISO may recognize demonstrated performance.
- The aid must be dispatched to all reported structure fires on the initial alarm.
- The aid must be provided 24 hours a day, 365 days a year.

FSRS Item 512.D "Automatic Aid Engine Companies" responding on first alarm and meeting the needs of the city for basic fire flow and/or distribution of companies are factored based upon the value of the Automatic Aid plan (up to 1.00 can be used as the factor). The Automatic Aid factor is determined by a review of the Automatic Aid provider's communication facilities, how they receive alarms from the graded area, inter-department training between fire departments, and the fire ground communications capability between departments.

For each engine company, the credited Pump Capacity (PC), the Hose Carried (HC), the Equipment Carried (EC) all contribute to the calculation for the percent of credit the FSRS provides to that engine company.

Item 513 "Credit for Engine Companies (CEC)" = 6.00 points

Item 523 - Credit for Reserve Pumpers (0.50 points)

The item is Item 523 "Credit for Reserve Pumpers (CRP)". This item reviews the number and adequacy of the pumpers and their equipment. The number of needed reserve pumpers is 1 for each 8 needed engine companies determined in Item 513, or any fraction thereof.

Item 523 "Credit for Reserve Pumpers (CRP)" = 0.00 points

Item 532 – Credit for Pumper Capacity (3 points)

The next item reviewed is Item 532 "Credit for Pumper Capacity (CPC)". The total pump capacity available should be sufficient for the Basic Fire Flow of 3500 gpm. The maximum needed pump capacity credited is the Basic Fire Flow of the community.

Item 532 "Credit for Pumper Capacity (CPC)" = 3.00 points

Item 549 – Credit for Ladder Service (4 points)

The next item reviewed is Item 549 "Credit for Ladder Service (CLS)". This item reviews the number of response areas within the city with 5 buildings that are 3 or more stories or 35 feet or more in height, or with 5 buildings that have a Needed Fire Flow greater than 3,500 gpm, or any combination of these criteria. The height of all buildings in the city, including those protected by automatic sprinklers, is considered when determining the number of needed ladder companies. Response areas not needing a ladder company should have a service company. Ladders, tools and equipment normally carried on ladder trucks are needed not only for ladder operations but also for forcible entry, ventilation, salvage, overhaul, lighting and utility control.

The number of ladder or service companies, the height of the aerial ladder, aerial ladder testing and the equipment carried on the in-service ladder trucks and service trucks is compared with the number of needed ladder trucks and service trucks and an FSRS equipment list. Ladder trucks must meet the general criteria of NFPA 1901, *Standard for Automotive Fire Apparatus* to be recognized.

The number of needed ladder-service trucks is dependent upon the number of buildings 3 stories or 35 feet or more in height, buildings with a Needed Fire Flow greater than 3,500 gpm, and the method of operation.

The FSRS recognizes that there are **1 ladder companies** in service. These companies are needed to provide fire suppression services to areas to meet NFPA 1710 criteria or within 2½ miles and the number of buildings with a Needed Fire Flow over 3,500 gpm or 3 stories or more in height, or the method of operation.

The FSRS recognizes that there are **0 service companies** in service.

Item 549 "Credit for Ladder Service (CLS)" = 4.00 points

Item 553 – Credit for Reserve Ladder and Service Trucks (0.50 points)

The next item reviewed is Item 553 "Credit for Reserve Ladder and Service Trucks (CRLS)". This item considers the adequacy of ladder and service apparatus when one (or more in larger communities) of these apparatus are out of service. The number of needed reserve ladder and service trucks is 1 for each 8 needed ladder and service companies that were determined to be needed in Item 540, or any fraction thereof.

Item 553 "Credit for Reserve Ladder and Service Trucks (CRLS)" = 0.50 points

Item 561 – Deployment Analysis (10 points)

Next, Item 561 "Deployment Analysis (DA)" is reviewed. This Item examines the number and adequacy of existing engine and ladder-service companies to cover built-upon areas of the city.

To determine the Credit for Distribution, first the Existing Engine Company (EC) points and the Existing Engine Companies (EE) determined in Item 513 are considered along with Ladder Company Equipment (LCE) points, Service Company Equipment (SCE) points, Engine-Ladder Company Equipment (ELCE) points, and Engine-Service Company Equipment (ESCE) points determined in Item 549.

Secondly, as an alternative to determining the number of needed engine and ladder/service companies through the road-mile analysis, a fire protection area may use the results of a systematic performance evaluation. This type of evaluation analyzes computer-aided dispatch (CAD) history to demonstrate that, with its current deployment of companies, the fire department meets the time constraints for initial arriving engine and initial full alarm assignment in accordance with the general criteria of in NFPA 1710, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments.*

A determination is made of the percentage of built upon area within 1½ miles of a first-due engine company and within 2½ miles of a first-due ladder-service company.

Item 561 "Credit Deployment Analysis (DA)" = 7.52 points

Item 571 – Credit for Company Personnel (15 points)

Item 571 "Credit for Company Personnel (CCP)" reviews the average number of existing firefighters and company officers available to respond to reported first alarm structure fires in the city.

The on-duty strength is determined by the yearly average of total firefighters and company officers on-duty considering vacations, sick leave, holidays, "Kelley" days and other absences. When a fire department operates under a minimum staffing policy, this may be used in lieu of determining the yearly average of on-duty company personnel.

Firefighters on apparatus not credited under Items 513 and 549 that regularly respond to reported first alarms to aid engine, ladder, and service companies are included in this item as increasing the total company strength.

Firefighters staffing ambulances or other units serving the general public are credited if they participate in fire-fighting operations, the number depending upon the extent to which they are available and are used for response to first alarms of fire.

On-Call members are credited on the basis of the average number staffing apparatus on first alarms. Off-shift career firefighters and company officers responding on first alarms are considered on the same basis as on-call personnel. For personnel not normally at the fire station, the number of responding firefighters and company officers is divided by 3 to reflect the time needed to assemble at the fire scene and the reduced ability to act as a team due to the various arrival times at the fire location when compared to the personnel on-duty at the fire station during the receipt of an alarm.

The number of Public Safety Officers who are positioned in emergency vehicles within the jurisdiction boundaries may be credited based on availability to respond to first alarm structure fires. In recognition of this increased response capability the number of responding Public Safety Officers is divided by 2.

The average number of firefighters and company officers responding with those companies credited as Automatic Aid under Items 513 and 549 are considered for either on-duty or on-call company personnel as is appropriate. The actual number is calculated as the average number of company personnel responding multiplied by the value of AA Plan determined in Item 512.D.

The maximum creditable response of on-duty and on-call firefighters is 12, including company officers, for each existing engine and ladder company and 6 for each existing service company.

Chief Officers are not creditable except when more than one chief officer responds to alarms; then extra chief officers may be credited as firefighters if they perform company duties.

The FSRS recognizes **9.00 on-duty personnel** and an average of **10.00 on-call personnel** responding on first alarm structure fires.

Item 571 "Credit for Company Personnel (CCP)" = 7.71 points

Item 581 – Credit for Training (9 points)

Training	Earned Credit	Credit Available
A. Facilities and Use For maximum credit, each firefighter should receive 18 hours per year in structure fire related subjects as outlined in NFPA 1001.	18.0(	35
B. Company Training For maximum credit, each firefighter should receive 16 hours per month in structure fire related subjects as outlined in NFPA 1001.	15.63	25
C. Classes for Officers For maximum credit, each officer should be certified in accordance with the general criteria of NFPA 1021. Additionally, each officer should receive 12 hours of continuing education on or off site.	12.00	12
D. New Driver and Operator Training For maximum credit, each new driver and operator should receive 60 hours of driver/operator training per year in accordance with NFPA 1002 and NFPA 1451.	5.00	5
E. Existing Driver and Operator Training For maximum credit, each existing driver and operator should receive 12 hours of driver/operator training per year in accordance with NFPA 1002 and NFPA 1451.	2.50	5
F. Training on Hazardous Materials For maximum credit, each firefighter should receive 6 hours of training for incidents involving hazardous materials in accordance with NFPA 472.	1.00	1
G. Recruit Training For maximum credit, each firefighter should receive 240 hours of structure fire related training in accordance with NFPA 1001 within the first year of employment or tenure.	5.00	5
H. Pre-Fire Planning Inspections For maximum credit, pre-fire planning inspections of each commercial, industrial, institutional, and other similar type building (all buildings except 1-4 family dwellings) should be made annually by company members. Records of inspections should include up-to date notes and sketches.	11.4(	12

Item 580 "Credit for Training (CT)" = 6.35 points

Item 730 – Operational Considerations (2 points)

Item 730 "Credit for Operational Considerations (COC)" evaluates fire department standard operating procedures and incident management systems for emergency operations involving structure fires.

Operational Considerations	Earned Credit	Credit Available
Standard Operating Procedures The department should have established SOPs for fire department general emergency operations	50	50
Incident Management Systems The department should use an established incident management system (IMS)	50	50
Operational Considerations total:	100	100

Item 730 "Credit for Operational Considerations (COC)" = 2.00 points

Water Supply

Forty percent of a community's overall score is based on the adequacy of the water supply system. The ISO field representative evaluated:

- the capability of the water distribution system to meet the Needed Fire Flows at selected locations up to 3,500 gpm.
- size, type and installation of fire hydrants.
- inspection and flow testing of fire hydrants.

	Earned Credit	Credit Available
616. Credit for Supply System	28.10	30
621. Credit for Hydrants	3.00	3
631. Credit for Inspection and Flow Testing	7.00	7
Item 640. Credit for Water Supply:	38.10	40

Item 616 – Credit for Supply System (30 points)

The first item reviewed is Item 616 "Credit for Supply System (CSS)". This item reviews the rate of flow that can be credited at each of the Needed Fire Flow test locations considering the supply works capacity, the main capacity and the hydrant distribution. The lowest flow rate of these items is credited for each representative location. A water system capable of delivering 250 gpm or more for a period of two hours plus consumption at the maximum daily rate at the fire location is considered minimum in the ISO review.

Where there are 2 or more systems or services distributing water at the same location, credit is given on the basis of the joint protection provided by all systems and services available.

The supply works capacity is calculated for each representative Needed Fire Flow test location, considering a variety of water supply sources. These include public water supplies, emergency supplies (usually accessed from neighboring water systems), suction supplies (usually evidenced by dry hydrant installations near a river, lake or other body of water), and supplies developed by a fire department using large diameter hose or vehicles to shuttle water from a source of supply to a fire site. The result is expressed in gallons per minute (gpm).

The normal ability of the distribution system to deliver Needed Fire Flows at the selected building locations is reviewed. The results of a flow test at a representative test location will indicate the ability of the water mains (or fire department in the case of fire department supplies) to carry water to that location.

The hydrant distribution is reviewed within 1,000 feet of representative test locations measured as hose can be laid by apparatus.

For maximum credit, the Needed Fire Flows should be available at each location in the district. Needed Fire Flows of 2,500 gpm or less should be available for 2 hours; and Needed Fire Flows of 3,000 and 3,500 gpm should be obtainable for 3 hours.

Item 616 "Credit for Supply System (CSS)" = 28.10 points

Item 621 – Credit for Hydrants (3 points)

The second item reviewed is Item 621 "Credit for Hydrants (CH)". This item reviews the number of fire hydrants of each type compared with the total number of hydrants.

There are a total of 401 hydrants in the graded area.

620. Hydrants, Size, Type and Installation	Number of Hydrants
A. With a 6 -inch or larger branch and a pumper outlet with or without 2½ -inch outlets	400
B. With a 6 -inch or larger branch and no pumper outlet but two or more 2½ -inch outlets, or with a small foot valve, or with a small barrel	1
C/D. With only a 2½ -inch outlet or with less than a 6 -inch branch	0
E/F. Flush Type, Cistern, or Suction Point	0

Item 621 "Credit for Hydrants (CH)" = 3.00 points

Item 630 – Credit for Inspection and Flow Testing (7 points)

The third item reviewed is Item 630 "Credit for Inspection and Flow Testing (CIT)". This item reviews the fire hydrant inspection frequency, and the completeness of the inspections. Inspection of hydrants should be in accordance with AWWA M-17, *Installation, Field Testing and Maintenance of Fire Hydrants.*

Frequency of Inspection (FI): Average interval between the 3 most recent inspections.

Frequency	Points
1 year	30
2 years	20
3 years	10
4 years	5
5 years or more	No Credit

Note: The points for inspection frequency are reduced by 10 points if the inspections are incomplete or do not include a flushing program. An additional reduction of 10 points are made if hydrants are not subjected to full system pressure during inspections. If the inspection of cisterns or suction points does not include actual drafting with a pumper, or back-flushing for dry hydrants, 20 points are deducted.

Total points for Inspections = 4.00 points

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Frequency of Fire Flow Testing (FF): Average interval between the 3 most recent inspections.

Frequency	Points
5 years	40
6 years	30
7 years	20
8 years	10
9 years	5
10 years or more	No Credit

Total points for Fire Flow Testing = 3.00 points

Item 631 "Credit for Inspection and Fire Flow Testing (CIT)" = 7.00 points

Divergence = -4.22

The Divergence factor mathematically reduces the score based upon the relative difference between the fire department and water supply scores. The factor is introduced in the final equation.

Community Risk Reduction

	Earned Credit	Credit Available
1025. Credit for Fire Prevention and Code Enforcement (CPCE)	2.20	2.2
1033. Credit for Public Fire Safety Education (CFSE)	1.98	2.2
1044. Credit for Fire Investigation Programs (CIP)	0.94	1.1
Item 1050. Credit for Community Risk Reduction	5.12	5.50

INSURANCE SERVICES OFFICE, INC.

HYDRANT FLOW DATA SUMMARY

City Pikeville

nty Kentucky(Pike),

State KENTUCKY (16)

Witnessed by: Insurance Services Office

Date: Nov 11, 2015

ST O.	TYPE DIST.*	TEST LOCATION	SERVICE	FLOW - GPM $Q=(29.83(C(d^2)p^{0.5}))$ INDIVIDUAL HYDRANTS			TOTAL	PRESSURE PSI STATIC	RESID.	FLOW -AT 20 PSI NEEDED **	AVAIL.	REMARKS***	MODEL TYPE
.0		Infront of 306 Auxier Ave	Pikeville Water, Pikeville Water	1500	0	0	1500	110	100	3500	4900		
.0		Infront of 508 Cedar Creek Rd	Pikeville Water, Pikeville Water	1500	0	0	1500	120	110	3500	5200		
.0		S. Mayo Trail at Days Inn	Pikeville Water, Pikeville Water	1090	0	0	1090	104	74	3000	1900		
.0		Chloe RD at Pikeville Elem . School	Pikeville Water, Pikeville Water	1210	0	0	1210	130	110	3500	3000		
.0		Old US 23 at entrance to Pikeville HS	Pikeville Water, Pikeville Water	1500	0	0	1500	120	105	3500	4200		
.0		Bank & Elm	Pikeville Water, Pikeville Water	1500	0	0	1500	120	84	1750	2600		
.0		Hibbard & Baird	Pikeville Water, Pikeville Water	1500	0	0	1500	110	100	3500	4900		
.0		Central & May Allex	Pikeville Water, Pikeville Water	1500	0	0	1500	110	90	3000	3400		

ABOVE LISTED NEEDED FIRE FLOWS ARE FOR PROPERTY INSURANCE PREMIUM CALCULATIONS ONLY AND ARE *NOT* INTENDED TO PREDICT THE MAXIMUM AMOUNT OF WATER REQUIRED FOR A LARGE SCALE FIRE DITION.

AVAILABLE FLOWS ONLY INDICATE THE CONDITIONS THAT EXISTED AT THE TIME AND AT THE LOCATION WHERE TESTS WERE WITNESSED.

nm = Commercial; Res = Residential.

eded is the rate of flow for a specific duration for a full credit condition. Needed Fire Flows greater than 3,500 gpm are not considered in determining the classification of the city when using the Fire pression Rating Schedule.

A)-Limited by available hydrants to gpm shown. Available facilities limit flow to gpm shown plus consumption for the needed duration of (B)-2 hours, (C)-3 hours or (D)-4 hours.

Item 1025 – Credit for Fire Prevention Code Adoption and Enforcement (2.2 points)	Earned Credit	Credit Available
Fire Prevention Code Regulations (FCR) Evaluation of fire prevention code regulations in effect.	10.00	10
Fire Prevention Staffing (FS) Evaluation of staffing for fire prevention activities.	8.00	8
Fire Prevention Certification and Training (FCT) Evaluation of the certification and training of fire prevention code enforcement personnel.	6.00	6
Fire Prevention Programs (FCP) Evaluation of fire prevention programs.	16.00	16
Review of Fire Prevention Code and Enforcement (CPCE) subtotal:	40.00	40

Item 1033 – Credit for Public Fire Safety Education (2.2 points)	Earned Credit	Credit Available
Public Fire Safety Educators Qualifications and Training (FSQT) Evaluation of public fire safety education personnel training and qualification as specified by the authority having jurisdiction.	10.00	10
Public Fire Safety Education Programs (FSP) Evaluation of programs for public fire safety education.	26.00	30
Review of Public Safety Education Programs (CFSE) subtotal:	36.00	40

Item 1044 – Credit for Fire Investigation Programs (1.1 points)	Earned Credit	Credit Available
Fire Investigation Organization and Staffing (IOS) Evaluation of organization and staffing for fire investigations.	8.00	8
Fire Investigator Certification and Training (IQT) Evaluation of fire investigator certification and training.	3.00	6
Use of National Fire Incident Reporting System (IRS) Evaluation of the use of the National Fire Incident Reporting System (NFIRS) for the 3 years before the evaluation.	6.00	6
Review of Fire Investigation Programs (CIP) subtotal:	17.00	20

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Summary of PPC Review
for
Pikeville

FSRS Item	Earned Credit	Credit Available
Emergency Communications		
414. Credit for Emergency Reporting	2.40	3
422. Credit for Telecommunicators	3.98	4
432. Credit for Dispatch Circuits	2.25	3
440. Credit for Emergency Communications	8.63	10
Fire Department		
513. Credit for Engine Companies	6.00	6
523. Credit for Reserve Pumpers	0.00	0.5
532. Credit for Pumper Capacity	3.00	3
549. Credit for Ladder Service	4.00	4
553. Credit for Reserve Ladder and Service Trucks	0.50	0.5
561. Credit for Deployment Analysis	7.52	10
571. Credit for Company Personnel	7.71	15
581. Credit for Training	6.35	9
730. Credit for Operational Considerations	2.00	2
590. Credit for Fire Department	37.08	50
Water Supply		
616. Credit for Supply System	28.10	30
621. Credit for Hydrants	3.00	3
631. Credit for Inspection and Flow Testing	7.00	7
640. Credit for Water Supply	38.10	40
Divergence	-4.22	–
1050. Community Risk Reduction	5.12	5.50
Total Credit	84.71	105.5

Final Community Classification = 02/2X

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29. For this question refer to the following three sources of information regarding the total miles of line in the Pikeville water transmission and distribution system: Kentucky PSC Case No. 2002- 00022, Table II; Kentucky Infrastructure Authority - Water Resource Inventory System (https://kia.ky.gov/WRIS/Pages/WRIS-Portal.aspx); and, Kentucky PSC Case No. 2019-00080 Pikeville's Response to Commission's First Information Request, Question 1 3, requesting total miles of line.

The inch-mile totals from the three sources are summarized and compared in the table below (the WRIS inventory also included 208 feet of 9-inch line, not included herein):

Table 1

	PSC 2002-00022		KIA WRIS (est. 2018)		PSC 2019-00080	
line diameter (inches)	miles	inch-miles	miles	inch-miles	Miles	inch-miles
unknown			1.04	2.09		
2	2.73	5.46	8.00	16.01	1.7	3
3	2.42	7.26	1.02	3.06		
4	3.18	12.72	1.27	5.10	2.4	10
6	23.03	138.18	37.67	226.00	19.4	116
8	24.02	192.16	26.31	210.48	16.8	134
10	6.29	62.90	8.94	89.42	11.6	116
12	4.39	52.68	14.84	178.12	17.9	215
16	2.06	32.96	2.47	39.51	1.6	26
		504.32		769.79		620

a. Why has the number of miles of 2, 3, 4, 6, 8, and 16-inch line decreased from 2002 to 2019?

b. In the 2002 inventory, PSC identifies 221.61 jointly-used (Pikeville and MWD) inch-miles and 49.46 inch-miles of MWD line used by Pikeville, for a total jointly-used inch-miles of 172.15. Are the 221.61 jointly-used inch miles and the 49.46 inch-miles of MWD line used by Pikeville still valid numbers? If not,

explain the differences.

c. Explain why, in 2019, Pikeville's rate analyst did not use the inch-mile methodology established by PSC in 2002.

d. Explain why the rate analyst did not use the Distribution Main Analysis as presented in AWWA's Financial Management: Cost of Service Rate Making class.

e. Explain why conjectures were used to estimate the percentage of Pikeville water utility lines used by MWD, rather than PSC-established and AWWA sponsored calculations.

Response:

a. Pikeville does not know why the number of miles for certain sized lines decreased between the information provided in 2002 and the current case. Pikeville believes it is using the most current and accurate data in this case.

b. The data provided in the current case is the most accurate for the system in 2019. Accordingly, the 2002 calculations are no longer valid.

c. Mr. Petty consulted with the system operators and was able to determine that approximately 95% of inside city water lines helped supply MWD with water service. Mr. Petty's determination is virtually identical to the inch-mile calculation of 92% of inside city lines being used to supply MWD with water service.

d. The distribution main analysis was not used because fire flow is not being considered for this report. For a city the size of Pikeville, the water line capacity for fire flow is also

being used for flushing, which is beneficial to MWD. Pikeville flushes on a monthly basis and in FY 2017 2,750,000 gallons of water was used for flushing. Flushing is done to remove sediments from water lines and to improve water quality. Best results occur with high velocities of water flowing through fire hydrants.

e. Mr. Petty relied on operational knowledge of the system to determine the Pikeville water utility lines used by MWD. The reliability of this process is confirmed by the similarity in the inch-mile calculation. Most of the City's inside water system infrastructure is used to serve MWD because of the location of MWD's 10 master meters that surround the City. The use of the percentage of water sold appeared to be the most practical way of approaching this project.

WITNESSES: Samuel Petty; Grondall Potter

30. Regarding the outstanding bond information supplied by Pikeville in response to Question 5 from KY PSC

a. The description on pages 1-2 of Ordinance No. 0-2012-011 indicate that only items (i), (vi), and (vii) could possibly be relevant to the calculation of water rates for MWD. The outstanding principal amount of those three items at the time of the Ordinance constitute 70.5% of the total principal amount to be refinanced. Why does the rate analyst subject MWD to the full principal and interest amounts of the City's GO Bonds, Series 2012C?

b. The description on pages 1-2 of Ordinance No. 0-2015-16 indicate the KIA loan and the Series 2010S-1 and 2010S-2 Bonds were all related to the refinancing of sewer bonds. Why does the rate analyst subject MWD to the principal and interest amounts of the Water and Sewer Revenue Bonds Series 201 6A?

c. The description on page 1 of Ordinance No. 0-2017-[ ] indicate the purpose of GO Bonds, Series 2017 are to pay costs of the City's Hambley Athletic Complex, acquisition and installation of an electronic wireless metering system, and improvements to the City's sewer treatment facilities. Is any of the principal and interest amounts of the GO Bonds Series 2017 included in the COSS? If so, why?

Response:

a. Series 2012C was only for an advance refunding of KY Rural Water Finance debt that is referenced in O-2012-011 part i. It is appropriate to include this amount because the KRWFC debt was used to provide water service, which benefits MWD.

b. Series 2016A Water and Sewer Revenue Bonds was for water and sewer infrastructure at the KY Enterprise Industrial Park, the water infrastructure of which which benefits MWD. Series 2010S-1 and 2010S-2 Bonds are not paid for by inside water.

c. This was not included in the calculation of MWD's rate in the rate study.

WITNESSES: Tonya Taylor; Grondall Potter; Samuel Petty

31. Provide excerpts of all relevant bond covenants to identify the coverage ratio required by the issuer.

Response: Page 21 of the ordinance for Series 2016A states as follows:

ARTICLE XVI
RATES AND CHARGES FOR SERVICES OF THE SYSTEM

While the Series 2016A Bonds authorized hereunder, or any of them, remain outstanding and unpaid, the rates for all services and facilities rendered by the System to the City and to its citizens, corporations, or others requiring the same, shall be reasonable and just, taking into account and consideration the cost and value of the System, the cost of maintaining and operating the same, the proper and necessary allowances for depreciation thereof, and the amounts necessary for the retirement of all bonds and the accruing interest on all such bonds as may be outstanding under the provisions of this Series 2016A Bond Ordinance, and there shall be charged such rates and amounts as shall be adequate to meet all requirements of the provisions of this Series 2016A Bond Ordinance. Particularly, without limiting the foregoing, such rates and charges shall be adequate at all times to produce net revenues, as defined in subsection (b) of Section 17.02 hereof, equal to at least 120% of the maximum annual debt service requirement for any fiscal year for the 2006 KIA Loan, the Second-Lien Bonds, the Series 2016A Bonds, and any Additional Parity Bonds then outstanding.

WITNESSES: Tonya Taylor

32. The depreciation schedules provided by Pikeville in response to PSC first request include service lives of 40 year or less for all lines. The resultant FY2017 annual depreciation for lines is $117,756. Using the NARUC mid-point, 67.5, yields an annual depreciation of $77,754 for lines associated with inside city service. Explain why Pikeville uses 40 years, and below, for useful life for waterlines.

Response: Historically and based on anecdotal evidence, service lives of water lines in Pikeville's system need to be replaced more frequently than every 67.5 years. In addition, loan funding for utility infrastructure is usually paid back over a forty-year term. It is reasonable to set the depreciation rate of waterlines to be equivalent with the payback of financing.

WITNESSES: Tonya Taylor; Grondall Potter

33. The depreciation schedules provided by Pikeville indicate outside city customers are not allocated any depreciation for the water treatment plant, pumping stations, or water storage tanks. Explain why inside city customers, and therefore MWD, are subsidizing the annual depreciation of Pikeville's retail, outside city customers.

Response: Inside city customers are not subsidizing the annual depreciation of outside city customers. Outside water reimburses inside water for plant deprecation based upon a percentage of consumption. This is reflected in account 210.10.451.03.

WITNESSES: Tonya Taylor

34. The rate analyst uses a ratio of water purchased by MWD to total water sold throughout the COSS. He establishes that ratio, or percentage at 50 percent. The water purchased by MWD (463,158,000 gallons) and total water sold (973,385,317 gallons) provided by Pikeville in response to Question 20 in PSC's initial request results in a percentage of 47.6 percent. Why does the analyst use 50 percent for his assignment of costs to MWD when the actual percentage is 47.6 percent?

Response: Mr. Petty appropriately calculated the percentage based on MWD's consumption in relation to other inside city customers. The percentage of use for 2017 is 51%, and for 2018 it is 50%. The information provided in response to Question 20 in PSC's initial request includes inside and outside city consumption.

WITNESSES: Samuel Petty; Grondall Potter; Tonya Taylor

35. Provide detailed descriptions and breakdown of all sources of the income that makes up $252,335 associated with "Other Income".

Response: Please refer to the response to Item 16(e) of the Commission's second request for information.

WITNESSES: Tonya Taylor

36. The rate analyst describes "other income" as a "combination of fees, such as tap fees, penalties and other miscellaneous fees collected by the City." The 2017 Audit identifies $1,351,470 in interest-bearing water accounts including certificates of deposit, restricted debt service reserves and other reserves. Why were the interest earnings not included by the analyst as "other income" and allocated equitably among customers from whom contributing revenue was received?

Response: The interest income is a relatively small amount and would not impact the recommendation of the report.

WITNESSES: Samuel Petty

37. Figure 6 of the filed COSS includes an unsubstantiated amount of $51,432 for costs associated with meters yet the General Ledger provided by Pikeville includes, at a minimum, $69,414.94 in costs associated with meters and services. Why were "ballpark" estimates used to functionalize meters when evidence existed in the General Ledger to calculate a more accurate cost? Provide justification for the percentage of cost allocated for meters.

Response: The amount of $51,432 for costs associated with meters as showing in the cost-of-service study is a product of the collaborative process discussed in Item 10 above.

WITNESSES: Samuel Petty

38. The General Ledger provided by Pikeville includes no apparent costs associated with "leak detection". Provide records to support the percentage of cost allocated for leak detection.

Response: UMG provides leak detection services that are included in the contract expense. The amount for costs associated with leak detection as showing in the cost-of-service study is a product of the collaborative process discussed in Item 10 above.

WITNESSES: Tonya Taylor; Samuel Petty

39. The rate analyst includes, in Figure 8 and the text immediately preceding the figure, a $3,799 cost to be paid by MWD for "servicing meters". The water purchase agreement dated 14 November 2011 established in Section 3 that "the Seller shall furnish, install, operate and maintain at its own expense at the points of entry...the necessary metering equipment..." Why is MWD accessed a $3,799 charge for a service Pikeville agreed to perform "at its own expense"?

Response: The City is responsible for furnishing, installing, operating, and maintaining all of the City's infrastructure that provides safe, reliable water service to its customers. Expenses associated with furnishing, installing, operating, and maintaining all of the City's infrastructure that provides safe, reliable water service to its customers are reasonably included in rates. The contract does not negate reasonably incurred expenses from being recovered from MWD.

The calculation for allocation of 7% of meter expenses being allocated to MWD is shown below.

MWD			
Meter Size	Number	Res Meter Equiv. Ratio	Total Equiv. Residential
5/8"			
1			
2	3	8	24
4	4	25	100
6	1	65	65
8	1	140	140
			329

Pikeville			
Meter Size	Number	Res Meter Equiv. Ratio	Total Equiv. Residential
5/8"	3,024		3,024
1	150	2	300
2	121	8	968
4	11	25	275
6	2	65	130
8	0	140	0
			4,697
		Percent MWD	7.0%

WITNESSES: Philip Elswick; Samuel Petty

40. The "accounts payable" section (210.00.210) of the General Ledger provided by Pikeville includes $69,414.94 of costs associated with retail customer service such as copper tubing, meters, boxes, lids, cutters, grass seed, and fittings of such a size or price to reasonably assume they are to be used on small, retail services. Provide evidence to show how these expenses relate to costs to serve MWD or the adjustment to exclude them from the Cost of Service Study (COSS).

Response: These parts/fittings (while of smaller size) and consumables (grass seed, etc.) are used at various pump stations/tanks/telemetry locations, etc. or for repairs to the distribution system, of which MWD is a customer and should contribute to the cost of said items.

WITNESSES: Grondall Potter

41. The "accounts payable" section (210.00.210) of the General Ledger provided by Pikeville includes $2,700.00 of costs referred to as "Consolidated Pipe and Supply - hydrant, gate valve and adapters". Provide evidence to show how these expenses relate to O&M costs to service to MWD.

Response: These parts are utilized for hydrant installation and repairs. Hydrants are flushed to ensure water quality is maintained for Pikeville's customers, which includes Mountain Water District, as described in responses to Items 29 and 64 herein.

WITNESSES: Grondall Potter

42. The "accounts payable" section (210.00.210) of the General Ledger provided by Pikeville includes $1,136.06 and $88,772.50 of costs associated with maintenance on the Harold's Branch and Bob Amos tanks. Provide supporting evidence that the Harold's Branch tank and the Bob Amos tank are used to supply MWD and the applicability of these expenses to service to MWD.

Response: These tanks are storage for Pikeville's water system and can be utilized to serve MWD. Tank maintenance is crucial to water quality and useful service life for the City's customers, which includes MWD.

WITNESSES: Tonya Taylor

43. The "accounts payable" section (210.00.210) of the General Ledger provided by Pikeville includes $1,333.29 of costs associated with "Hillbilly Days", the "Welcome to Pikeville" sign, and "kitchen supplies" for City Hall. Provide evidence to show the applicability of these expenses to serve MWD.

Response:

1. Northside $1,002.55 Pipe, adapters, fittings couplings used for Hillbilly Days.

2. Northside $91.00 Fittings and Handheld Driver for Hillbilly Days.

3. MGC Supply $177.98 Seed for Welcome to Pikeville.

4. C&R Office Ashland Office. Only $61.76 of this invoice was allocated to water for toner for utility office. Toner was allocated between all utility funds. The kitchen supplies were allocated to administrative.

With the exception of toner, these expenses do not directly relate to serving MWD.

WITNESSES: Tonya Taylor

44. The "accounts payable" section (210.00.210) of the General Ledger provided by Pikeville includes $1,053.33 of costs associated with repair of the touchread wand and Sensus autoread software. Provide evidence to show the applicability of these expenses to serve MWD.

Response: Touchread wands with the applicable Sensus software is used for reading consumption of various Mountain District master meters

WITNESSES: Grondall Potter

45. The "accounts payable" section (210.00.210) of the General Ledger provided by Pikeville includes $2,320.58 of costs associated with a precast concrete meter vault on 2nd Street. Explain how this meter vault relates to service to MWD. Provide evidence to show the exclusion of those costs in the O&M costs charged, in whole or in part, to MWD.

Response: These expenses are not directly related to the provision of water service to MWD. Figure 9 of the cost-of-service study related to MWD shows that only 37% of expenses related to the inside city distribution system were assigned to MWD.

WITNESSES: Grondall Potter; Samuel Petty

46. The "accounts payable" section (210.00.210) of the General Ledger provided by Pikeville includes $35,586.76 of costs with the general description of "supplies needed for stock". Provide detailed descriptions of these entries sufficient to determine the appropriateness of their inclusion or exclusion in the O&M costs charged, in whole or in part, to MWD.

a. Explain the purpose of supplies for stock.

b. Explain the contractual obligation of UMG to supply items for stock.

Response: UMG has a contractual obligation to operate and maintain Pikeville's water treatment and distribution facilities. Industry standards support having supplies related to maintenance on stock. If materials were not kept in stock, unnecessary delay would occur prior to necessary maintenance being completed.

WITNESSES: Grondall Potter; Tonya Taylor; Legal

47. In an 17 January 2019 article in the News-Express, City Manager Philip Elswick is credited with highlighting an increase in industrial consumption (of water) and that "The system has to be prepared to operate for all customers, whether that is a residence that is using the minimum amount of water or industries using hundreds of thousands of gallons." Elswick is also quoted as saying, "The upgrades...critical to our economic development." The new 10-inch line in the Marion's Branch Industrial Park runs approximately 12,000 feet to a new 1,000,000-gallon potable water storage tank constructed, according to funding documents, for the future customers at the industrial park. Given the city manager's acknowledgement that industrial customers and residential customers put different demands on the water system, and/ acknowledging capital facilities are in place specifically for industrial customers, why does Pikeville not have an industrial customer class to enable the assignment of costs caused by industrial customers?

Response: The focus of Mr. Elswick's comments were not related to water rate design. Pikeville has not chosen to design rates specific to industrial customers. Water utilities frequently do not have a separate industrial rate. For example, Mountain Water District does not offer industrial rates.

WITNESS: Philip Elswick

48. The rate analyst has acknowledged the City does not have adequate data for a determination of peak hour or peak hour demands. Confirm that residential, commercial and industrial customers have different peak hour demands.

Response: Peak day or peak hours for Pikeville's residential, commercial and industrial customers cannot be confirmed. The peak day and peak hour for MWD also cannot be confirmed. However, the monthly peak to average demand ratio for MWD was 1.21 for 2017 and 1.37 for 2018. The peak monthly to average demand ratio for all other inside customers was 1.17 in 2017 and 1.12 in 2018. This data suggest that a detailed AWWA M-1 analysis would result in a higher rate increase for MWD.

WITNESSES: Samuel Petty

49. Provide the UMG contract for provision of water service for the three most recent years with all the amendments, memoranda of agreement, or any other correspondence related to the implementation or interpretation of the contract.

Response: Please see the contract attached to Item 20 of the Commission's second request for information.

WITNESSES: Philip Elswick

50. What services or activities do city employees provide for water service to MWD? Why are these services or activities not included in the UMG contract?

a. How are those expenses allocated to MWD?

b. How does the City reconcile city-incurred expenses and UMG-incurred expenses to avoid "double-billing"?

Response: City of Pikeville employees process bills for Mountain Water District monthly. This consists of data importing, submitting bills for processing and processing payments. In addition, employees answer any billing questions. This can include initiating work order request for any rereads. City of Pikeville does the billing for all utility services, not Utility Management Group.

None of the expenses related to City employees are allocated to MWD. Salaries and wages for City employees are assigned to "Administration," which is not allocated to MWD.

Because the duties of the City employees are different than those of UMG, there would not be any "double billing."

WITNESSES: Tonya Taylor and Samuel Petty

51. Provide the annual budget amount included in the UMG contract for water service to Pikeville for each of the last three years.

a. Provide the annual payment owed by Pikeville to UMG for water service as required by the terms of the contract for each of the last three years.

b. Provide the actual payments by Pikeville to UMG for the last three years for water service. If the actual payments differ from the contract or budget amount, provide a line item reconciliation of the differences for each year.

Response: The annual payment from Pikeville to UMG related to the provision of water service is listed below. There is no line item reconciliation for the minor differences between budget and actual payments. Similarly, there is no specific budgeted amount for reimbursement for materials

Inside Water			
YEAR	BUDGET PUBLIC WORKS WATER 210.10.610.	PAYMENTS PUBLIC WORKS WATER 210.10.610	REIMBURSEMENT FOR MATERIALS 210.10.610.99*
2019	1,258,218.00	1,257,378.56	2,727.92
2018	1,221,206.00	1,221,201.36	6,041.43
2017	1,162,040.00	1,162,039.92	6,155.72
Outside Water			
YEAR	BUDGET PUBLIC WORKS WATER 320.10.610	PAYMENTS PUBLIC WORKS WATER 320.10.610	REIMBURSEMENT FOR MATERIALS 320.10.610.99*
2019	496,688.00	496,687.36	0.00
2018	495,131.00	495,105.72	106.97
2017	509,173.00	509,145.12	0.00
*not specific amount related to UMG			

WITNESSES: Tonya Taylor

52. Provide UMG's financial statements (audited or not) for the last three years.

Response: The City of Pikeville objects to this request, as UMG's financials are not relevant to the determination of whether Pikeville's expenses are reasonable. Notwithstanding this objection, Pikeville requested that UMG provide this information and UMG declined to provide financial statements. Please see Pikeville's response to Item 24 of the Commission Staff's second request for information.

WITNESSES: Legal; Philip Elswick; Grondall Potter

53. What is UMG's profit margin on its contract with the City of Pikeville, being defined as the difference between the total annual fee paid by the City, and the direct costs incurred for operations?

a. If any indirect costs are incurred, please define and set those out by itemized areas, and the reason that you believe they are justified costs in support of their fee structure.

b. Provide all calculations in the determination of UMG's profit margin.

Response: The City of Pikeville objects to this request, as UMG's profit margin is not relevant to the determination of whether Pikeville's expenses are reasonable. Notwithstanding this objection, Pikeville requested that UMG provide this information and UMG the information that is produced by Pikeville in response to Item 24 of the Commission Staff's second request for information.

WITNESSES: Legal; Philip Elswick; Grondall Potter

54. Pikeville was "placed on notice" in 2002 that in future rate case proceedings, PSC would more closely scrutinize contractor (then, PSG) direct expenses and would expect supporting documentation of all PSG costs. UMG is Pikeville's current contract operations company, operating much like PSG was in 2002. Explain why line items "Public Works Water" and "UMG...Services", (which, alone, make up 69 percent of the total city water expenses) continue to be used.

a. Explain the type of expenses included in these categories.

b. Explain how expenses are determined to be included in these categories.

c. Provide an itemization of the expenses included in each of these categories.

d. Who determines the expenses to be included in these categories?

Response:

a. "Public Works Water" is the monthly contract amount for water services for Utility Management group. "UMG services" is items purchased for operations of the water system as allowed by contract.

b. Only the monthly contract amount for services is included in the Public Works Water. The operational items appear in the UMG Services account.

c. For Public Works Water details refer to Item 4 of the Commission's initial request for information 2017 general ledger account 210.15.610.pages 601-602. For UMG Services refer to Item 4 of the Commission's initial request for information 2017 general ledger account 210.10.610.99 pages 605-622.

d. UMG determines items needed. City of Pikeville Commission approves payment of purchases in semi-monthly Commission meetings.

WITNESSES: Tonya Taylor

55. Explain the procedures for determining purchases related to service to MWD by the city and those purchased by UMG.

Response: Please refer to Pikeville's response to Item 54d above.

WITNESSES: Tonya Taylor

56. Please provide the rate analyst's working definition of "fixed" versus "variable" costs as used in the COSS.

Response: Fixed costs are those cost unrelated to the treatment and distribution of water. Variable costs are those associated directly or indirectly with the treatment and distribution of water.

WITNESSES: Samuel Petty

57. Provide the evidence and documentation used as the basis for the 7% fixed versus 93% variable split for costs related to the water treatment system.

Response: These calculations are shown on Figure 5 of the cost-of-service study. They tie in with the figures that are shown on Figure 3 of the study. These percentages are a product of the collaborative process identified in Item 10 above.

WITNESSES: Samuel Petty

58. Provide the evidence and documentation used as the basis for the 8% fixed vs 92% variable split in costs for the distribution system.

Response: Those values are found on figure 3 of the cost-of-service study. These percentages are a product of the collaborative process identified in Item 10 above.

WITNESSES: Samuel Petty

59. Referring to Figure 3 in the COSS, does "repairs and maint" and "repair and maint plant" include all Pikeville distribution/transmission system or just that portion directly related to serving MWD? Explain the difference in the two categories. Breakdown what is included in each.

Response: The totals in figure 3 include all for inside water, not just those service MWD. Refer to Item 31d of the Commission's second request for difference between categories. For detail, refer to Item 4 of the Commission's initial request for information accounts 210.10.630.00 and 210.10.630.09 for 2017 general ledger detail pages 623-625 of pages 637 of the general ledger.

WITNESSES: Tonya Taylor

60. Please explain in detail the difference, if any, of operation and maintenance expenses between inside city, outside city and wholesale customers.

Response: The O&M expenses for inside city and outside city are simply coded to different accounts. The City does not have a separate code for wholesale customers.

WITNESSES: Tonya Taylor

61. What are the allocation factors used in the COSS that reflect the AWWA ratemaking process? What data did Mr. Petty use to develop his allocation factors?

Response: Mr. Petty's report was not intended to be a comprehensive AWWA M-1 analysis, but one that presents a debt service coverage revenue requirement with a reasonable approach for distributing the revenue requirement to MWD based on available data. The allocation factors were determined by the collaborative process described in Item 10 above.

WITNESSES: Samuel Petty

62. Please explain why the City of Pikeville did not use the General Ledger to allocate expenses into functional costs categories consistent with NARUC and AWWA guidelines. (AWWA M-1, 6th Edition, page 342).

Response: Functional costs are combined into two categories, water treatment and distribution. Water treatment includes source supply, treatment process and pumping. Distribution includes lines, booster stations and tanks. Pikeville does not have data that would supports the difference between transmission mains and distribution lines. Transmission mains are generally designed to meet 30 – 50 year projected demands due to growth. Since MWD has a much larger service area than Pikeville, future demands for MWD could be much greater than those of Pikeville.

WITNESSES: Samuel Petty

63. In the COSS there are 26 expense items in Figure 3 that are not "allocated to functional cost of service". Explain the lack of functionalization and, given the resultant inability to identify costs based on their operational function, explain the basis and support for allocating those expenses across the three groups, WTP, distribution and administrative.

Response: The three categories are used to develop the revenue requirement and to distribute the revenue requirement to MWD.

WITNESSES: Samuel Petty

64. Why was depreciation allocated 100 percent to "variable" and not functionalized into cost categories to ensure depreciation derived from capital associated with customer costs or fire protection was not allocated to wholesale customers?

Response: Depreciation is for the water treatment plant and distribution system. 100 percent is allocated to variable because all items in the depreciation support the treatment and distribution of water. Fire flow is not considered because the line capacity for fire flow is also being used for flushing which benefits WMD.

WITNESSES: Samuel Petty

65. In the COSS, $1,016,455 in distribution system variable costs in Figure 3 becomes $1,028,645 in Figure 6. Additionally, $741,522 in water treatment plant variable costs becomes $727,948 in Figure 6. Why are the variable costs inconsistent?

Response: Even when interchanging the numbers, there is no change in the proposed rate.

WITNESSES: Samuel Petty

66. Figure 6 of the COS study by Rate Studies shows a functionalization of costs that the analyst says have been previously "allocated" to the three main categories of administration, water treatment and distribution (pg 3). The analyst uses "percentages as determined by the City's staff and UMG staff" to sort the "allocated" costs back into functional cost categories.

a. Provide the spreadsheets, work products and basis for the functionalization percentages in Figure 6 (pg 8).

b. Confirm the analyst functionalized allocated costs rather than allocated functionalized costs as generally accepted by AWWA.

Response: There are no underlying spreadsheets or work product for the percentage is given in the report. Each item was discussed and a percentage was determined based on staff knowledge of each category, which is the collaborative process identified in Item 10 above.

WITNESSES:

67. If the purpose of the COSS was to "...determine a fair water rate for the Mountain Water District...", why is the rate proposed for MWD different from the rate proposed for Southern Water District? Explain all differences in allocations of costs and facilities to determine the different rates. Provide the COSS used to set the rate for Southern Water District.

Response: Pikeville initially retained RateStudies to prepare cost-of-service studies for all of Pikeville's water and sewer operations. The initial COSS prepared by RateStudies followed the methodology identified in the American Water Works M54 manual, and it included proposed rates for both Southern Water and Sewer District and Mountain Water District. When Pikeville presented Mountain Water District with the initial COSS, Mountain Water District suggested that the AWWA's M54 methodology was somehow flawed. Rather than fighting over the reasonableness of rates determined by the M54 methodology with MWD, Pikeville requested that RateStudies complete another cost-of-service study specifically for Mountain Water District based on the Debt Service Coverage methodology commonly used by Commission Staff for its staff reports. Southern Water and Sewer District did not object to the initial COSS results. New wholesale water rates to Southern Water and Sewer District were already effective at the time RateStudies completed its second COSS, and therefore, it was unnecessary to include Southern Water and Sewer District in the second COSS. Please refer to response to Item 13 above for a copy of the initial COSS.

WITNESSES: Samuel Petty

68. Please provide a breakdown of the total costs for "repairs and maint" and "repair and maint plant" expense for 2017, as set forth in Figure 3 on page 4 of the COSS. In addition, also provide any other sub-categories, such as outside water operating maintenance expenses, or other categories in which you break down the cost of operations, so all sub-categories can be reconciled to your total operating and maintenance expenses.

Response: The breakdown for 2017 can be found on pages 623-625 of pages 637 of the general ledger for inside water.

The following table shows outside water operating maintenance expenses.

Bank Charges	1,096
Prov. For Bad Debt	404
Dues	850
Freight/Postage	1,349
Ins. Vehicle	1,851
Ins General Liability	8,005
Office Supplies	2,489
Public Works Water	509,145
UT Monthly Billing	2,058
UMG Services	2,381
Purchase Software	1,844
Water Plant Cost	47,927
Repairs & Maint	5,078
Repair & Maint Plant	9,083
Electric	75,542
City Utilities	1,276
Workers Comp	74
Salaries & Wages	5,946
Payroll Tax	455
Employee Benefit Ins	2,113
Pension Matching	1,014
Unemployment Tax	35

WITNESSES: Tonya Taylor

69. Include detailed monthly invoices for the entire test year for payments made to UMG Services as it related to the complete municipal water utility, regardless of the divisions, "Water" and "Outside Water".

Response: See attached.

WITNESSES: Tonya Taylor

UMG Invoices

WATER DEPARTMENT
MASTER WATER READINGS

DATE: 7-29-2016

ACCOUNT NUMBER	LOCATION	PRESENT	PREVIOUS	USAGE	AMOUNT
	SANDY VALLEY-Pikeville	323837	312592	11245	991 DON'T BILL
54-9966200-0	TOWN MOUNTAIN	585533	567147	18386	
54-9909400-0	CHLOE ROAD	56065	53829	2236	
54-9911500-0	ISLAND CREEK	46500	43215	2285	
54-9928000-0	MUD CREEK-Southern Wt.	059603	049664	9939	
54-9914600-0	COON BRANCH	10502	10399	103	
54-9913000-0	SOUTH MAYO TRAIL	186666	179066	7600	
54-9925500-0	HOOPWOOD HOLLOW	14711	14611	100	
54-9911800-0	ISLAND CK. TRAILER PK.	28504	28327	177	
54-9911900-0	HURRICANE CREEK	296788	294908	1880	
54-9912000-0	PIKE FLOYD-Southern	32855	31560	1295	
54-9900100-0	COWPEN-Mt. Water	252084	249791	2293	
		TOTAL		46294	

only Read First 5 Numbers

METER READER INITIALS: MM / DS

NON METERED WATER

FLUSHING - EST _____

LEAKS - EST _____

TOTAL GALLONS _____

MOUNTAIN WATER
P.O. BOX 3157
PIKEVILLE, KY 41502

509315800 P.01/01

TRANSACTION REPORT

SEP/01/2016/THU 02:26 PM

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WATER DEPARTMENT
MASTER WATER READINGS

DATE: 9-1-16

ACCOUNT NUMBER	LOCATION	PRESENT	PREVIOUS	USAGE	AMOUNT
	SANDY VALLEY-Pikeville	337893	323837	14056	9044 DON'T BILL
54-9966200-0	TOWN MOUNTAIN	608185	585533	22652	
54-9909400-0	CHLOE ROAD	59255	56065	3190	
54-9911500-0	ISLAND CREEK	49428	45500	3928	
54-9928000-0	MUD CREEK-Southern Wt.	071481	059603	11878	
54-9914600-0	COON BRANCH	10621	10502	119	
54-9913000-0	SOUTH MAYO TRAIL	198600	186666	11934	
54-9925500-0	HOOPWOOD HOLLOW	14816	14711	105	
54-9911800-0	ISLAND CK. TRAILER PK.	00200	00000	200	
54-9911900-0	HURRICANE CREEK	298730	296788	1942	
54-9912000-0	PIKE FLOYD-Southern	35055	32855	2200	
54-9900100-0	COWPEN-Mt. Water	254896	252084	2812	
		TOTAL		60960	

Only Read First 5 Numbers

METER READER INITIALS: _____

NON METERED WATER

FLUSHING - EST _____

LEAKS - EST _____

TRANSACTION REPORT

OCT/03/2016/MON 11:59 AM

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WATER DEPARTMENT
MASTER WATER READINGS

DATE: 10-3-16

ACCOUNT NUMBER	LOCATION	PRESENT	PREVIOUS	USAGE	AMOUNT
	SANDY VALLEY-Pikeville	351625	337893	13732	9294 DON'T BILL
54-9966200-0	TOWN MOUNTAIN	630872	608185	22687	
54-9909400-0	CHLOE ROAD	62186	59255	2931	
54-9911500-0	ISLAND CREEK	53367	49428	3939	
54-9928000-0	MUD CREEK-Southern Wt.	082012	071481	10531	
54-9914600-0	COON BRANCH	10745	10621	124	
54-9913000-0	SOUTH MAYO TRAIL	209692	198600	11092	
54-9925500-0	HOOPWOOD HOLLOW	14905	14816	89	
54-9911800-0	ISLAND CK. TRAILER PK.	00366	00200	166	
54-9911900-0	HURRICANE CREEK	300506	298730	1776	
54-9912000-0	PIKE FLOYD-Southern	36991	35055	1936	
54-9900100-0	COWPEN-Mt. Water	257398	254896	2502	
			TOTAL	57773	

Only Read First 5 Numbers

METER READER INITIALS: MC WH

NON METERED WATER

FLUSHING - EST _____

LEAKS - EST _____

TOTAL GALLONS _____

TRANSACTION REPORT

NOV/01/2016/TUE 01:49 PM

AX (TX)

#	DATE	START T.	RECEIVER	COM.TIME	PAGE	TYPE/NOTE	FILE
001	NOV/01	01:48PM	4324747	0:00:54	1	MEMORY OK ECM	4076

WATER DEPARTMENT
MASTER WATER READINGS

DATE: 11-1-16

ACCOUNT NUMBER	LOCATION	PRESENT	PREVIOUS	USAGE	AMOUNT
	SANDY VALLEY-Pikeville	363600	351625	11975	7789 DON'T BILL
54-9966200-0	TOWN MOUNTAIN	649812	630872	18940	
54-9909400-0	CHLOE ROAD	64504	62186	2318	
54-9911500-0	ISLAND CREEK	54756	53367	1389	
54-9928000-0	MUD CREEK-Southern Wt.	092385	082012	10373	
54-9914600-0	COON BRANCH	10867	10745	122	
54-9913000-0	SOUTH MAYO TRAIL	217143	209692	7451	
54-9925500-0	HOOPWOOD HOLLOW	14984	14905	79	
54-9911800-0	ISLAND CK. TRAILER PK.	00515	00366	149	
54-9911900-0	HURRICANE CREEK	301960	300506	1454	
54-9912000-0	PIKE FLOYD-Southern	38683	36991	1692	
54-9900100-0	COWPEN-Mt. Water	259892	257398	2494	
		TOTAL		46461	

Only Read First 5 numbers

METER READER INITIALS: WH

NON METERED WATER

FLUSHING - EST _____

LEAKS - EST _____

TOTAL GALLONS _____

WATER DEPARTMENT
MASTER WATER READINGS

DATE: 12-1-16

ACCOUNT NUMBER	LOCATION	PRESENT	PREVIOUS	USAGE	AMOUNT
	SANDY VALLEY-Pikeville	376131	363600	12531	8360 DON'T BILL
54-9966200-0	TOWN MOUNTAIN	667801	649812	17989	
54-9909400-0	CHLOE ROAD	66677	64504	2173	
54-9911500-0	ISLAND CREEK	56991	54756	2235	
54-9928000-0	MUD CREEK-Southern Wt.	103564	092385	11179	
54-9914600-0	COON BRANCH	11020	10867	153	
54-9913000-0	SOUTH MAYO TRAIL	226517	217143	9374	
54-9925500-0	HOOPWOOD HOLLOW	15066	14984	82	
54-9911800-0	ISLAND CK. TRAILER PK.	00670	00515	155	
54-9911900-0	HURRICANE CREEK	303564	301960	1604	
54-9912000-0	PIKE FLOYD-Southern	40369	38683	1686	
54-9900100-0	COWPEN-Mt. Water	262377	259892	2485	
		TOTAL		49115	

Only Read 1, YS1 — 5 Numbers

METER READER INITIALS: W H

NON METERED WATER

FLUSHING - EST _____

LEAKS - EST _____

TOTAL GALLONS _____

MOUNTAIN WATER
P.O. BOX 3157
PIKEVILLE, KY 41502

WATER DEPARTMENT
MASTER WATER READINGS

DATE: 1-3-17

ACCOUNT NUMBER	LOCATION	PRESENT	PREVIOUS	USAGE	AMOUNT
	SANDY VALLEY-Pikeville	390447	376131	14316	9894 DON'T BILL
54-9966200-0	TOWN MOUNTAIN	688174	667801	20373	
54-9909400-0	CHLOE ROAD	69185	66677	2508	
54-9911500-0	ISLAND CREEK	60827	56991	3836	
54-9928000-0	MUD CREEK-Southern Wt.	115387	103564	11823	
54-9914600-0	COON BRANCH	11206	11020	186	☆
54-9913000-0	SOUTH MAYO TRAIL	01701	00000	1701	
54-9925500-0	HOOPWOOD HOLLOW	15158	15066	92	
54-9911800-0	ISLAND CK. TRAILER PK.	00862	00670	192	
54-9911900-0	HURRICANE CREEK	305483	303564	1919	
54-9912000-0	PIKE FLOYD-Southern	42148	40369	1779	
54-9900100-0	COWPEN-Mt. Water	265020	262377	2643	
		TOTAL		47052	

Only Read First 5 Numbers

METER READER INITIALS: WH MC

NON METERED WATER

FLUSHING - EST _____

LEAKS - EST _____

TOTAL GALLONS _____

MOUNTAIN WATER
P.O. BOX 0157
PIKEVILLE, KY 41502

509315800 P.01/01

TRANSACTION REPORT

FEB/01/2017/WED 01:12 PM

FAX(TX)

#	DATE	START T.	RECEIVER	COM.TIME	PAGE	TYPE/NOTE	FILE
001	FEB/01	01:12PM	4445117	0:00:24	1	MEMORY OK SG3	4587

WATER DEPARTMENT
MASTER WATER READINGS

DATE: 2-1-17

ACCOUNT NUMBER	LOCATION	PRESENT	PREVIOUS	USAGE	AMOUNT
	SANDY VALLEY-Pikeville	408201	390447	17754	13449 DON'T BILL
54-9966200-0	TOWN MOUNTAIN	708017	688174	19843	
54-9909400-0	CHLOE ROAD	71288	69185	2103	
54-9911500-0	ISLAND CREEK	64520	60827	3693	
54-9928000-0	MUD CREEK-Southern Wt.	125744	115387	10357	
54-9914600-0	COON BRANCH	11406	11206	200	
54-9913000-0	SOUTH MAYO TRAIL	10045	01701	8344	
54-9925500-0	HOOPWOOD HOLLOW	15235	15158	77	
54-9911800-0	ISLAND CK. TRAILER PK.	01042	00862	180	
54-9911900-0	HURRICANE CREEK	307081	305483	1598	
54-9912000-0	PIKE FLOYD-Southern	43591	42148	1443	
54-9900100-0	COWPEN-Mt. Water	267882	265020	2862	
			TOTAL	50700	

Only Read First 5 Numbers

METER READER INITIALS: WH

NON METERED WATER

FLUSHING - EST _____

LEAKS - EST _____

TOTAL GALLONS _____

TRANSACTION REPORT

MAR/01/2017/WED 01:02 PM

'AX(TX)

#	DATE	START T.	RECEIVER	COM.TIME	PAGE	TYPE/NOTE	FILE
001	MAR/01	01:02PM	4445117	0:00:24	1	MEMORY OK SG3	4739

WATER DEPARTMENT
MASTER WATER READINGS

DATE: 3-1-17

ACCOUNT NUMBER	LOCATION	PRESENT	PREVIOUS	USAGE	AMOUNT
	SANDY VALLEY-Pikeville	419023	408201	10822	5671 DON'T BILL
54-9966200-0	TOWN MOUNTAIN	723714	708017	15697	
54-9909400-0	CHLOE ROAD	73255	71288	1967	
54-9911500-0	ISLAND CREEK	67429	64520	2909	
54-9928000-0	MUD CREEK-Southern Wt.	135818	125744	10074	
54-9914600-0	COON BRANCH	11602	11406	196	
54-9913000-0	SOUTH MAYO TRAIL	16983	10045	6918	
54-9925500-0	HOOPWOOD HOLLOW	15306	15235	71	
54-9911800-0	ISLAND CK. TRAILER PK.	01205	01042	163	
54-9911900-0	HURRICANE CREEK	308594	307081	1513	
54-9912000-0	PIKE FLOYD-Southern	146284	143591	2693	
54-9900100-0	COWPEN-Mt. Water	270340	267882	2458	
		TOTAL		44659	

copy Read First 5 numbers

METER READER INITIALS: mm

NON METERED WATER

FLUSHING - EST _____

LEAKS - EST _____

TOTAL GALLONS

TRANSACTION REPORT

APR/03/2017/MON 02:10 PM

FAX(TX)

#	DATE	START T.	RECEIVER	COM.TIME	PAGE	TYPE/NOTE	FILE
001	APR/03	02:09PM	4375136	0:00:46	1	MEMORY OK G3	4984

WATER DEPARTMENT
MASTER WATER READINGS

DATE: 4-3-17

ACCOUNT NUMBER	LOCATION	PRESENT	PREVIOUS	USAGE	AMOUNT
	SANDY VALLEY-Pikeville	434982	419023	15959	9074 DON'T BILL
54-9966200-0	TOWN MOUNTAIN	742985	723714	19271	
54-9909400-0	CHLOE ROAD	75458	73255	2203	
54-9911500-0	ISLAND CREEK	71110	67429	3681	
54-9928000-0	MUD CREEK-Southern Wt.	147229	135818	11411	
54-9914600-0	COON BRANCH	11844	11602	242	
54-9913000-0	SOUTH MAYO TRAIL	26484	16963	9521	
54-9925500-0	HOOPWOOD HOLLOW	15384	15306	78	
54-9911800-0	ISLAND CK. TRAILER PK.	13820	01205	177	
54-9911900-0	HURRICANE CREEK	3103238	08594	1731	
54-9912000-0	PIKE FLOYD-Southern	50398	46284	4114	
54-9900100-0	COWPEN-Mt. Water	273110	270340	2771	
			TOTAL	55200	

Only Read First 5 numbers

METER READER INITIALS: MM

NON METERED WATER

FLUSHING - EST _____

LEAKS - EST _____

TOTAL GALLONS _____

TRANSACTION REPORT

MAY/01/2017/MON 02:53 PM

'AX(TX)

#	DATE	START T.	RECEIVER	COM.TIME	PAGE	TYPE/NOTE	FILE
001	MAY/01	02:52PM	4445117	0:00:24	1	MEMORY OK SG3	5161

WATER DEPARTMENT
MASTER WATER READINGS

DATE: 5-1-17

ACCOUNT NUMBER	LOCATION	PRESENT	PREVIOUS	USAGE	AMOUNT
	SANDY VALLEY-Pikeville	447264	434988	12278	7821 DON'T BILL
54-9966200-0	TOWN MOUNTAIN	759289	742985	16224	
54-9909400-0	CHLOE ROAD	77125	75458	1667	
54-9911500-0	ISLAND CREEK	75048	71110	3938	
54-9928000-0	MUD CREEK-Southern Wt.	167195	147229	9966	
54-9914600-0	COON BRANCH	12044	11844	200	
54-9913000-0	SOUTH MAYO TRAIL	34961	26484	8477	
54-9925500-0	HOOPWOOD HOLLOW	17462	16384	78	
54-9911800-0	ISLAND CK. TRAILER PK.	01529	01382	147	
54-9911900-0	HURRICANE CREEK	312761	310325	1436	
54-9912000-0	PIKE FLOYD-Southern	52595	50398	2197	
54-9900100-0	COWPEN-Mt. Water	275384	273111	2260	
		TOTAL		46590	

Apply Read First 5 Numbers

METER READER INITIALS: MM

NON METERED WATER

FLUSHING - EST _____

LEAKS - EST _____

TOTAL GALLONS

TRANSACTION REPORT

JUN/01/2017/THU 01:31 PM

FAX(TX)

#	DATE	START T.	RECEIVER	COM.TIME	PAGE	TYPE/NOTE	FILE
001	JUN/01	01:30PM	4445117	0:00:24	1	MEMORY OK SG3	0083

WATER DEPARTMENT
MASTER WATER READINGS

DATE: 6-1-17

ACCOUNT NUMBER	LOCATION	PRESENT	PREVIOUS	USAGE	AMOUNT
	SANDY VALLEY-Pikeville	461211	447260	13951	8840 DON'T BILL
54-9966200-0	TOWN MOUNTAIN	776500	759209	17291	
54-9909400-0	CHLOE ROAD	78928	77125	1803	
54-9911500-0	ISLAND CREEK	78772	75048	3724	
54-9928000-0	MUD CREEK-Southern Wt.	168205	157195	11010	
54-9914600-0	COON BRANCH	12197	12044	153	
54-9913000-0	SOUTH MAYO TRAIL	44527	34961	9566	
54-9925500-0	HOOPWOOD HOLLOW	15573	15462	111	
54-9911800-0	ISLAND CK. TRAILER PK.	01712	1529	183	
54-9911900-0	HURRICANE CREEK	313638	311761	1877	
54-9912000-0	PIKE FLOYD-Southern	55026	52595	2431	
54-9900100-0	COWPEN-Mt. Water	278051	27537[illegible]	2680	
		TOTAL		50829	

Only Read First 5 Numbers

METER READER INITIALS: LS CB

NON METERED WATER

FLUSHING - EST _____

LEAKS - EST _____

TOTAL GALLONS _____

MOUNTAIN WATER
P.O. BOX 3167
PIKEVILLE, KY 41502

WATER DEPARTMENT
MASTER WATER READINGS

DATE: 7-3-17

ACCOUNT NUMBER	LOCATION	PRESENT	PREVIOUS	USAGE	AMOUNT
	SANDY VALLEY-Pikeville	477447	461211	16236	9142 DON'T BILL
54-9966200-0	TOWN MOUNTAIN	796135	776500	19635	
54-9909400-0	CHLOE ROAD	81020	78928	2092	
54-9911500-0	ISLAND CREEK	82380	78772	3608	
54-9928000-0	MUD CREEK-Southern Wt.	179014	168205	10809	
54-9914600-0	COON BRANCH	12330	12197	133	
54-9913000-0	SOUTH MAYO TRAIL	55414	44527	10887	
54-9925500-0	HOOPWOOD HOLLOW	15693	15573	120	
54-9911800-0	ISLAND CK. TRAILER PK.	01955	01712	243	
54-9911900-0	HURRICANE CREEK	316958	313638	2320	
54-9912000-0	PIKE FLOYD-Southern	058192	55026	3166	
54-9900100-0	COWPEN-Mt. Water	281979	278051	3928	
			TOTAL	~~73177~~ 56941	

Only Read First 5 Numbers

METER READER INITIALS: CBCR

NON METERED WATER

FLUSHING - EST _____

LEAKS - EST _____

TOTAL GALLONS _____

MOUNTAIN WATER
P.O. BOX 3157
PIKEVILLE, KY 41502

70. Provide sufficient functionalization of "Public Works Water" and "UMG...Services" to ensure salary and benefits to the AWWA functional categories, or, at the very least, the three groups, WTP, distribution and administrative.

Response: The account for "UMG…Services" is not applicable to salary and benefits. The "Public Works Water" account is the monthly contract amount for water services for Utility Management group. The assignment of allocated percentages of those amounts was derived from the collaborative process described in Item 10 above.

WITNESSES: Samuel Petty; Grondall Potter; Tonya Taylor

71. If the Debt Service Coverage Ratio method is to be used for calculating revenue requirements, provide details of "Public Works Water" and "UMG...Services" sufficient to determine total recurring operation and maintenance expense, as per AWWA M-l, 6th Edition, pg 340.

Response: A description of "Public Works Water" and "UMG...Services" is contained in response to Item 54(a) above. As those are contractual expenses paid by Pikeville, they are by nature "recurring."

WITNESSES: Samuel Petty; Tonya Taylor

72. Please indicate whether the expenses listed in Figure 3 of the COSS are test year expenses as audited or if they include any pro forma changes. If pro forma changes are included, provide two lists of expenses, test year and pro forma as well as description for any included adjustment made to the test year numbers.

Response: The expenses in Figure 3 did not include pro forma changes, but they erroneously included the expenses for FY 2018 instead of FY 2017. A revised version is being provided in response to Item 16(c) of the Commission's second request for information.

WITNESSES: Samuel Petty

73. The rate analyst states on page 6 of the COSS that "Fixed costs are those cost[s] unrelated to the treatment and distribution of water." Is there infrastructure included in the fixed costs that is not directly related to production and distribution of water? Is debt associated with such infrastructure included in wholesale allocation? Additionally, please identify the items of rate base that are unrelated to the treatment and distribution of water and identify the annual depreciation associated with those items of rate base.

Response: No, there is no infrastructure included in fixed costs that are directly related to production and distribution of water. Fixed and variable cost can be found on page 7, figure 5 of the February 5, 2019, study.

WITNESSES: Samuel Petty

74. If any of the mechanisms upon which the income was earned or realized were reserves or interest-bearing certificates of deposit funded in whole or in part by revenues from MWD, provide details on those reserves sufficient to determine the portion of the income that is relevant to MWD rate calculation.

Response: Refer to Item 36 above. To the extent that there may be interest income, it is a relatively small amount and would not impact the recommendation of the report.

WITNESSES: Samuel Petty

75. If any of the mechanisms upon which the income was earned or realized were from rentals or leases on property or equipment paid for in whole or in part by revenues from MWD, provide details on those assets sufficient to determine the portion of income that is relevant to MWD rate calculation.

Response: Pikeville does not realize income from rentals or leases on property for water.

WITNESSES: Tonya Taylor

76. If any of the mechanisms upon which the income was earned or realized were from rentals or leases, for or related to, antenna placement on tanks paid for in whole or in part by revenues from MWD, provide details on those assets sufficient to determine the portion of income that is relevant to MWD rate calculation.

Response: Pikeville does not have income from antennas placed on tanks.

WITNESSES: Tonya Taylor

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

In the Matter of:

Proposed Adjustment of the Wholesale Water Service Rates of the City of Pikeville To Mountain Water District	)))	Case No. 2019-00080

CERTIFICATION OF RESPONSES TO INFORMATION REQUESTS

This is to certify that I have supervised the preparation of the City of Pikeville's responses to the Commission Staff's second request for information and Mountain Water District's first request for information and that the responses are true and accurate to the best of my knowledge, information, and belief after reasonable inquiry.

Date: 7/12/19

Philip Elswick, City Manager